Western Cape Government
Health
FOR YOU

Manual for Interns and Doctors 2022

Tygerberg Hospital

Manual
for Interns and Doctors

Tygerberg Hospital
2022

CONTENTS

WELCOME TO TYGERBERG HOSPITAL

To all new staff members

We are pleased that you have decided to join us at Tygerberg Hospital. I wish to extend a very warm welcome to you as our new staff member. It is of great significance to us, that you have chosen Tygerberg Hospital to further your career.

Tygerberg Hospital is a large and complex organisation, with a staff complement of over 4 500 staff members. The prospect of working here may seem daunting but be assured that we will endeavour to make your stay pleasant and provide you with the necessary support. Our staff are our greatest asset. We strive to create a working environment where all staff feel valued, appreciated and supported. We nurture the culture of inclusivity where no staff member should feel discriminated in any way. We strongly believe that there is strength in diversity and we strive to focus on what unite us as we value the contribution of every staff member. We are making a concerted effort to build a strong Tygerberg Hospital brand that we can all be proud of.

As a healthcare institution, our primary objective is to deliver quality healthcare to our patients. We have adopted a patient centred approach ensuring improved patient experience and good clinical outcomes. We look forward to your contribution in making Tygerberg Hospital a great institution well renowned for service and academic excellence.

Welcome to Tygerberg Hospital.

Dr MA Mukosi
Chief Executive Officer: Tygerberg Hospital

Vision
Access to person-centred quality care

Mission
We undertake to provide equitable access to quality health services in partnership with the relevant stakeholders within a balanced and well-managed health system to the people of the Western Cape and beyond.

Values
- Innovation
- Caring
- Competence
- Accountability
- Integrity
- Responsiveness
- Respect

SENIOR MANAGERS

Chief Executive Officer
Dr Matodzi Mukosi

Chief Operational Officer and Director Clinical Services
Dr Paul Ciapparelli

Managers: Medical Services
Dr Simon Moeti
Dr Andre JA Müller
Dr Granville Marinus
Dr Kurt Maart

Manager: Medical Services and Intern Curator
Dr Roshni Mistry

Director: Finance
Mr Dirk Heyns

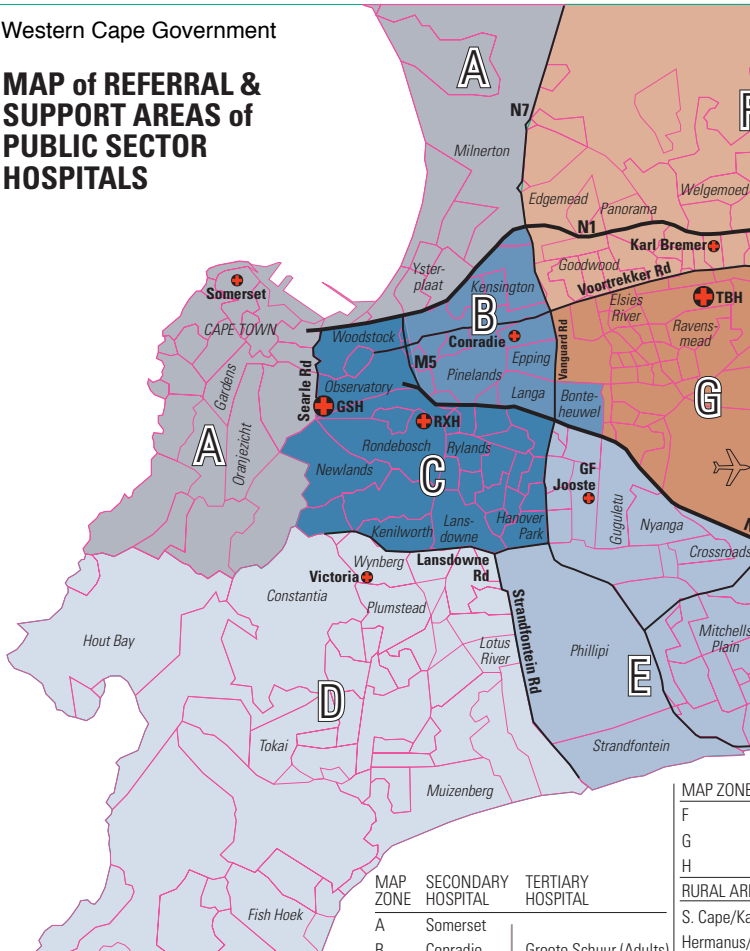
Deputy Director: People Management
Mr Zakhele Mahlanga

Deputy Director: Support Services
Ms Yvonne Nelukalo

Senior Manager: Nursing Services
Ms Francilene Marthinus

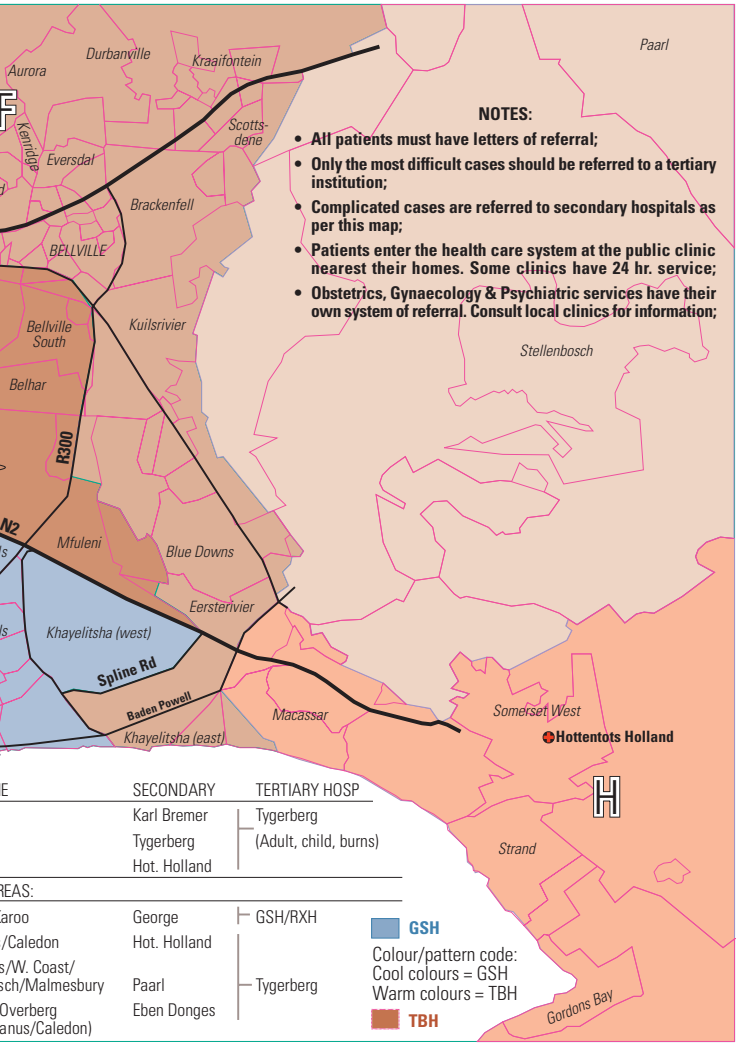
Western Cape Government

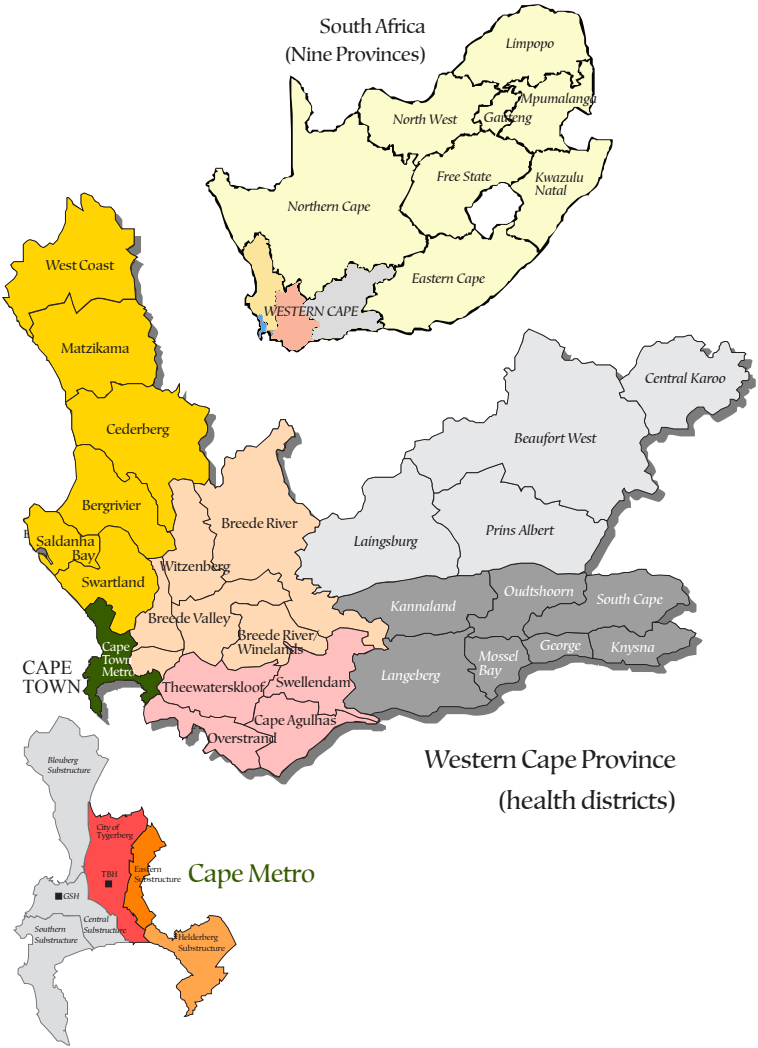
MAP of REFERRAL & SUPPORT AREAS of PUBLIC SECTOR HOSPITALS

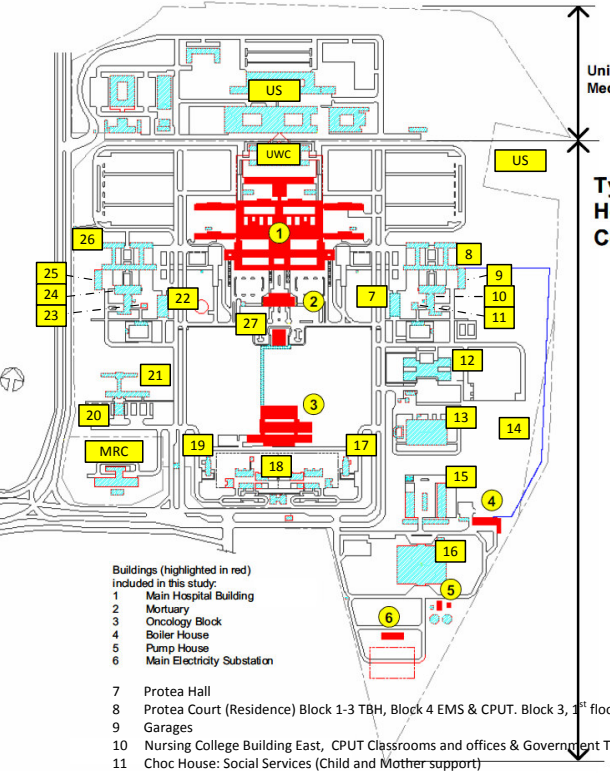


MAP ZONE	SECONDARY HOSPITAL	TERTIARY HOSPITAL
A	Somerset	Groote Schuur (Adults) Red Cross (Children)
B	Conradie	
C	GSH/RXH	
D	Victoria	
E	GF Jooste	

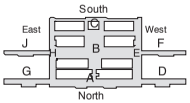
MAP ZONE
F
G
H
RURAL ARI
S. Cape/Ka
Hermanus/
Winelands Stellenbos
Boland & C (exc. Hema


Durbanville
Kraaifontein
Aurora
Scotts-
dene
Kenridge
Eversdal
Brackenfell
BELLVILLE
Bellville
South
Kuilsrivier
Belhar
R300
N2
Mfuleni
Blue Downs
Eersterivier
Khayelitsha (west)
Spline Rd
Baden Powell
Khayelitsha (east)
Macassar
Somerset West
Hottentots Holland
Strand
Gordons Bay
Paarl
Stellenbosch
NOTES:
All patients must have letters of referral;
Only the most difficult cases should be referred to a tertiary institution;
Complicated cases are referred to secondary hospitals as per this map;
Patients enter the health care system at the public clinic nearest their homes. Some clinics have 24 hr. service;
Obstetrics, Gynaecology & Psychiatric services have their own system of referral. Consult local clinics for information;
E
SECONDARY
TERTIARY HOSP
Karl Bremer
Tygerberg
Tygerberg
(Adult, child, burns)
Hot. Holland
REAS:
aroo
George
GSH/RXH
/Caledon
Hot. Holland
s/W. Coast/
sch/Malmesbury
Paarl
Tygerberg
Overberg
anus/Caledon)
Eben Donges
GSH
Colour/pattern code:
Cool colours = GSH
Warm colours = TBH
TBH


South Africa
(Nine Provinces)
Limpopo
Mpumalanga
North West
Gauteng
Free State
Kwazulu
Natal
Northern Cape
Eastern Cape
WESTERN CAPE
West Coast
Matzikama
Cederberg
Bergrivier
Saldanha
Bay
Swartland
Witzenberg
Breede River
Breede Valley
Breede River/
Winelands
Cape
Town
Metro
CAPE
TOWN
Theewaterskloof
Swellendam
Cape Agulhas
Overstrand
Laingsburg
Beaufort West
Central Karoo
Prins Albert
Kannaland
Oudtshoorn
South Cape
George
Knysna
Mossel
Bay
Langeberg
Western Cape Province
(health districts)
Bloubergs
Substructure
City of
Tygerberg
TBH
Eastern
Substructure
GSH
Central
Substructure
Southern
Substructure
Helderberg
Substructure
Cape Metro



7 Protea Hall
8 Protea Court (Residence) Block 1-3 TBH, Block 4 EMS & CPUT. Block 3, 1st floor Oncology res.
9 Garages
10 Nursing College Building East, CPUT Classrooms and offices & Government Transport offices
11 Choc House: Social Services (Child and Mother support)
12 U2 building: EMS & Forensic Pathology
13 Bulk Store (Pharma)
14 Forensic Mortuary (bldg not indicated on plan)
15 Engineering workshops
16 Laundry
17 Carel du Toit Centre – Accommodation
18 Carel du Toit Child Day care
19 Carel du Toit Centre – Accommodation
20 Tyger Bear: Social Services (seminar rooms etc)
21 Doctors accommodation (flats)
22 Disa Hall
23 Social Services (Child and Mother support)
24 Nursing College Building West, EMS & Disaster Management (EMS training facility)
25 Garages
26 Disa Court (UWC student accomodation)
27 Post office / ABSA Bank



Colour Key

Surgical

Gynae/Obstets

Paediatric

Medical

Oncology

Psychiatry

Private/other

Non clinical/Support

C South Passage (Outpatients)

11	*HR Skills Training*	*Airconditioning Workshop*
10	**Nuclear Medicine**	
9	***NHLS***	
8	**Dermatology OPD, Occupational Health, staff Clinic**	
7	**Ophthalmology OPD**	
6	**Urology OPD**	
5	**ENT OPD**	
4	**Radiology**	
3	**Paediatric OPD**	
2	**Gynaecology OPD**	
1	**Trauma**	
G	*Transit Lounge, Parking, Workshops*	
LG	*Cleaning Services, Workshops*	

C North Passage (Outpatients)

11	*H.R.*	*H.I.S. Rollout / I.T.*
10	***NHLS***	
9	***NHLS***	
8	**General Medicine OPD**	**Cardiology OPD**
7	**Medical OPD (special clinics)**	
6	**Orthopaedic OPD**	
5	**Surgical OPD (special clinics)**	
4	**Radiology**	
3	**Obstetrics/Colposcopy/Infertility**	
2	**Labour Wards C2E** (12), **C2AW** (19) + **HC** (4)	
1	**Trauma C1DE** (23), **Resus** (4beds + 2 trolleys)	
G	*Medical Records,* ***Pharmacy,*** *I.T., IMU*	
LG	*Technical Workshops, Vacolitre store, Tel Exchange*	

Tygerberg Hospital

January 2015

X-Block (Gene Louw)

H2X	Oncology	26
H1X	Oncology	21

J (wards)

8	KIDCRU	
7	Trauma Surgery	31
6	Orthopaedics	29
5	Obstetrics Post Natal	23
4	Gynaecology	33
3	Paediatrics	25
2	Obstetrics Post Natal	27
1	Surgery (8), Medical (20)	28
G	Vacant/Decanting ward	
LG	Psychiatric OPD (Adult)	

B/C (theatres)

8	Cardiology (C8DT - Cath Lab)
7	Gastroenterology
6	Urology ((C6AT)
5	Burn Wounds & Abscess, Day Surgery (15)
4	Angiography & Radiology Special Investigations
3	Theatres (Gynae S/T), Eyes (Y/Z), Orthopaedic (W/Z)
2	Theatres (Obstetrics)
1	Theatres A-J (Neuro, Plastics, General, Emergency, Thorax
G	Occupational Therapy, *CSSD*
LG	*Kitchen*

F (wards)

4	Orthopaedics	32
3	Isolation (4)	
2	Obstetrics	34
1	Medical Emergency	26
G	Gynaecology	24
LG	Psychiatry OPD (Child)	

G (wards)

10	Paediatrics (Source	30
9	Paediatrics	30
8	Neonatal HC	30
7	Paediatric Infectious disease	23
6	Paediatric Orthopaedics (LM)	35
5	ENT	19
4	Paediatric Surgery	25
3	Paediatric Oncology	18
2	Paediatrics (Haematology)	38
1	Paediatrics (Neonatology)	36
G	Paediatric Emergency	20
LG	Psychiatry - Adolescent Unit	16

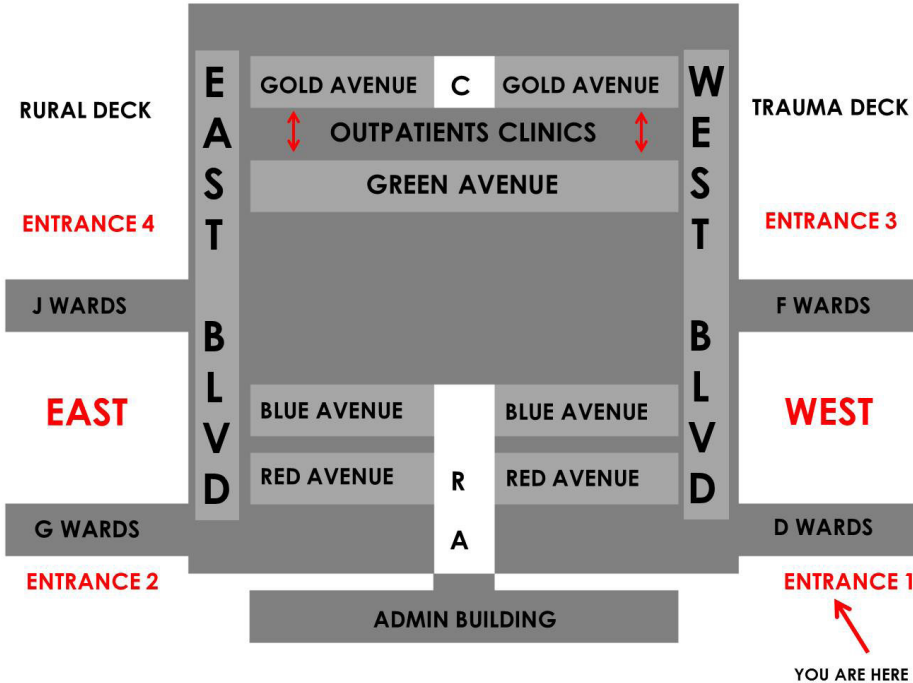
A (ICUs)

10	Metabolic Unit	14	Metabolic Unit	
9	Paediatrics		Paediatric ICU	26
8	Internal Medicine	28	Dermatol(12), Neurol(15)	27
7	Nephrology HC + ICU	9	Nephrology	
6	Cardiology HC	16	Cardiology ICU	8
5	Vacant / Decant		MedHC(13), Resp ICU(7)	20
4	Neuro HC (18), ICU (12)	30	Neurosurg+Thorax (9)	31
3	Orthopaedics	31	Orthopaedics	31
2	Thoracic ICU + HC	10	Thoracic Surgery	14
1	Burns	22	Surgery ICU (2 HC)	14
G	*Offices (Nursing)*		*Offices (Nursing)*	
LG	Psychology		*Offices (Services)*	

D (wards)

10	Internal Med (Source	30
9	Internal Medicine	29
8	Internal Med + Haematology	28
7	Ophthalmology	31
6	Urology	32
5	Head/Neck/brst(17), Abd(14)	31
4	Private ward(23), Cardiac(5)	28
3	Plastics/Maxillo-Facial	22
2	Abdominal surgery	31
1	Vascular Surgery	22
G	Psychiatric (higher function)	14
LG	Psychiatric (lower function)	12

Admin Building


RURAL DECK
TRAUMA DECK
EAST BLVD
WEST BLVD
GOLD AVENUE
C
GOLD AVENUE
OUTPATIENTS CLINICS
GREEN AVENUE
ENTRANCE 4
ENTRANCE 3
J WARDS
F WARDS
EAST
WEST
BLUE AVENUE
BLUE AVENUE
RED AVENUE
R
A
RED AVENUE
G WARDS
D WARDS
ENTRANCE 2
ENTRANCE 1
ADMIN BUILDING
YOU ARE HERE

BACKGROUND INFORMATION

With only three medical schools in South Africa in 1956, concern existed that capacity for adequately training medical staff was insufficient. Proposals were made to establish a fourth medical school which, it was felt, would be best supported at Stellenbosch University.

Initially, Karl Bremer Hospital, on the border of Bellville and Parow, was used as the new school's tertiary hospital for practical aspects of training. This small hospital was, however, hopelessly inadequate and, in 1963, work began on the new Tygerberg Hospital and associated dental hospital. The structure included faculty buildings, two nursing colleges, nurses' and doctors' residences, workshops, laundries, crèches, research facilities for animals, and parking for cars, all covering an area of 100 hectares. The hospital was officially opened in 1976.

Structural features
The main hospital building was designed with a floor area of some 224 843 m^2. This building is 300m long from east to west and 135m wide from north to south. It is 12 storeys high, with ±40km of passages. The main building contains 53 lifts, each with a 30-passenger capacity. The main stores, the main kitchen and the central supply department (CSSD) are located at lower levels in a centrally situated block and are accessible from a vehicular off-loading and distribution centre.

Statistics
In 2020, 381 535 inpatients days with 55 265 admissions and 352 771 outpatients visited Tygerberg Hospital, i.e. an average of 29 398 outpatients and 31794 inpatients days per month and average of 4 605 admissions a month. The main kitchen prepares in excess of 4 200 meals per day.

Facilities
Tygerberg Hospital has been providing highly specialised health services locally and abroad for more than 40 years and continues to strive for and contribute to healthcare in the Western Cape and South Africa as a whole.

Inpatient facilities
At present, 1 384 beds are in use, as per the Comprehensive Service Plan and adjustments made since the opening of Khayelitsha Hospital.

Facilities and resources are provided for numerous specialised services,

which are important to lower levels of care, together with research and post-graduate training. Units have been carefully designed for these purposes. The total number of beds includes carefully situated special ward units for medical and surgical intensive care, organ transplantation, respiratory care, renal dialysis and metabolic studies.

The main operating facilities comprise 28 operation theatres, including 6 special investigation theatres, as well as 6 recovery areas. These facilities occupy a portion of a centrally positioned block within the main hospital building.

The Gene Louw Building was officially opened in 1986 and is linked to the hospital by an underground tunnel. It houses the Oncology Department and is involved in highly specialised treatment and care for oncology patients. There is provision in this building for 47 inpatients.

The provincial paedo-audiological centre, named the Carel du Toit Centre, for hearing-impaired children, functions in conjunction with the Ear, Nose and Throat Department. It is located on the premises of the hospital and compares favourably with the best in the world.

The Tygerberg Radiation Casualty Facility (TRCF) is a dedicated unit for the treatment of all radiation casualties in the Western Cape and surrounding provinces. (Koeberg Nuclear Power Station is situated 45km from the hospital.) The facility is fully equipped with an operating theatre, ward accommodation, an isolated sewerage system and radiation monitoring equipment. Tygerberg Hospital is the only hospital in the Western Cape that is equipped to handle nuclear accident casualties.

Emergency facilities
The Tygerberg Hospital Trauma Unit has access routes that are independent of the patient entrances. Apart from its reception, examination and resuscitation areas, this unit has 28 observation beds, 3 x 24hr emergency theatres and a 6-bed acute intensive care unit.

Also independently accessible is the maternity section, with 15 first-stage sections, 8 delivery rooms and 2 main operating theatres.

A heliport near the western ambulance deck provides access to emergency cases arriving by helicopter.

Outpatient facilities
It was accepted at the outset that each department should have its own outpatient section situated on the same floor as the inpatient wards of that department. This is especially suited to consultation and training.

Operating theatres
The main outpatient theatre block consists of 24 theatre suites. There are specialised theatres for emergency surgery, endoscopy and imaging and minor procedures. The outpatient block also houses the Diagnostic Radiology Service for both inpatients and outpatients, as well as the National Health Laboratory Service (NHLS).

UNIQUE SERVICES AT TYGERBERG HOSPITAL
- Carel du Toit Centre for the Hearing-impaired
- Centre for Mental Health
- Clinical Nutrition and Vitaminology Service
- Clinical Retinal Laboratory
- Cochlear Implant Unit
- Complex Craniofacial Surgery Unit
- Complex Radiation and Oncological Therapy
- Metabolic Unit
- In-vitro Fertilisation
- Kidney Transplant Unit
- Human Genetics Unit
- Neonatal Intensive Care Unit
- Neuro-Psychiatry Unit
- Open Heart Surgery Unit
- Perinatal Mortality Unit
- Poison Information Centre
- Post-natal Stress Disorder Unit
- Specialised Pulmonary Function Laboratory
- Tuberculosis Clinical Work Unit
- TygerBear Social Work Unit
- Day Surgery Unit (02/2000)
- MRI
- Oncology
- Adult Burns Unit (the only one in the Western Cape)
- Hyperbaric Oxygen Facility
- PET CT Scanner
- Pain Services

2020 STRATEGIC HEALTH PLAN
The Western Cape Department of Health is developing a new strategic plan for execution by 2020. It is based on the foundation laid by the 1995 Health Plan and the 2010 Comprehensive Service Plan.

The new plan has been necessitated by changes in demography, the burden of disease, advances in technology as well as the need to provide

high quality, cost effective interventions within the limited resources available.

There is a quadruple burden of disease in the Western Cape that needs to be addressed. The four can be categorised as HIV/AIDS & tuberculosis; injuries; non-communicable diseases such as cardiovascular disease, mental illness etc. and women's & childhood illness. A whole of society approach will also be necessary to adequately address these problems.

Seven guiding principles have been identified as a guide to the 2021 strategy:

1. Patient-centred quality of care
2. A move towards an outcomes-based approach
3. The retention of a Primary Health Care philosophy
4. Strengthening the District Health Services model
5. Equity
6. Affordability
7. Building strategic partnerships

Levels of care are based on the highest level of the medical practitioner who would be required to deliver the care:
Level 1: General practitioners/family physician/Medical Officer
Level 2: General specialist, e.g. physician, surgeon, paediatrician
Level 3: Subspecialist e.g. cardiologist. neurologist, haematologist

LABORATORY COST CONTROL MEASURES

Laboratory costs are among the biggest expenditure items at TBH. **Hospital Notice 52/2009** provides detailed information on restrictions to save costs without compromising patient care. The control measures can be summarised as follows:

Adequate labelling of specimens and forms:
Patient name, folder number, location, doctor's name, tests required.

Motivation by consultant:
Certain tests must be approved on the lab request form by a consultant, who must sign and print his/her PERSAL number in the block at bottom left.

The tests to be motivated by a consultant include:
Urea ordered from OPD (except Renal Division). In–patients – use Creatinine instead.

FBC requested after initial screen. Order only relevant components, e.g Hb & WCC. Do Ward Hb wherever possible instead of ordering from NHLS.

CRP – do not repeat more than every 24 hours for neonates. Older children and adults consultant signature needed unless ordered from ICU.

Thyroid tests – T4 tests will only be accepted if sent from Endocrine OPD or endocrinologist, Gynae endocrinology, Nuclear Medicine or Oncology. All other thyroid screen requests will result in TSH only being done.

Liver Function tests – screen request will result in only Total/Conjugated Bilirubin, ALT, ALK Phos being done unless motivated by a consultant. LFTs not to be repeated more than twice weekly unless specific motivations provided.

Cardiac markers – Troponin T limited to patients with acute coronary syndrome.

HDA1C – Not to be repeated more frequently than 6 monthly.

Lipogram – to be done not less than 6 months after stroke or cardiac infarct and not repeated more often than 6 monthly.

Mg, Ca, P – limited to severe malnutrition, renal failure, hyperparathyroidism, malignancy investigations.

Other restrictions:
ARV, PMTCT testing – identify clearly if for ARV or PMTCT programmes (they are funded separately).

Urine MC&S – use "dipstix" or ward microscopy rather than send to NHLS.

Requests that do not comply with the set criteria **WILL BE REJECTED**
Contact the gatekeeper via the switchboard 021 938 4911 if required. The Gatekeeper can also check if a test has been done recently at another hospital (thus avoiding unnecessary repeats). To unblock a test after hours, the Manager: Medical Services need to be called with a full clinical explanation as to why the test is necessary.

PERSONNEL MATTERS

INTERNS' REGISTRATION

As in the case of all Medical Personnel, Medical interns must be registered with the Health Professions Council of South Africa (HPCSA). Proof of your registration must be submitted to the Professional Personnel Office. Should you fail to register as an Intern at HPCSA, your intern training will not be recognised.

Please note: Registration as an Intern is arranged in October/November in your SI year and the onus is on you to register accordingly. Without said documentation, your appointment can not be processed neither will you allowed to perform any clinical duties.

CERTIFICATES AND FORMS

The following certificates (which will be certified by Human Resource Officials), must be completed and submitted to the Personnel Office on assumption of duty:

- registration with the HPCSA as an Intern
- degree certificate

The Personnel Office will provide you with the following:

- personal information form
- commuted overtime contract and duty roster (obtainable at the respective departments)
- bank form for payment of your salary

Please note: Delegation of Powers - In terms of Section 34(2) (**MEDICINES AND RELATED SUBSTANCES CONTROL ACT 101 OF 1965**), the Director-General may in writing authorize any officer of the Department of Health to exercise or perform in general or in a particular case or in cases of a particular nature, any power, duty or function, conferred or imposed on the Director-General by or in terms of this Act

NAME TAGS

A name tag must be obtained as soon as possible as all healthcare workers need to be clearly identified when on duty. A form to this regard will be completed by Human Resource Officials who will direct you to the Photocopy Room, A-Lower level, to obtain said.

RUBBER STAMPS

All Interns will be provided with a rubber stamp, reflecting their name and PERSAL number on it. This stamp should be used every time a doctor signs

a prescription and orders blood products or blood tests. Failure to use this stamp may result in a request being declined.

Please note: Rubber stamps will be made available to you by the hospital but it remains your responsibility to safeguard it. Replacement of a lost stamp will be at your own expense.

RADIO PAGER/BLEEPERS

You will be assigned a radio pager/bleeper and you must accept responsibility for the device. Mrs Melisa February (ext. 5295), Chief Telkom operator, will explain the procedure on collection of the device. Please ensure that your radio pager/bleeper is fully charged at all times.

VACATION LEAVE

The annual leave accrual of 22 days is allocated to employees on the 1st of January of each year at the commencement of the new annual leave cycle. When appointed after the 1st of January, the PERSAL system will programmatically calculate a pro-rata annual leave entitlement for the remaining full calendar months of the cycle (1.83 days per month). Leave must be arranged with your immediate supervisor. An official application form (Z1) (obtainable from the Personnel Office and/or within the departments) must be completed and submitted in advance to the relevant department. Please note that leave can be denied due to operational requirements.

Please note: If you take leave without the consent of the Head of Department, it could be changed to leave without pay (your commuted overtime will also be reduced for said period), disciplinary procedures can be imposed upon you, and/or your training term can be extended.

SICK LEAVE

36 working days in terms of a sick leave cycle spans over a period of 3 years. You must immediately (within 2 hours) notify your Head of Department/ supervisor should you not be able to report for duty after commencement of the applicable workday. You may apply for sick leave for a maximum of **2 days without a medical certificate**. Heads of Departments may at their discretion require the submission of a medical certificate in respect of any sick leave period (two days or less as well) should a pattern of **sick leave abuse be detected.** Medical certificates must be submitted as soon as you return to work.

NORMAL SICK LEAVE: 8-WEEK RULE

Please take note that in terms of the policy on the 8-week rule as contained in Circular H68/2005, **a medical certificate is required on the third absence within an 8 week period, regardless of whether a medical certificate has been produced on the first, second, or both occasions.**

COMMUTED OVERTIME

Commuted overtime will not be reduced during periods of family responsibility or sick leave in cases where officials are able to fulfil their commuted overtime contractual obligation (by swopping after hour duties with other medical staff within the specific month) or if they are not rostered to perform after hour duties on such dates.

ACCOMMODATION

Accommodation is available in the doctors' quarters and can be arranged with Mrs Shirene Harris, Room 14, Administration Building.

PEOPLE DEVELOPMENT

Bursary applications for serving employees

- Directorate People Development sends out a Circular for availability of Bursaries for serving employees
- The circular is also circulated internally via TBH all and pasted on notice boards to notify the staff of Tygerberg
- Applications are completed online
- Applicants need to register to complete the applications
- Supervisors, Line Managers need to register to recommend and approve applications
- Assistance is available from People Development during the application process
- Study Leave needs to be approved by Next Level Supervisors and Head of Departments
- All required documentation needs to be uploaded on the system for the application to be valid

1% Funding for training

- 1% allocated budget for training and development
- Clinical Skills budget is also available
- Request for funding process needs to be followed
- People Development Policies and Procedures apply

Employee Health and Wellness

- One on one counselling and debriefing
- Managerial referral
- Group counselling
- Bereavement
- Referral to psychologists (upon request and post consultation)

NB: **All bookings and requests need to be made via People Development Office, making use of the contact information below:**

Contact Details

Nokonwaba Ngele
Tel: 021 938 4274
Email: Nokonwaba.Ngele@westerncape.gov.za

Zenodine Galant
Tel: 021 938 4461/5600
Email: Zenodine.Galant@westerncape.gov.za

Simnikiwe Potye
Tel: 021 938 4209
Email:Simnikiwe.Potye@westerncape.gov.za

Ryan Nicholson
Tel: 021 938 6245/4623
Email: Ryan.Nicholson@westerncape.gov.za

LABOUR RELATIONS

VENUE
C11 East (11th Floor)

CONTACT DETAILS
Mr Raymond Japhta
Assistant Director
Tel: 021 938 5184
Email: Raymond.Japhta@westerncape.gov.za

Ms Francina Arendse
Senior Administration Officer
Tel: 021 938 5177
Email: Francina.Arendse@westerncape.gov.za

Ms Imelda Adams
Administration Clerk
Tel: 021 938 5174
Email: Imelda.Adams@westerncape.govza

Ms Sikhunjulwe Ntywankile
Administration Clerk
Tel: 021 938 5985
Email: Sikhunjulwe.Ntywankile@westerncape.gov.za

CODE OF CONDUCT – ADHERENCE TO CONSTITIUTION AND OTHER LAWS

An employee shall—

a. Be faithful to the Republic and honour and abide by the Constitution and all other law in the execution of his or her official duties;
b. Put the public interest first in the execution of his or her official duties;
c. Loyally execute the lawful policies of the Government of the day in the performance of his or her official duties;
d. Abide by and strive to be familiar with all legislation and other lawful instructions applicable to his or her conduct and official duties; and
e. Co-operate with public institutions established under the Constitution and legislation in promoting the interest of the public

GRIEVANCE PROCEDURE

THE INDIVIDUAL GRIEVANCE PROCEDURE

Definition:

A grievance means a dissatisfaction regarding an official act or omission by the employer which adversely affects an employee in the employment relationship.

Managing a grievance:

A grievance must be lodged in writing on the prescribed form. An employee may be assisted by a representative.

Time frames:

A grievance must be lodged with the employer within 90 days from the date on which the employee became aware of the official act or omission which adversely affects him or her.

STEPS:

- The grievance will be investigated at Institutional level.
- If the employee is not satisfied with the outcome, he or she may request that the grievance be referred to Head Office for further investigation. The employee will receive an outcome.
- The Department has 30 days to deal with the grievance. The period may be extended by mutual agreement.
- If after the aggrieved employee is informed of the outcome and he or she remain dissatisfied, he or she may request within ten working days that the grievance be forwarded to the Public Service Commission for further investigation.

DISCIPLINARY PROCEDURE

PROCEDURES: DISCIPLINARY ACTIONS LESS SERIOUS TRANSGRESSIONS FOLLOW THE INFORMAL PROCESS

An informal disciplinary meeting shall be held by the immediate Supervisor.

SANCTIONS

- Corrective Counselling, Verbal Warning, Written Warning, Final Written Warning
- A Verbal warning is valid for 3 months.
- A Written and Final Warning is valid for 6 months after which it will be removed from the employees file

SERIOUS TRANSGRESSIONS: FOLLOW THE FORMAL DISCIPLINARY PROCESS

The employer appoints an Investigating Officer and a Presiding Officer.

Notice: The employee must be given notice at least five working days before the date of the hearing. The employee must sign receipt of the notice. If the employee refuses to sign receipt of the notice it must be given in the presence of a fellow employee who shall sign in confirmation that the notice was conveyed to the employee.

The disciplinary hearing: The hearing must be held within ten working days after the notice is delivered to the employee.

Representation: The employee may be represented by a fellow employee or a union representative.

Interpreter: If necessary, an interpreter may attend the hearing.

Failure to attend: If the employee failed to attend, without a relevant reason the hearing can continue in his or her absence.

Sanctions:
Sanctions consists of:
Counselling, Verbal Warning, a Written Warning, a Final Written Warning, suspension without pay for no longer than three months, demotion, a combination of the afore mentioned or dismissal.

Appeal:
An employee may appeal against a sanction. The employee must within five working days of the receiving of the notice submit the appeal to: Deputy Director: HRM/ People Management who shall
forward it to the appeal authority. The department must finalize the appeal within 30 days

Precautionary suspension: The employer may suspend an employee on full pay. The hearing must be held within a month or 60 days.

ABSENTEEISM

The term "Absenteeism" is applied when an employee who is scheduled to work fails to report for duty. In order to perform the duties, he/she must remain at the workstation for the contracted number of hours per day in order to perform the requisite duties.

Absent does not only mean "not being at work" it also means:

- Arriving late, leaving early.
- Extended tea/lunch breaks.

- Attending to private business during working hours.
- Feigned illness, extended toilet breaks.
- Smoking breaks.
- Other unexplained absences from the workstation or the premises

SUPERVISORY CONTACT

- The employee must justify his/her absence from the workplace.
- He/she must notify the supervisor by telephone at least two hours after the commencement of the shift where applicable.
- The excuse "there was no telephone" is totally unacceptable.
- Employees must refrain from leaving messages with colleagues

ACCEPTANCE OF MEDICAL CERTIFICATES

In terms of item 15 of the **PSCBC Resolution 15 of 2002** the employer **may request** a medical certificate for **absences of less than three (3) working days** in cases where a pattern had been established regarding the exploitation of sick leave. If a medical certificate is **not produced**, the employee is not required to **remunerate** the employee for the period of absence. A **warning process** could be commenced in order to ensure that future absences of less than three days are certified and to prevent the development of a pattern which could require stricter disciplinary measures.

SEXUAL HARASSMENT

Definition: Sexual harassment is unwanted conduct of a sexual nature.

Sexual attention becomes sexual harassment if:

- The recipient has made it clear that the behaviour is considered offensive
- The perpetrator should have known that the behaviour is regarded as unacceptable
- The unwanted behaviour persists although a single incident of harassment can constitute sexual harassment

Forms of sexual harassment

- Sexual harassment may include unwelcome physical, verbal or non-verbal conduct and is not limited to the examples listed as follows:
- Physical conduct of a sexual nature includes all unwanted physical contact ranging from touching to sexual assault and rape and includes a strip search by or in the presence of the opposite sex.
- Verbal forms of sexual harassment include unwelcome innuendoes,

suggestions and hints, sexual advances, comments with sexual overtones, sex-related jokes or insults or unwelcome graphic comments about person's body made in their presence or directed toward them, unwelcome and inappropriate enquiries about a person's sex life, and unwelcome whistling or suggestive noises directed at sex life of a person or group of persons.

- Non-verbal forms of sexual harassment include unwelcome gestures, indecent exposure, the unwelcome display of sexuality explicit pictures and objects, and mail, letters and faxes with a sexual connotation.

CODE OF CONCUCT

C.2 RELATIONSHIP WITH THE PUBLIC

An employee-

C.2.1 promotes the unity and well-being of the South African nation in performing her or his official duties;

C.2.2 will serve the public in an unbiased and impartial manner in order to create confidence in the public service;

C.2.3 is polite, helpful and reasonably accessible in her or his dealings with the public, at all times treating members of the public as customers who are entitled to receive high standards of service;

C.2.4 has regard for the circumstances and concerns of the public in performing her or his official duties and in the making of decisions affecting them;

C.2.5 is committed through timely service to the development and upliftment of all South Africans;

C.2.6 does not unfairly discriminate against any member of the public on account of race, gender, ethnic or social origin, colour, sexual orientation, age, disability, religion, political persuasion, conscience, belief, culture or language;

C.2.7 does not abuse her or his position in the public service to promote or prejudice the interest of any political party or interest group;

C.2.8 respects and protects every person's dignity and her or his rights as contained in the Constitution; and

C.2.9 recognises the public's right of access to information, excluding information that is specifically protected by law.

C.3 RELATIONSHIPS AMONG EMPLOYEES

An employee-

C.3.1 co-operates fully with other employees to advance the public interest;

C.3.2 executes all reasonable instructions by persons officially assigned to give them, provided these are not contrary to the provisions of the

constitution and/or any other law;

C.3.3 refrains from favouring relatives and friends in work-related activities and never abuses her or his authority or influences another employee, nor is influenced to abuse her or his authority;

C.3.4 uses the appropriate channels to air her or his grievances or to direct representations;

C.3.5 is committed to the optimal development, motivation and utilisation of her or his staff and the promotion of sound labour and interpersonal relations;

C.3.6 deals fairly, professionally and equitably with other employees, irrespective of race, gender, ethnic or social origin, colour, sexual orientation, age, disability, religion, political persuasion, conscience, belief, culture or language; and

C.3.7 refrains from party political activities in the workplace.

C.5 PERSONAL CONDUCT AND PRIVATE INTEREST

An employee-

C.5.1 during official duties, dresses and behaves in a manner that enhances the reputation of the public service;

C.5.2 acts responsibly as far as the use of alcoholic beverages or any other substance with an intoxicating effect is concerned;

C.5.3 does not use her or his official position to obtain private gifts or benefits for herself or himself during the performance of her or his official duties nor does she or he accept any gifts or benefits when offered as these may be construed as bribes.

C.5.4 does not use or disclose any official information for personal gain or the gain of others; and

C.5.5 does not, without approval, undertake remunerative work outside her or his official duties or use office equipment for such work.

NB: KINDLY CONSULT CHAPTER 2 OF THE PUBLIC SERVICE REGULATIONS 2001 FOR A COMPLETE VIEW ON THE CODE OF CONDUCT.

PROTOCOLS

Sharp Injury Control

A complete protocol is available in every ward.

1. Wash the lesion thoroughly with soap and water.
2. Immediately notify the ward sister and your registrar/consultant of the injury.
3. Have blood drawn from the contact, if known (full 10ml clotted), and take it with you. The patient's doctor is responsible for the drawing of the blood with informed consent.
4. Complete the "Sharps Injury Notification" form and take it and the blood with you.
5. Nursing and housekeeping staff must be in possession of a TH 100 referral form.
6. Report immediately to the Occupational Health Clinic at C8A West (weekdays 07:00–16:00) or F1 (after hours). Prophylaxis must be started within 1 to 2 hours (max. 24 hours).
7. You will receive counselling and your and your contact's blood will be sent for HIV and Hepatitis B testing, and a decision on the necessity of retroviral prophylaxis (according to risk and contact HIV result) will be made.
8. An IOD 1st Medical Report must be filled in by the doctor who sees you. This form must be delivered to the IOD office in H6, Room 131, in Outpatients within 24 hours.
9. Sign the prophylaxis consent form if prophylaxis is necessary.
10. Report to Occupational Health for follow-up on the first working day after the injury.

Please contact Occupational Health (ext. 6181) or the Adult Paediatric Infectious Diseases consultant through the hospital exchange with regard to any problems.

Hepatitis B immunisation
Hepatitis B immunisation is available at Personnel Health for staff who work in high-risk areas. Heads of Department must motivate applications for immunisation. Immunoglobin treatment is available to staff who have been exposed to Hepatitis B infection due to contact with infected blood or body fluid. Such persons may report to Personnel Health or the Personnel Clinic (8th floor west, ext. 6181).

HINTS FOR SUCCESFUL PRACTICE

Speed service
All doctors who leave the hospital premises must inform the telephone exchange as well as the radio room where they can be found and the names of their replacements. Services may not be swopped without the consent of the responsible Head of Department or his or her nominee. Each department has its own accommodation arrangements.

Emergencies
An emergency requires immediate attention, whether it is your patient or not. See all patients allocated to you, regardless of medical fund, injury on duty, etc. You should not argue with patients about such matters.

Patients should not be turned away from admission areas. However, patients who arrive by ambulance may be turned away.

Malpractice
You should never refuse to see a patient. Arrange with a colleague to see the patient if you are unable to do so. You are advised to take out cover for professional liability in case of malpractice.

Intravenous administering of liquids or blood by a nursing practitioner
If a nursing practitioner is requested to administer liquids or blood intravenously, it is implied that the doctor has ascertained the ability of the nursing practitioner to do so and that the doctor bears full responsibility for any consequences.

Equipment
Moving equipment from one division/ward to another is not permitted. Treat all equipment with respect and care.

Clinical Executive Officer on duty after hours
The operator at the telephone exchange (021 938 4911/or dial 9 internally) will contact the Medical Superintendent on duty.

Patient information
Patient information is confidential and may only be discussed in the multi-professional team set-up. You are not permitted to speak to the press. You may contact the Public Relations Office at ext. 5454 or the Clinical Executive Officer on call.

Media liaison
You may under no circumstances address the media. If you are contacted by or wish to convey something to the media, please contact the Public Relations Office in the administration building, Room 9, ext 5454/5608.

Theatre clothing
Management is aware of the increasing tendency of doctors and medical students to wear theatre attire outside the theatre complex and even outside the hospital. This behaviour is in breach of infection control measures of the hospital. All personnel leaving the theatre complex must put on their normal clothing even if they merely visit a ward. Supervisors must please ensure that this instruction is adhered to.

Special instructions
Upon being appointed, all interns must become familiar with the special instructions and procedures laid down by the departments to which they belong.

File summary in wards (Clinical Assistants)
Complete your summaries within 14 days after the patient has been discharged. If you do not, and the file is sent to the Medical Reports Office without the summary, you will have to do the summary there.

File covers
Do not remove file covers from wards or clinics. The medical records section is willing to draw files for research purposes. Contact your Clinical Executive Officer concerning outpatients.

Black ink pens
Use only a black ink pen as writing in coloured ink is not visible on microfilm.

Medical Reports Office
The purpose of this office is to provide information on medical records on request to the South African Police Services (SAPS), patients, attorneys and the Road Accident Fund. It is crucial that full notes on the patient's condition and treatment are recorded. Dates and times are very important. Completing the forms provided by the Medical Reports Office, and making statements to SAPS when necessary are also part of doctors' duties.

Non-smoking policy
In accordance with the non-smoking policy of the Provincial Government

of the Western Cape (PGWC), a designated smoking area within the building may be established solely at the discretion of the Head of Department.

Language of preference:
English to be the language of preference in recordkeeping and ward rounds.

Nursing Services

PROTOCOL: OBTAINING PERMISSION FOR MEDICAL INTERVENTIONS

1. A medical practitioner is responsible for obtaining informed permission from the patient.
2. The pracitioner must ensure that the patient understands the extent and possible consequences of the intervention.
3. No nursing practitioner or student may obtain permission on behalf of a medical practitioner.
4. The nursing practitoner may only act as a witness and must be present when the medical practitioner has been obtained.
5. Permission must be obtained as soon as possible, after admission of the patient, from the relevant medical practitioner.
6. Permission and accepting possible risks must be cofirmed voluntarily by the patient.
7. The person who grants permission must have the legal capacity to do so.
8. The responsibility of ensuring that lawful permission for an intervention does exists, rests with the person undertaking the intervention.
9. Although it is a medical practitioner's duty to obtain permission, it is the nursing practitioner's duty:
    - to bring it to his/her attention that permission should be obtained timeously
    - to avail himself/herself of that fact that the patient has been properly informed i.r.o. the procedure to be conducted
    - to act as a witness in the presence of the medical practitioner
    - on the day of the intervention, to check that the permission has been completed, before the premedication is administered

- if permission has not been obtained timeously and any deviations or cancellations occur, immediately to inform the relevant medical practitioner and ward staff, the patient, the anaesthiologist and theatre staff
- if any doubt exists i.r.o. the validity of the permission form, to discuss it with the relevant medical practitioner, and if any problems are experienced, to contact the Medical Superintendant.

10. Validity of permission forms:
    - Permission forms must be valid, particularly after six months or after administration of anaesthetic.
    - For cases requiring more than one anaesthetic, e.g. burn wounds or plastic surgery, permission has to be obtained for each operation.
    - Informed permission has to be obtained for each operation, in other word one permission form does not cover multiple operations when the procedure requires anaesthesia.

11. Persons who are permitted to give permission, are referred to notice 38/2002 and 71/2002.

MOTHER AND BABY FRIENDLY INITIATIVE
INFANT FEEDING POLICY

STEP 1. POLICY
- Tygerberg Hospital has a detailed up-to-date infant feeding policy that is communicated to all staff working in clinical areas that deal with mothers and babies.
- The policy includes the Ten Steps and the 3 additional Items: The Code for the Marketing of Breast milk Substitutes, HIV and Mother Friendly Care. The policy is displayed in all relevant areas in 3 local languages, i.e. English, Afrikaans and Xhosa.
- The policy compliances are audited 3 yearly and it is the responsibility of the Infant Feeding Committee.

STEP 2. TRAINING
- All new staff members are informed of the Infant Feeding Policy during orientation to the hospital.
- All staff working with mothers and babies will receive the breastfeeding training in infant feeding to acquire the skills necessary to implement this policy.
- All staff in direct contact with mothers and babies are required to

undergo the Breastfeeding training course for health care providers within 6 months of appointment and updates every second year thereafter. This training programme includes managing breastfeeding, HIV counselling, the Code for the Marketing of Breast Milk Substitutes and the principles of Mother Friendly Care.

STEP 3. EDUCATION OF PREGNANT WOMEN

- All mothers attending antenatal clinics receive information regarding infant feeding matters, HIV and mother friendly care.
- All mothers will have the opportunity to be counselled and tested for HIV.
- Mothers are encouraged to bring a birth supporter with when ready to give birth.
- Posters and educational material and the promotion of breast milk substitutes (e.g. formula feeds) are not permitted.
- Group education/preparation of formula is not permitted.

STEP 4. INITIATION OF BREASTFEEDING

- Where the condition of the mother and baby permits, all mothers, irrespective of their feeding choice, are encouraged to practice skin to skin contact for at least one hour post vaginal or caesarean delivery (without GA).
- During this period, mothers who have opted to breastfeed are assisted with the initiation of the first breastfeed and recognition of the signs of the baby's readiness to feed.

STEP 5. BREASTFEEDING TECHNIQUES AND MAINTANANCE OF LACTATION

- All mothers, during the post delivery period, regardless of their feeding choice, will receive encouragement, assistance, and on-going education regarding safe infant feeding practices.
- All breastfeeding mothers will receive help within 6 hours and shown how to position and attach their babies for breastfeeding.
- All breastfeeding mothers and those who, for medical reasons, have been separated from their infants, are taught how to manually express their breast milk to maintain their milk supply.
- The non-breastfeeding mother will be taught how to prepare their feeding of choice and asked to demonstrate what they have learned.

STEP 6. BREASTFED INFANTS SHOULD GET NO FOOD OR DRINK, OTHER THAN BREAST MILK, UNLESS MEDICALLY INDICATED

- In cases where mothers have opted to breastfeed their infants, the institution strives to ensure that the infants receive no milk other than breast milk.

- Where an acceptable medical reason arise, e.g. the infant having very low blood sugar levels, a breastfed baby may be given a formula feed (breast milk substitute) in emergency cases.
- In a situation where donor milk is advocated for an infant, written informed consent is obtained from the infant's mother before giving the donor milk to the baby.

STEP 7. MOTHERS AND INFANTS REMAIN TOGETHER 24 HOURS PER DAY FROM BIRTH

- All healthy mothers and babies are kept together, in the same room, 24 hours a day. This is known as rooming in.
- All mothers, regardless of their HIV status or the weight of the infant, are encouraged to practice kangaroo mother care.

STEP 8. ENCOURAGE BREASTFEEDING ON DEMAND

- Breastfeeding mothers are encouraged to feed their babies on demand, i.e. whenever and for as long as the infant wants to feed.
- New born infants, who sleep for more than 2 to 3 hours, should be woken up for a feed, as these infants need 8 to 12 feeds in 24 hours.
- Infants on formula feeds are also encouraged to cup feed on demand.

STEP 9. DISCOURAGE ARTIFICIAL TEATS, DUMMIES AND NIPPLE SHIELDS

- The use of artificial teats, dummies or nipple shields is discouraged.
- In cases where mothers are not able or unavailable to breastfeed their infants, expressed breast milk or donor milk are given using a cup or tube if there is no other option.

STEP 10. PROMOTE INFANT FEEDING SUPPORT TO MOTHERS AT DISCHARGE

- Before discharge mothers are taught to recognise effective feeding and milk transfer.
- All mothers, regardless of their feeding choice, are referred to their local clinic for on-going support on safe infant feeding practices.
- Mothers are also provided with contact numbers of Tygerberg Hospital and the local clinic, as well as the name and telephone number of a peer counsellor in her residential area. This information will be discussed with the mother.

ITEM 1: THE INTERNASIONAL CODE FOR THE MARKETING OF BREASTMILK SUBSTITUTES

- The above mentioned code is supported by Tygerberg Hospital and everything possible is being done to promote and support exclusive breastfeeding

ITEM 2: HIV

- All HIV positive mothers will receive individual counselling which will include the various feeding options for their babies as well as information regarding these options. The mother will eventually take an informed decision on how to feed her baby.

ITEM 3: MOTHER FRIENDLY CARE

- Women will be encouraged to have birth companions of their choice with them when in labour.
- Women in labour are encouraged to walk around, have something to eat and to drink.
- Women are allowed to exercise a birth position of their choice during delivery.

Policy reviewed: June 2016
Policy for review: June 2019

PROCEDURES

Dental services
Only inpatients of Tygerberg Hospital may be referred, at certain hours, to Dentistry. The file may be moved with the patient.

Please note: No outpatients are referred to Dentistry at the hospital's expense. Such patients are free to make their own appointments.

Deaths
Refer to Tygerberg Hospital notice 81/2006.

CONSENT FORMS FOR OPERATIONS (a new consent form is in circulation – please see the most recent one)

See CPA circular no. H12/1986.
Tygerberg Hospital notices 81/2002 and 71/2002 are available in all wards.

Role of the doctor
The doctor is responsible to inform the patient fully, ignorance on the part of the patient being assumed. The doctor is the person best equipped to explain to the patient the nature and purpose of the operation and possible complications, and to ensure that the consent form is properly completed.

Role of the nursing practitioner
It is the duty of the nursing practitioner to check whether consent has been granted and to notify the doctor and anaesthetist without delay if the consent form has not been properly completed, or if the patient has crossed out anything on the form.

Role of the anaesthetist
If the anaesthetist notices that the consent form is incomplete, he or she must immediately bring this to the attention of the doctor and the nursing practitioner.

Persons older than 18
If of sound mind, persons over the age of 18 may give consent themselves. In the case of married couples, a spouse may refuse consent if the marriage partner's reproductive capacity is involved unless the intervention is essential on medical grounds, or the parties are estranged.

Unconscious or incapacitated patients
If a doctor regards the intervention as an emergency measure, the Medical Superintendent's consent must be obtained before an intervention at the hospital may be performed on unconscious or incapacitated patients. The consent form must be signed by the Clinical Executive Officer at the first possible opportunity.

Persons younger than 18(please consult the new "child act" consent has different criteria whereby a minor can give consent)

Consent must be given by the parent or guardian of persons under the age of 18. Where parents refuse to give consent or the parents or guardians cannot be traced to grant consent for an elective procedure, ministerial consent must be obtained. The social worker allocated to the ward must arrange this. (See notice 81/2003.) If married, a woman may give consent herself (regardless of her age).

In an emergency, the Medical Superintendent may give consent after obtaining the opinion of the doctor in question if it is not possible to contact the parents/guardian.

Please note: The doctor must personally contact the Clinical Executive Officer and prove on clinical grounds that the procedure was an emergency measure, i.e. that the patient's life was in immediate danger or the patient might have suffered long-term damage or become disabled.

Mentally ill patients
Consent from patients who have been admitted because of psychiatric illness, even when involuntarily, should be managed in exactly the same way as other cases. As in other cases, the patient's ability to give informed consent for a procedure should be assessed.

Most psychiatric patients are able to give consent for routine procedures. If in doubt, the opinion of a psychiatrist may be sought and, if necessary, consent may then be obtained from the appropriate relative or guardian. If reasonable efforts to trace a relative or guardian prove unsuccessful, consent may be obtained from the Clinical Executive Officer of the provincial hospital where the patient has been admitted.

For emergency procedures, the same protocols apply as in the case of other patients.

Expiry of consent
For practical purposes, a valid consent form is regarded as having expired after 30 days or after the administration of a single anaesthesia. (This is not a legal requirement.)

Consent for follow-up operations
In cases that may require anaesthetics more than once, e.g. burn wounds or plastic surgery, consent must be obtained for each follow-up operation. If follow-up procedures are expected in the case of minor children from remote areas, consent for each procedure must be arranged in advance with the parents or guardians.

MAKING BEDS AVAILABLE
Each department manages its own beds. The Clinical Executive Officer does not admit or discharge patients. Medical staff responsible for the patient, as determined by the Head of Department, must make arrangements regarding the availability of a bed.

Emergency admissions receive preference. If a department's beds are filled with emergency admissions, beds may be borrowed from other departments in the division, if available.

Keep a theatre list for cold procedures, examinations or treatment.

Admission of patients

All staff are requested to note that:
1. bed status is electronically updated and bed utilisation can be checked immediately at all times by consulting the computer terminals.
2. a print-out of bed status is available at any time upon request from Registration (west side, ground floor).
3. the after-hours nursing manager has a terminal, as well as a printer.

If a bed is available, the doctor arranges admission of his/her patient to the ward concerned.

To check whether there is a bed available in his/her ward, department or division, a doctor may (a) contact the ward sister, (b) request a printout from Registration, (c) consult the bed statistics made available after 16:00 at the after-hours office (ext. 4056), (d) consult the bed managers during normal working hours (bleep 747 or 189).

When a vacant bed is found outside his or her ward, the doctor is expected to arrange at registrar level for the utilisation of such a bed. Such beds, if utilised, should be vacated before 10:00 the next morning.
If, after following the above procedures, the doctor has not found a vacant bed, the following protocol for full beds needs to be followed:

Step 1: Identify all patients for discharge and/or transfer to secondary hospitals of origin or post-acute beds in the Peninsula (Conradie

Hospital). If the patient is in bed only because he or she is waiting for transport, liaise with patient transport. Self-sufficient patients other than minors are permitted to overnight at the Lower Ground Protea Court patients' overnight facility. Appropriate patients (e.g. ambulant patients awaiting transport or medication) should be discharged to the transit lounge).

Consider the step down facility for patients that can be transferred according to criteria.

Step 2: If enough beds are still unavailable, borrowing beds from other disciplines may be considered. The bed managers can be contacted during office hours and after hours Nursing Services Manager on duty can be contacted to indicate where beds are available in other disciplines. The discipline concerned must be contacted to provide information about vacant beds and whether the available bed may be utilized. This process is between the medical staff. If permission is granted to borrow the bed contact the unit manager(nursing) to arrange the occupancy of the bed as permitted by the discipline.

No further cold admissions may take place at this stage or transfers accepted from referring hospitals, clinics or doctors. However, this does not mean that the hospital is closed. No cases arriving at the hospital by ambulance or private transport must be turned away. The hospital is closed owing to over-utilisation only when all beds in all sections are full within reasonable limits.

Once vacant beds have been identified, the designated officer with authority to relinquish the beds grants consent to loan the bed for a specific period. Within the limits of fairness, the officer may not refuse to grant consent. The bed must, however, be vacated by the time specified when the bed is loaned.

Inform the Clinical Executive Officer of the discipline in question to ensure that sisters at referring hospitals are notified that referrals from referring entities will be channelled to them for a specific period.

Step 3: If the borrowed bed cannot be vacated by the specified time, and no bed can be identified by returning to step 1, another discipline may be approached for a bed on loan.

Step 4: If step 3 is unsuccessful, discharge all pre-operative cold cases. Theatre time that becomes available in this way can be used to operate on and move out emergency and semi-emergency cases.

All pre-booked cold admissions that are cancelled should be notified in good time where possible. Cold cases can be re-scheduled in advance for procedures, even if it means long waiting lists. When bed utilisation decreases, waiting lists can be reduced by admitting more cold cases.

Doctors must follow the guidelines set out above strictly and should not contact the matron before having done their homework. Hospital management will deal with complaints about transgressions of the above procedures.

GENERAL INFORMATION

Air-conditioning
All windows need to remain closed to ensure an effective air-conditioning system.

Fines
Fines will be imposed for the following:
- in any other area,
- on yellow lines,
- across more than one parking space
- in such a way as to obstruct traffic flow
- the parking of other vehicles
- to prevent the removal of other vehicles
- in violation of any rules issued by the Clinical Executive Officer.

The Security offices contact details are 021 938 5165/5178/6077 for any enquiries.

Doctors who have on-site accommodation are required to park their cars within the designated doctors parking area at the doctors' quarters.

Telephones/kiosks
There are no telephone kiosks available at the hospital.

Postal and banking facilities
There are no postal and banking facilities available at the hospital.

Please note: Official envelopes may not be used for personal mail even if you use a stamp.

Cafeteria
The cafeteria is situated at the lower level of the administration block and may be reached through the linking corridors that lead to the university.

ANNEXURE A

HOUSE RULES

Welcome – It is trusted that you will enjoy your accommodation at this hospital. To ensure that your stay will be memorable and pleasant, it is important that you observe the following rules as they apply to all premises leased on the grounds of the Tygerberg Academic Hospital.

(It is suggested that they be read before you sign the lease agreement)

1. ON ARRIVING

a. Report to the office of the Housekeeper
a. Acknowledge receipt of your room / flat key
a. Ensure that equipment in the leased premises is in working order and that all items on the inventory list are checked before you acknowledge receipt thereof.

2. COVID RULES

a. Wear a mask
b. Keep your distance 1.5m
c. Sanitize your hands
d. Only 4 people allowed in the lift
   - **Please inform the housekeeper when in isolation and waiting on results, to arrange temporary accommodation.**
   - **If tested positive, then accommodation will be granted on temporary basis at the hostel until you recover.**

3. PERSONAL BELONGINGS

a. Ensuring personal belongings is your own responsibility
b. It is strongly recommended that personal items be clearly marked.

4. ELECTRICAL MATTERS

a. Use of the following electrical items is permitted subject to approval per individual item:
   - Kettles
   - Hair Dryers
   - Asbestos or fan heaters
   - Television sets and radios
   - Microwave ovens
   - Two plate stoves
   - Small refrigerators
   - Toasters

b. Only 3 (three) point plugs are allowed and no more than 3 (three) power sources may be used simultaneously.
c. The following items are **not allowed** on the leased premises:
    - Washing machines
    - Tumble dryers
    - Open flame heaters
    - Frying pans
    - Satellite Dishes

5. OCCUPATION OF THE LEASED PREMISES

a. The leased premises must be used for accommodation only
b. Subletting of the property is prohibited
c. Furthermore, under no circumstances will you be granted:
    - An extension once your community service has been completed.
    - Accommodation for your partner/family members/children
d. The premises must always be kept neat and tidy
e. As the PGWC cannot accept responsibility for theft of property or other losses. Tenants should ensure that their rooms/flats are at all times locked when they are not physically occupying same.
f. Tenants are responsible for the cleaning of their rooms/flats Refuge bins must be empted in the garbage containers provided.
g. Only press-stick may be used to fix photographs and pictures to walls.
h. Under no circumstances may PGWC furniture be damaged or removed from the leased premises.
i. To prevent wind damage, it is suggested that window latches and locks be closed when tenants leave their rooms / flats. Negligence may result in them being held accountable for damages.
j. No alteration of any kind may be made to the property.
k. The PGWC / Management of the Tygerberg Academic Hospital or any representative appointed by them may inspect the leased premises at any reasonable time.
l. Any substance abuse or other unacceptable behaviour will result in disciplinary action and a request to the tenant to vacate the leased premises.
m. No item product / substance that can cause damage or endanger the safety of other tenants, personnel or the public may be kept or stored on the leased premises.
n. This lease agreement entitles the tenant to occupy only the room / flat specified. Under no circumstances may the rooms or flats of other tenants be occupied or visited without their express permission.
o. For inventory control and health and safety reasons, the leased premises will be inspected once a month.

p. No alcohol may be brought into nor consumed in the residence.

6. LINEN /WASHING MACHINES

a. Tenants are to provide their own linen, bedding, towels and curtains
b. No hospital linen may be used

7. BATHROOMS AND TOILETS

a. Bathrooms and toilets are cleaned daily by contracted staff
b. Tenants must ensure that these areas are left in a clean and neat condition after they have been used

8. VISITORS (GUESTS)

a. Visitors are only allowed on the leased premises if accompanied by the tenant
b. Visitors will not be allowed to overnight
c. Visitors to complete COVID attendance register.

9. VISITING HOURS

Wednesday	10:00-22:00
Sunday	10:00-22:00
Public holidays	10:00-22:00

- **Please note that when COVID restrictions are implemented no visitors will be allowed at the hostel.**

10. PARKING

a. Tenants and visitors must park in designated parking areas only

11. DEPARTURE

a. On leaving, an inventory of all the equipment and items on the leased premises will be required. All losses / breakages must be reported to the Housekeeper who will take the necessary action
b. Tenants must leave their forwarding addresses and telephone numbers with the Housekeeper to ensure that further communication (also mail) can be directed to them after their departure

12. HOUSE RULES UNDER NO CIRCUMSTANCES MAY THESE RULES BE REMOVED FROM THE LEASED PREMISES

LEASE AGREEMENT

Entered into by and between

The Provincial Government of the Western Cape – Tygerberg Hospital **(hereafter referred to as the LANDLORD) at** Private Bag X3, Tygerberg, 7505 **(address)**

AND

_____

(full name and surname of Tenant (hereafter referred to as the TENANT)

_____

[Identity Number or Passport number (if the latter includes an expiry date)]

Description of leased "PREMISES" at Tygerberg Hospital: _____

_____

(Please complete alternate contact details)

Physical address : _____

_____

Postal address : _____

_____

Telephone no's : _____
(Cell, home, work, etc)
E-mail address : _____

TERMS AND CONDITIONS

1. DURATION

1.1 This lease shall commence on _____ (day) _____ (month) _____ (year) and shall lapse on the _____ (day) _____ (month) _____ (year). This agreement therefore terminates on the _____ (day) _____ (month) _____ (year), unless an earlier date is agreed to.

2. RENTAL

2.1 The rental for the PREMISES shall be R _____ (subject to periodic adjustments) per month.

2.2 The rental will be recovered from the TENANT'S salary/paid to the Accounts Section at the Hospital Administration on or before the first day of every week/month (delete what is not appropriate) should the TENANT be employed by Tygerberg Hospital. Direct advance payments MUST be made in advance by those TENANTS NOT employed by Tygerberg Hospital.

2.3 The LANDLORD shall be entitled to increase the rental at any time on receipt of notification of a rental increase as approved by the Head: Health.

3. USE OF PREMISES

The unit shall only be occupied by the TENANT. The LANDLORD reserves the right to have TENANTS share a unit.

The TENANT shall have the right of reasonable use, having regard to the rights of all other lessees and/or other occupiers of the LANDLORD, of the common areas, toilets and other conveniences and facilities provided by the LANDLORD. The TENANT shall use the PREMISES only for residential purposes.

The TENANT shall not be entitled to sub-let the PREMISES or cede any of its right hereunder.

The TENANT shall not be entitled to alter or add to the PREMISES any installations therein contained without prior written consent of the LANDLORD.

The TENANT shall not affix objects to the PREMISES by means of nails, screws or otherwise without the written consent of the LANDLORD.

The TENANT shall not be entitled to change the locks to any doors to the PREMISES or in respect of the furnishings/equipment therein.

4. SERVICES

4.1 Inclusive Rental

The rental includes the TENANT'S right to use of the furnishings/ equipment and services hereinafter provided for, save to the extent that this agreement expressly provides for the payment of additional charges, therefore.

4.2 Furnishings/Equipment

4.2.1 The TENANT shall be entitled to use the furnishings/equipment situated on the PREMISES and detailed on "Annexure A" hereto, for the duration of this agreement.

4.2.2 Ownership of the furnishings/equipment used by the TENANT in terms of 4.2.1 shall at all times remain vested in the LANDLORD.

4.2.3 The TENANT shall use the said furnishings/equipment with such care as to ensure that it remains at all times in good order and repair, fair wear and tear only expected, and shall at the termination hereof return such furnishings/equipment to the LANDLORD in like good order and condition, fair wear and tear only expected.

4.3 Visiting Hours

4.3.1 Wednesday 10:00-22:00
4.3.2 Sunday 10:00-22:00
4.3.3 Public holidays 10:00-22:00

- **Please note that when COVID restrictions are implemented no visitors will be allowed at the hostel.**

COVID rules

- Wear a mask
- Keep your distance 1.5m
- Sanitize your hands
- Only 4 people allowed in the lift

5. LIMITATION OF LIABILITY

The TENANT shall:

5.1.1 have no claim of any nature whatsoever against the LANDLORD for any loss, damage or injury which it may directly or indirectly suffer (except where caused through the gross negligence of the LANDLORD) by reason of any latent or patent defect in the PREMISES

or any damage or destruction to the PREMISES, furnishing and/or equipment; theft from the PREMISES; and, defect or disrepair of the PREMISES and/or the furnishings/equipment.

5.1.2 not be entitled to withhold or defer payment of any amounts due in terms hereof.

5.1.3 under no circumstances have any claims against the LANDLORD for consequential loss, however caused

6. BREACH

6.1 If the TENANT fails to make a payment of any amount due in terms hereof or commits any other breach of this agreement and does not remedy the latter mentioned breach within 3 (THREE) days of being asked to do so, then the LANDLORD shall be entitled to terminate this agreement, eject the TENANT from the PREMISES and retake possession of the furnishings/equipment used by the TENANT in terms hereof. If the TENANT disputes the LANDLORD'S right to terminate this agreement and remains in occupation then the LANDLORD shall be entitled to continue to receive payment of the rental and other amounts due in terms hereof without prejudice to its contention that this agreement has been terminated.

6.2 The TENANT shall pay interest on all amounts overdue in terms of the lease at overdraft rate as determined by the Head: Health. The interest shall be calculated from the due date of such amount to the actual date of payment thereof.

7. WHOLE AGREEMENT

This agreement constitutes the whole agreement between the parties and no variation hereto shall be of any force or effect unless reduced to writing and signing by the LANDLORD and the TENANT. No onsensual termination of this agreement shall be of any force of effect unless reduced to writing and signed by the LANDLORD and the TENANT.

8. NON-WAIVER

No relaxation or indulgence which any of the parties may afford to the other/s shall in any way prejudice or be deemed to be a waiver of the rights of the indulgent party and shall not preclude or stop the indulgent party from exercising all or any of its rights hereunder and, in particular but without limiting or derogatory from the a foregoing, any cancellation hereof or accrued right of cancellation hereof.

9. JURISDICTION

The TENANT consents to the jurisdiction of the Magistrate's Court or otherwise competent jurisdiction in respect of any action or proceeding which may be brought against it by the LANDLORD; provided that the LANDLORD shall be entitles to bring proceeding which would, but for the aforegoing, fall outside the jurisdiction of the Magistrate's Court.

It will be the responsibility of the TENANT to adhere to the House Rules contained in "Annexure A" attached to this lease agreement. A breach of any of the conditions outlined in either of these documents (i.e. this lease agreement or the House Rules) WILL RENDER THIS AGREEMENT NULL AND VOID. The TENANT also acknowledges that the House Rules may be amended by the LANDLORD when considered necessary.

THUS, DONE AND SIGNED AT _____
(PLACE)

THIS DAY OF _____ (DAY) _____ (MONTH) _____
(YEAR)

FULL NAME & SIGNATURE OF TENANT: _____

_____

WITNESSES: (NAME & SIGNATURE):

1. _____

2. _____

ANNEXURE B

PARKING

Security

Although a level of security is provided on site, Tygerberg Hospital accepts no responsibility for damage to, or loss, or theft from vehicles when driven or parked on site, or for theft of a vehicle.

PARKING AT OWN RISK

General

Staff and official visitors must park only in the clearly defined and marked parking spaces. Failure to do so will result in warnings or fines being issued.

All members of staff wishing to park within the hospital grounds are required to apply for a parking permit in advance of using any of the designated parking areas. Applications will only be accepted once a hospital notice / internal circular is issued advising staff to apply Parking permits entitle staff to use an available space but do not guarantee that one will be available. Staff must park in the spaces that are provided regardless of convenience or distance from working location. Cars that are parked in areas other than clearly defined parking spaces will be subject to parking enforcement measures.

Warning stickers / fines

Staff are liable to receive a warning sticker if they:

- park in a non-designated area, including patient parking areas or on yellow/red lines, grass verges, loading/restricted bays, or such a way as to block fire exits, etc.
- fail to display a valid permit/disc for the car park/area they are parked within
- take up more than one clearly defined parking space.

Warning stickers are issued by site security. They remain active from the date of the offence for a period of 12 months. Any person who receives 3 warnings and or fines within a 12 month period will have his/her parking privileges revoked.

Blue badge holders (disabled persons)

To ensure that all roadways are accessible at all times, the hospital does not allow any vehicle to be parked on yellow/red lines or other non-designated areas. Specific parking spaces are provided for disabled persons as close as possible to the entrances to the hospital. Able-bodied persons are not to use these parking bays.

Staff who has a disability that directly affects their mobility will be issued on application with a blue parking disc. However, they must apply for such a disc and pay the prescribed monthly fee. Where necessary, the Occupational Therapy Division will be called upon to make an assessment of individual needs before a permit is issued.

Issue of permits

Application forms for parking discs are available from the Security Office on Ground floor, E-Passage, during office hours.

Parking permits / discs are issued every two years. Information and publicity regarding reissue days will be forwarded per internal circular in advance. Special reissue sessions will be held for night staff to ensure that all employees have an opportunity to collect their permits. Interns need to apply for their parking upon their appointment and will be allocated parking upon availability.

Please note:

- Any permits that cannot be collected during the reissue sessions must be collected from the Security Office on Ground Floor, E-Passage during office hours.
- New permits will not be issued unless old permits are returned.
- Permits must be collected personally. Staff members are required to present their hospital ID cards when collecting their permits.
- Collection of the parking disc / permit signifies acceptance of the full terms of this parking policy.

Responsibility of permit holder

Once the permit is issued, it is the responsibility of the permit holder to ensure the following:

- a valid permit is displayed
- all details recorded on the permit are correct and, in particular, vehicle registration numbers are correct at all times
- the permit is clearly displayed on the windscreen of the vehicle
- the full permit is not obscured and is clearly visible at all times

Failure to display a valid permit in the above manner, regardless of reason, will be subject to parking violation measures.

Change of vehicle

Should a member of staff change his / her vehicle or the registration number of the vehicle, a change of vehicle form must be completed and returned to the Security Office. A replacement permit will be issued confirming the new details. The old parking permit must be returned in exchange for the replacement permit.

Photocopies or forged permits
Photocopied or forged parking permits are strictly prohibited. The use of fraudulent permits are seen in a serious light. Disciplinary action may be taken against staff members who are found to have photocopied or forged a permit.

Lost permit
It is the responsibility of the permit holder to ensure that the permit is kept safe. Should a permit be lost, an administration fee may be charged (depending on circumstances) for the issue of a replacement permit.

Permit allocation
Parking permits are issued to staff that are eligible to park in the designated staff areas of the car parks. Allocation of permits is monitored to ensure parking spaces are effectively utilised.

Staff who live on site are also expected to apply for a parking permit and will be charged the monthly fee.

Long-term contract staff are expected to apply (and pay) for a parking permit. The number of permits issued is limited.

Yellow permits
As of August 2010, the charge for issuing a parking permit is R6.00 per month. The charge will, however, be reviewed on a regular basis.

Current permit holders
All current permit holders are required to apply for a new permit by 31 December 2021.

Access
An intern will be granted access to the wards and Doctors Quarters (if applicable) via a scanner, once a staff number has been issued.

CLINICAL DEPARTMENTS

Department of Anaesthesiology and Critical Care

Head of Department : Professor S Chetty
Intern supervisors: Dr C Drude and Dr J Dippenaar
Hospital secretary: Mrs M Esterhuyse, R2, extension 5142

Point 1 contains a brief guide to the Intern rotating in Anaesthesiology and Critical Care.

From point 2 onwards, guidelines for preparing patients for theatre are provided to Interns in various (surgical) disciplines. The department is in the process of revising these guidelines for improving inter-department communication, patient safety, and cost effectiveness. Any revisions will be published during 2021.

1. Interns working in Anaesthesiology and Critical Care

1.1. According to the Health Professions Council of South Africa, all practitioners must rotate through Anaesthesiology for 2 months. The purpose of compulsory anaesthetic rotation is to attain skills in basic anaesthesia techniques, gain practical experience in anaesthesia and to recognise patients at risk.

1.2. You are welcomed into the Department, considered an important component of the anaesthesia team, and will be rostered and function as part of the team.

1.3. Your group representative should contact Mrs Esterhuyse **4 weeks before your rotation starts** for information to plan the call roster and around leave allowances during the rotation. Please be aware that there are some restrictions so if you are planning leave in the rotation, contact Mrs Esterhuyse early.

1.4. On elective lists, you are expected to report to theatre at 07:00. You will evaluate the patients pre-operatively and report your evaluations to the registrar or consultant on the list the day prior to the elective surgery.

1.5. In theatre, you will be actively involved in both delivering an anaesthetic to patients and being taught safe anaesthesia practises.

1.6. You will also perform emergency duties in the department.

1.7. It must be emphasised that the administration of anaesthesia by an intern must take place under the direct supervision of suitably qualified registered practitioner.

1.8. Your active and disciplined participation, as certified by the supervising doctor, is necessary for the Head of Department to sign

the Health Professions Council's documents.

1.9. All interns, both precall and post call, are expected to attend the Wednesday afternoon academic meeting, which takes place in lecture room 5 at 14h30. All covid-19 protocols should be observed. Post call interns may join via Microsoft teams. Interns allocated to emergency theatres (S , T and U) during the day as well as acute care surgery, may be excused from meeting.

2. General guidance to interns with respect to pre-operative preparation of patients requiring anaesthesia or sedation.

2.1. A thorough history and clinical evaluation, as set out below, is mandatory.

2.2. Common illnesses that impact anaesthesia must be actively considered. These include Hypertension, Diabetes Mellitus, Ischaemic heart disease, Aortic stenosis, Cardiac failure, Chronic Obstructive Airways Disease, Asthma, Pulmonary tuberculosis, Gastroesophageal reflux disease, Certain occult infections, Anaemia, Renal disease Peripheral vascular disease, Cerebrovascular events or Fluid and electrolyte problems.

2.3. Exclusion of these do not require a battery of special investigations. A thorough history, clinical investigation, and estimation of haemoglobin concentration preoperatively may be enough for you to be able to screen patients who require further investigations.

2.4. If you are unsure, please contact the anaesthetist on the list or the Department of Anaesthesiology and Critical Care for advice.

3. History of candidates for surgery must include:

3.1. All previous illnesses.

3.2. History of respiratory problems

3.3. History of cardiovascular problems.

3.4. All known allergies.

3.5. Family related illnesses (e.g. porphyria, muscle conditions. Malignant hyperthermia, Scoline Apnoea)

3.6. Previous surgery, with details of anaesthesia-related or other complications

3.7. Exercise capacity according to NYHA classification.

3.8. Social habits such as smoking, alcohol, recreational drugs.

3.9. All acute and chronic medication.

4. General examination must consider:

4.1. Body length and mass (BMI).

4.2. Basic observations.

4.3. Jaundice, anaemia, clubbing, cyanosis, oedema, lymphadenopathy.
4.4. Evidence of Airway abnormalities?
4.5. Evidence of Respiratory problems?
4.6. Evidence of Cardiovascular problems?
4.7. Evidence of Neurological problems?
4.8. Evidence of Abdominal or urogenital problems

5. Special examinations

5.1. The ordering of special examinations is the responsibility of the surgical team responsible for the patient.
5.2. Haemoglobin concentration must be performed preoperatively in all patients. Haemoglobin below 8 g/dl is usually unacceptable for routine elective surgical patients. If you are unsure, please contact the anaesthetist on the list about the case.
5.3. ECG is performed on all patients older than 65 years.
5.4. All other special examinations must have a valid clinical indication.
5.5. The clinical examination and all results of special examinations must be available by 13H00 in the ward on the day before the operation. If the necessary particulars are not available, it may be impossible to evaluate the patient appropriately or to explain the anaesthetic risks to the patient or accept the patient for anaesthesia.
5.6. If you are unsure, please contact the anaesthetist on the list or the Department of Anaesthesiology and Critical Care for advice.

6. General TBH rules for booking on operating lists

6.1. Bookings must reach the R2 theatre offices by 13H00 the previous day. Bookings for Monday must be handed in on Fridays by 13H00. Late bookings and changes to lists are not accepted, unless directly arranged with the anaesthetist concerned or the medical superintendent responsible for theatres.
6.2. Longer procedures must be placed at the beginning and shorter procedures at the end of the list.

7. Particular anaesthetic considerations

7.1. **ASA Nil per os rules or "Minimum fasting periods"**

7.1.1. Clear liquids *	1 hour
7.1.2. Breast milk	4 hours
7.1.3. Infant formula	6 hours
7.1.4. Non-human milk	6 hours
7.1.5. Light meal#	6 hours
7.1.6. Fat/meat:	8 hours

*Clear liquids = fruit juice without pulp, carbonated drinks, black tea or coffee. No alcohol !

#Light meal = liquid & toast; fatty meal may take longer to digest!

7.2. **Children** should not be deprived of food for long periods and should, where possible, be booked first on a surgical list. Oral glucose containing clear fluids should be administered to all children until 1 hour preoperatively.

7.3. **Premedication in children**. Anxiolytics should not be prescribed in children less than 1 year of age, children with respiratory compromise or with diminished levels of consciousness. If required **and** the above criteria are fulfilled, midazolam 0.5 mg/kg up to a maximum dose of 7.5 mg is appropriate.

7.4. **Acute upper respiratory tract infections in the previous 6 weeks influence the anaesthetic technique and safety of anaesthesia, particularly in children.**

7.4.1. Postpone purely elective surgery in children for four to six weeks after lower respiratory tract infections, in those less than 1-2 years of age, and those with a history of asthma.

7.4.2. Elective surgery may continue 2 weeks following a URTI in which the child is clinically well.

7.4.3. Elective surgery may continue following seasonal rhinitis with a clear discharge, and without constitutional symptoms.

7.5. **Diabetics** taking oral medication or insulin could become hypoglycaemic if deprived of food before an operation. Cover a food deprivation period with intravenous glucose and consult Anaesthesiology concerning treatment.

7.6. Aspirin, statins, beta blockers, and most **chronic medication** should **not be stopped** preoperatively and taken with a small mouthful of water early on the morning of surgery.

7.7. **Drugs that may require preoperative cessation** include oral antidiabetic agents in patients scheduled for major surgery, aspirin in patients having neurosurgery and eye surgery, oral anticoagulants, clopidopgrel, and ACE inhibitors.

7.8. **Informed consent should be taken preoperatively.**

7.9. **Children for MRI or CT** scan require consent to be taken before arrival at the scanner.

7.10. **Cross matching**

7.10.1.Find out from the attending surgeon or anaesthesiologist involved whether blood needs to be ordered beforehand.

7.10.2.Packed erythrocytes (RBC's) are usually used.

7.10.3.If in doubt, group and screen is a safe and cheaper option.

8. Preoperative referral to Anaesthesiology

8.1. Should the patients general condition warrant it or the extent and nature of the surgery may cause special problems, the Department of Anaesthesiology and Critical Care should be sent a concise referral at least **48 hours** (2 working days) before the planned operation. This will give Anaesthesiology staff members opportunity to evaluate the patient and suggest special examinations or treatments. Referrals must be made on the electronic VULA referral platform. Please contact Mrs Esterhuyse for details on how to do this if you are unsure.

8.2. It is important to accurately specify the date of the planned surgery on the referral and supply the contact details of the surgical registrar responsible for the patient. Failure to do so means that the Department of Anaesthesiology and Critical Care will not know to whom the referral should be allocated. Giving an incorrect date risks getting another anaesthesiology team who may not accept the patient for surgery.

8.3. **If there is no fixed date, please then send a referral to the DACC, as early in the day as possible to ensure speedy consultation.**

8.4. It is imperative to book ICU beds as early as possible to avoid cancellation. Discuss with the surgical registrar or anaesthesiologists if this is needed.

9. How to diminish the risks of surgery being postponed?

9.1. Ensure the patient has been properly evaluated, and/or

9.2. Ensuring the theatre list arrives on time in R2, and/or

9.3. Ensure ICU/PACU beds are booked timeously, and/or

9.4. Avoid booking too many patients on a particular operation session. While a certain amount of overbooking is accepted due to logistical problems, it is unfair to both patients, anaesthetic and surgical staff to overbook lists, and/or

9.5. Ensuring that group and screen has been sent the day before.

9.6. Ensuring timeous referral to Anaesthesiology and Critical Care with the correct operating date.

9.7. **If in doubt, speak to us, we're there to support patients and doctors alike.**

Department of Family Medicine and Primary Care

Family Medicine and Mental Health Rotation

This rotation is organised by Family Medicine and Primary Care

Head of Division: Prof Bob Mash
7TH Floor, Clinical Building, Room 7085, Faculty of Medicine and Health Sciences
Telephone: 021-938 9170
E-mail: rm@sun.ac.za

Intern Curator: Dr M Pather
7TH Floor, Clinical Building, Room 7075, Faculty of Medicine and Health Sciences
Telephone: 021 938 9171
Cell: 0842799927
Fax: 021-938 9153
E-mail: mpather@sun.ac.za

Administration of intern rotation: Ms Freda Valentine
7TH Floor, Clinical Building, Room 7078, Faculty of Medicine and Health Sciences
Telephone: 021 938 9449
Fax: 021 938 9153
Email: fjv@sun.ac.za

Psychiatry
Executive head: Prof S Seedat
2nd floor, Clinical building, Faculty of Medicine and Health Sciences
Telephone: 021 938 9227
Email: sseedat@sun.ac.za
PA: Janette Jordaan 021 938 9658

Stikland Hospital
Old Paarl Road, Bellville
Dr Inge Smith
Email: ingesmit@sun.ac.za
Telephone: 021 940 7269

The Family Medicine component of the rotation uses a number of community and hospital-based teaching sites.

Community Health Services

Site B Khayelitsha Community Health Centre
Facility manager: Mr D Binza 021-360 5207 (w)
Email:Dawid.Binza@westerncape.gov.za
Family Physician: Dr S Mathee: 0844910728
Email: Shahied.Mathee@westerncape.gov.za
Family Physician Dr Jan Kunene: 021 3605251
Email: dr.kunene@gmail.com

Nolungile Community Health Centre (Site C)
Facility Manager: Ms Gail Viani 021 387 0230
Email: Gail.Viani@westerncape.gov.za
Family Physician: Dr J Kumari : 072 588 6298
Email: kumarij1010@gmail.com

Delft Community Health Centre
Facility Manager: Mr Jaco van Heerden 021 954 2235 / 7
Email: Jaco.vanHeerden@westerncape.gov.za
Family Physician: Dr Sheron Forgus: 0733579690
Email: Sheron.Forgus@westerncape.gov.za

Bishop Lavis Community Health Centre
Facility Manager: Sr Carelse: 021 9346050
Family Physician: Dr Mumtaz Abbas: 0824919048
Email: Mumtaz.Abbas@westerncape.gov.za

Kraaifontein Community Health Centre
Family Physician: Dr Dusica Stapar: 0823531220
Email: Dusica.Stapar@westerncape.gov.za

Michael Mapongwana Community Health Centre
Family Physician: Dr Germarie Fouche: 0722698220
Email: germarieferreira@gmail.com

District Hospitals

Eerste River District Hospital
Family Physician: Dr Steve Swartz: 0828559411
Email: Steve.Swartz@westerncape.gov.za

Introduction

The learning outcomes for this rotation are defined in detail by the HPCSA and can be summarized as follows:

- To manage undifferentiated conditions in primary care, provide chronic care and be exposed to aspects of palliative and forensic medicine
- To manage typical conditions seen in a district hospital
- To manage common mental health problems in primary care and community psychiatry
- To manage acute psychiatric emergencies in primary care and hospital
- To have opportunities for collaboration with other primary health care workers such as nurses and allied health professionals.
- To integrate the experience, knowledge and skills gained in all other domains.

The 4-months of this rotation will be spent as follows:

- 1-month at a district hospital
- 1-month in an acute psychiatry ward
- 2-months in a community health centre
- 2-sessions per week in a community psychiatry clinic

District Health Services

During your rotation in family medicine you will no longer be working in a level 2/3 hospital but in level 1 hospitals / primary care.
These services are organized by a different division within the Department of Health.

Community health centre

The intern will work under the supervision of the Family Physician and participate in all the activities of the CHC from 08h00-16h30

- Consulting patients with undifferentiated acute and chronic illnesses
- Providing emergency care
- **Participating in the after-hour work (Interns at Nolungile must do their overtime at KDH)**

Prescriptions must comply with the Essential Drug List for Primary Care and the Provincial Catalogue which are available in the health centre.

Investigations permissible are listed on the request form for the Metro District Health Services / National Health Laboratory Service.

District Hospital

The intern will work under the supervision of the Family Physician and will

work in the following areas:

- ARV Clinic
- Admission ward
- Medical and surgical out-patients including relevant procedures
- After-hour duties in the hospital

Psychiatry

The rotation in psychiatry is organized by the Department of Psychiatry and they will introduce your exposure to the psychiatric hospital and community psychiatry at the introductory meeting. Their contact details are given above.

Transport

Dr Kurt Maart is responsible for assisting with transport requirements. Mileage can be claimed for use of your own car during working hours – for example going to the community psychiatry clinic. Milage is claimed from Tygerberg Hospital as your base station and not from home. Please use the claim form that is in your introductory pack.

Assessment

The HPCSA logbook for Family Medicine / Primary Care and Mental Health (pages 46&47) must be completed during the rotation. Please look at this with your supervisor to guide what additional experience you need. Please complete the evaluation of your clinical skills with your supervisors. Please show your supervisor the list of suggested topics to discuss.

At the end of the rotation complete your assessment of the rotation (Form 139, Section I).

Please bring the logbook with you to the first monthly meeting in Family Medicine. Then bring your logbook and both completed copies of pages 46 & 47 from your internship logbook at the end of rotation interview.

During this rotation you are asked to request leave only during your attachment to the community health centre. **Inform your Family Physician supervisor first and then submit to Nicole – You may NOT overlap leave at the same CHC.**

Overtime

At the end of each month you should complete the form "**Verification of Commuted Overtime**" and once this is signed by your site supervisor you can hand it in to the Tygerberg HR Office.

Monthly meeting – Every second Thursday of the month at 15:30

CHANGE OVER TO NEW SITE THE **FIRST DAY OF THE MONTH**

Division of Forensic Medicine

Consultants: Dr J Verster, Dr D Anthony, Dr Y Brijmohun, Dr Z Smith

For any medico-legal queries, feel free to consult this Division.
Call: 021 938 9325/ 021 938 9516 or 71 9325/71 9516

Death notification form (DHA-1663)
This is only completed by clinicians in cases of natural death and stillbirth. In unnatural deaths, the forensic pathologist who performed the autopsy will complete the form. Complete the death notification form as soon as possible after death and definitely before you leave the hospital. Use only capital letters and a black pen. Avoid abbreviations. Make sure that the underlying cause of death is recorded in the lowest completed line in Part 1 of the "Medical cause of death" section. Do not indicate mechanisms of death, like hypoxia, anaemia or shock as underlying conditions. Seal the last page of the form, and staple to the other pages.

Please note:

- Sections A and D may be completed by the ward staff. Section B and G must be completed by the clinician. Note that the doctor is ultimately responsible for the information completed on the whole form. Section G1 is intended for patients more than one week old, and section G2 for stillbirths and children under 7 days old.
- If a diagnostic autopsy is requested from Anatomical Pathology, only sections A, B and D are completed, with the necessary request forms (see "Anatomical Pathology" in the Specimen Sampling Manual at the back of this booklet). All of these forms must accompany the body to the mortuary.
- ONLY in the case of a stillbirth may the DHA-1663 be completed by a registered nurse.
- If a person dies from unnatural causes, the form for referral to Forensic Pathology (FPS100, the "blue form") must be completed, and must accompany the body to the Forensic Pathology Services Laboratory. Since the autopsy cannot be performed until the forms are completed, it is of the utmost importance that the treating clinician completes the form as soon as possible to avoid distress to the family. This form must be completed by a senior clinician who was involved in the treatment of the patient. The DHA-1663 will be completed by a member of Forensic Pathology after the autopsy is completed.

Procedure-related deaths

According to Section 56 of the Health Professions Act, (Act 56 of 1974), "the death of a person undergoing, or as a result of, a procedure of a therapeutic, diagnostic or palliative nature, or of which any aspect of such a procedure has been a contributory cause, shall not be deemed to be a death from natural causes".

If a death can in any way be related to a procedure, it is prudent to discuss the case with the forensic pathologist on call. When referring the case, Forms FPS100 and GW7/24 must be completed as soon as possible by the surgeon, anaesthetist and nurse involved, and must be sent with the body and folder to the Forensic Pathology Service.

'Dead on arrival'

Confirm that the patient is dead and complete the DOA form. Please attend to these cases immediately because ambulances must be made available for other service duties and should not be held up unnecessarily.

Please note: The Dead on Arrival form is not the same as the Death Notification form (DHA-1663). Before the DHA-1663 can be completed, the circumstances surrounding the death must be ascertained from ambulance personnel and family members of the deceased. If the patient has been treated at Tygerberg Hospital before, and the clinical appearance, history and hospital notes are in accordance with the circumstances of the death, the DHA-1663 may be completed (natural death). The information used in this process should be recorded briefly in the hospital folder.

Classification of unnatural deaths

These cases should be referred to Forensic Pathology Service:

A. *Deaths due to the application of an external force and the complications thereof:*

- Any physical, chemical or thermal injury
- injury caused by nature e.g. dog bite, bee sting anaphylaxis
- complications of injury e.g. tetanus or rabies after dog bite; gas gangrene or necrotising fasciitis after gunshot wound, stab wound
- pneumonia or pulmonary embolism resulting from traumatic injury

B. Procedure-related deaths:

Refer to the definition above. This definition is not limited to the 24-hour period after the procedure and may include less radical surgical procedures such as tooth extractions, cardiac catheterisation or bronchoscopy. The acid test for the clinician: would this patient have died at this time from this cause if the procedure did not take place.

C. Sudden, unexpected deaths

- sudden death in adults without any obvious cause
- so-called cot deaths (Sudden Infant Death Syndrome).

D. Acts of omission or commission

- any death, including deaths that would otherwise be classified as "natural", where it is suspected that the death was due to a negligent or criminal act by any party, including care by medical staff or any other person.

Good note keeping practice

Medical and allied health staff members are reminded of their responsibility and duty to make "clear, objective, contemporaneous, tamper-proof and original" notes of all aspects of their medical practice.

The HPCSA recommends that all notes be annotated with a signature, name in print, as well as the HPCSA number of the health care practitioner. In hospital practice, the Medical Protection Society also recommends your pager or phone number.

CAUSE OF DEATH CERTIFICATION

The **Immediate Cause** is the final disease, injury or complication directly causing the death. It should be noted that the mechanism of death or terminal event (for example, cardiac arrest or respiratory arrest) is not considered to be a cause of death. The mechanism of death should not be reported as the immediate cause of death as it is a statement not specifically related to the disease process, and it merely attests to the fact of death.

The **Underlying Cause** of Death is the disease or injury that started the sequence of events leading directly to death or the circumstances of the accident or violence that produced the fatal injury. If the underlying cause of death is an injury, the case should be referred to Forensic Pathology Service.

Instructions for completion of the cause-of-death section on Death Notification Form DHA-1663

The cause-of-death section consists of two parts. **Part I** is for reporting a chain of events leading directly to death, with the **immediate cause** of death (the final disease, injury or complication directly causing death) on line (a) and the **underlying cause** of death (the disease, injury that initiated the chain of events that led directly and inevitably to death) on the lowest used line. If only one line is used, only line (a) should be completed. The

cause of death sequence reported in part I should reflect the temporal and patho-physiological course of the disease process, i.e. the condition in the lowest completed line should have preceded the other conditions, but also clearly caused the conditions listed above it. **Part II** is for reporting all other significant diseases, conditions, or injuries that contributed to death but which did not result in the underlying cause of death given in Part I.

The cause-of-death information should be the medical practitioner's best medical OPINION. Report on each disease, abnormality, injury, or poisoning that the medical practitioner believes adversely affected the decedent. In the case of injury or poisoning the case should be referred to Forensic Pathology Services. A condition can be listed as "probable" if it has not been definitely diagnosed. If an organ system failure such as congestive heart failure, hepatic failure, renal failure or respiratory failure is listed as a cause of death, it must always be followed by details on its aetiology on the line(s) beneath it (for example, renal failure **due to** Type I diabetes mellitus).

Example:

G MEDICAL CERTIFICATE OF CAUSE OF DEATH

		Approximate interval between onset and Death (Days / Months / Years)	FOR OFFICE USE ONLY ICD-10
PART 1 Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. **List only one cause on each line.**			
IMMEDIATE CAUSE (Final disease or condition resulting in death)	(a) Acute renal failure	5 days	
	Due to (or a consequence of)		
Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	(b) Hyperosmolar non-ketotic coma	8 days	
	Due to (or a consequence of)		
	(c) Diabetes mellitus, non-insulin dependant	15 years	
	Due to (or a consequence of)		
	(d)		
	Due to (or a consequence of)		
PART 2 Other significant conditions contributing to death but not resulting in the underlying cause given in **Part 1**	Hypertension, previous myocardial infarction		

In this case, hypertension and a previous myocardial infarction would both be considered factors that contributed to the death. However, they would not be in the direct causal sequence of Part I, so they would be placed in Part II. It is acceptable to list a mechanism (acute renal failure) as an immediate cause of death only if it is followed by an underlying disease that could be considered the cause of death.

Adjusted from:

Pieterse D, Groenewald P, Burger L, Kirk G, Bradshaw D. Cause of Death Certification: A Guide for completing the Death Notification Form (DNF) – BI-1663. Cape Town: South African Medical Research Council, 2009.

Department of Gynaecology and Obstetrics

Academic Head: Prof H Botha (phone extension: 4661)
General Specialist Head: Prof GS Gebhardt (x4638)
Intern Coordinator: Dr N Mbungu
Duty and leave rosters: Dr J Butt and L de Waard (x4749)

Dear Colleague

Welcome to our department

Documentation regarding your responsibilities will be supplied by Mr Aaron Jordan, the departmental clerk (x4432) when you join the department. The duty rosters, information and protocols will be supplied electronically before you join the department. Please send your contact details (cell phone and email address) to Dr N Mbungu (noma@sun.ac.za) at least one month before you start with your rotation. Your group's representative must liaise with Dr Mbungu regarding all roster-related issues and any problems must be sorted out amongst the group first.

Working (office) hours are from 07:30–16:00 and all clinics and ward rounds start strictly at 07:30. Information on the after-hours duties and academic ward rounds that must be attended and will be supplied when you start. Call rosters are structured so that you do not work more than 24 hours at a time.

Leave requests must be sorted out before (one month) you start your rotation. The available slots and leave rules will be sent to your group representative by Dr. Mbungu. Upon receipt of all leave requests, all leave forms must be completed and submitted to Mr Aaron Jordan (ext 4432).
Please note that attendance at the following weekly meetings is compulsory:

- Mondays, 16:00. Departmental Morbidity and Mortality meeting in Ward F3
- Thursdays 13:00. Perinatal Morbidity and Mortality meeting in Ward F3

Monthly meetings with the intern coordinator as scheduled

Attendance of the postgraduate meeting on Fridays at 14:15 in the Seminar Room, 2nd floor, Medical School is voluntary.

The departmental duty rosters, policies and protocols are available at www.obstyger.co.za. Our protocols are also available on the EMGuidance app. A training schedule for ESMOE (essential steps in the management of obstetric emergencies) will be provided on the first day of your rotation. ESMOE content is also uploaded on EMGuidance. Attendance is compulsory and must be verified in your HPCSA logbook.

DEPARTMENT OF MEDICINE
Division of General Internal Medicine

Executive Head: Prof H Reuter
Departmental Secretary (TBH): Mrs I Abrahams (Dr Schrueder's PA) ext. 5731, 6th Floor, east side); Mrs D Smith (A5 West, x4941, Room 37) / (FMHS) Mrs M Ackerman (3rd Floor, Clinical Building, FMHS, 938-9044)

Welcome to the Department of Medicine. The Head of General Medicine is Dr Neshaad Schrueder (x5732 / mobile 084 582 4552). The department's intern supervisor is Dr K Somers (mobile 073 199 6592). You are welcome to discuss with them any problems you may have. Additional information on the department is provided in the registrar guide, which is available from the departmental secretary.

During your rotation in Medicine, you may be allocated to work in one of the firms, A5 (High Care) and/or be assigned to do the Emergency Unit (C1DW)/Relief slot. Although the work is demanding it is very rewarding and if you participate actively you will derive great benefit from your experience.

Academic obligations
Interns who show initiative, participate actively in academic discussions and are present at academic meetings will greatly enhance their final assessment. As a member of an academic department, you are expected to attend the following meetings.

- Wednesdays 08:00 in R4 lecture theatre(will be advertised in the department).
- Thursday, 15:30 – Departmental Academic meeting – William A. Soga Seminar Room, 3rd floor, Clinical building, Department of Medicine/ Online Microsoft Teams.

Operational Meetings

- Mondays at 12:00 General Internal Medicine divisional meeting at R4 Lecture theatre/Wellness Park. All operational issues and troubleshooting will be discussed at this meeting. Your feedback is vital to improving the working environment and patient care within the division.

Leave arrangements
Leave is granted according to a leave schedule, which is available from the departmental secretary. There are only 1-2 slots available at any given time therefore leave arrangements should be discussed long in advance to prevent disappointment. Submit leave forms to Mrs D Smith. Any special

circumstances, feel free to discuss it with Dr Somers. Also see the hospital's leave policy regarding sick leave etc. Please communicate all absence on the day to the registrar as well as inform Dr Somers.

Statistics

- Weekly statistics on each medical firm are handed in every Thursday to the departmental secretary ie Mrs Smith. Statistics must be handed in before 10:00. Statistics forms are available at the departmental office. The use of designated M&M forms and a short death discharge on ECCR (ICD code R99 to be utilized) is obligatory.

Patient care

Your duties in respect of general patient care include the following:

1. Evaluation and admission of patients to C1DW, general wards and the High Care ward (A5 west) as well as the daily follow-up care of these patients – always under supervision of a registrar or consultant. You are responsible for making admission notes as well as keeping follow–up notes. From time to time you may have to assume greater responsibility in the ward should your registrar not be available.
2. Students will work under your supervision and you will have to ensure that the overall standard of patient evaluation, patient care and the ward work of the students are satisfactory. Furthermore, you are expected to assist with student's supervision/training where you encounter students. Remember, they will look up to you as a role model, so always keep your conduct professional.
3. On-call duties: Each medical firm is on call on a rolling 1 in 5 roster. When your side is on you will be working in C1DW.

   During working hours (08h00-16h00) each firm is responsible for their own ward patients. Therefore, make sure your phone is on and you are available if the ward sister is looking for you. After hours, the on call intern will also provide emergency cover for the general wards.

   The registrar responsible for the patient must provide additional telephonic cover. Therefore, emergency numbers (home/cell) should be provided to the Sister-in-Charge of the ward.

   A weekend call entails 24-hour duty in C1DW, which may be on a Friday, Saturday or Sunday, as per call roster. Discharging patients: You will be assisting with writing discharge summaries. Make sure these are a true reflection of the patient's problems and hospital plan. Discuss with your registrar before writing the discharge if you need help. Discharge summaries **cannot be delegated to students.**

- Rather include too much information than too little.
- Have your registrar/consultant check the discharge letter to ensure you documented the critical issues.
- When arranging follow-up appointment, do not automatically default to giving MOPD follow-up appointments. We only want to see those patients again where a specialist will still need to give input in the future. Straight forward problems like COPD can be followed up by the Day Hospitals. Check with your registrar where patients need to follow up. Ward follow-ups will be followed-up at MOPD by the admitting team so book the patient for a day when you are available.

4. Discharge planning: There is always extreme pressure to get patients out of bed as soon as possible. One way of achieving this, is discharge planning. Here are some tips:
   - Complete the prescription the previous day. Most of the time you can pre-empt what you are going to discharge the patient on, so even if the pharmacy is closed after 14h00, you can still do the prescription so that the ward sisters can sent it off at 07h00 and don't have to wait until 11h00 when you have finished with your round. By 11h00 the pharmacy is also busy with MOPD prescriptions, so they are slower with discharges.
   - Try and not reinvent the wheel: Do not re-write chronic medication if it has not changed. It will be less work for the pharmacy, will save money and if the patient does not have to wait for meds, he will be out of here quicker.
   - Write the discharge note the previous afternoon. If nothing has changed, you can hand it to the ward sister at 9h00 on the round, instead of only writing it at 11h00 when your round is done.
   - Pre-empt social problems. If it is a 70-year-old lady who used to stay alone and now had suffered a stroke, refer her to the social worker on Day 1, so that we can start working on a plan in advance.
   - **Talk to the families.** Linked to the above, keep **clear communication** with the families, so they can plan in advance to care for terminal patients. Get a phone number on admission and write it on the cover of the folder.
5. Discharge / Transit lounge: Location at J-Ground next to the general reception area. Equipped with comfortable recliner and a television for patients to watch. Both male and female toilet close by (5 meters). Staffed by a Home Base Carer (HBC).

- Purpose: for patients to wait on their medication and families after discharge, so that the beds can be cleared and new patients admitted. This is very important since C1DW is always full.
- Patients must be medically stable, mobile and able to care for themselves.
- Only local patients can access the facility since the transit lounge closes after-hours, and transport to peripheral areas is not reliable. If someone is from afar they need to wait in ward for transport. But still inform the bed manager of them so that they can assist in arranging transport.
- Once the doctor has completed the discharge letter and prescriptions, he/she informs the ward-sister that the patient is suitable for the Discharge Lounge and hand her all the paperwork. Then the sister can phone the number (x6583) and arrange transfer of the patient. Easiest will probably be that one of the staff nurses take the patients down.

6. Chronic Care Patients add to the pressure on acute beds and the quick turn-around time in the medical wards since patients has nowhere to go.

   Therefore, firstly realize – family must also take responsibility. Speak to the family. Do not just accept the social worker needs to make a plan. Persuade family to take responsibility for their own people; to make a plan amongst themselves and assist with the care of their family member at home.

   At present, the centres available for chronic care are Conradie Care, Booth Memorial and Western Cape Rehab. The different facilities have different services available and different requirements. Some have physiotherapy, others don't etc. but most of them require that the patient be stable since they have no doctor on site, not be on any IV medication and have limited period for which they admit patients. Therefore, it is probably easiest to contact the social worker and use her as a liaison to decide which facility will be most appropriate and to facilitate the transfer. Use the Social Worker of your specific ward. But if you struggle, contact Ms Nocawe Frans – 938 4164/-5873 – Nocawe.Frans@westerncape.gov.za

   To assist them in their job, make sure:
   - Identify appropriate patients early – on admission already.
   - Get the social worker involved early – day 1 if appropriate.
   - Make sure treatment that will influence placement, like IV antibiotics, physiotherapy etc. is initiated timeously so that it does

not delay discharge.
- Make sure discharge medication is ordered in time. Usually the patients need to go to these centres with 1 month's medication on them.

Cost-effective medicine: Practising cost-effective medicine without compromising quality cannot be overemphasised. Always think twice before requesting tests. Less is often more.
- For example: Do not do an FBC when all you need is a platelet count.
- Do not do a U+E when all you need is potassium.
- Do not repeat tests done at other hospitals unless necessary.
- Switch from IVI to oral antibiotic treatment soonest possible.
- Students should also be supervised in this regard.
- Discuss all blood transfusions with your registrars and order non-urgent transfusions during office-hours. The blood bank charges extra for specimens processed outside 08h00 and 18h00.

You can get a password to get onto the www.disa website where all hospital results throughout the province (not only TBH results) can be accessed. This can save time and money, because you will be able to see if patients had previous TB sputum etc. Please contact Mrs D Smith to get the forms and help you apply for access.

A5 High Care: Job description for those doing calls in A5

Daily patient care:

1. Examine all new patients thoroughly. They may have been referred by a physician, but you are now assuming responsibility for their care, so you need to be in control of what is wrong with them.
2. Examine your patients the day you are on call. The person going off would have done it, but for the next 24 hours they are your responsibility.
3. Make sure all patients have nursing orders etc. diet, fluids, glucose, nurse instructions etc. including the patient is discharge to the wards.
4. Write a plan for the patient for the day e.g. wean O2, mobilize, and refer.
5. Check and enter all labresults on the result sheet. Check all the preceding results of the patients on computer to see if any culture results have become available.

Ward functioning:

1. The post-call morning - do round at 6 am, examine all the patients and get results ready for ward round. Do blood gasses where necessary, plus other appropriate bloods.

2. On day of call - do the ward work (e.g. referrals, radiology etc).
3. Go see the patients on the list for High Care and prioritize them. Remember ICU gets preference.
4. Fill in the Apache scores. Worst values in the first 24 hours.

When discharging patients from A5:

1. Complete a comprehensive discharge summary.
2. Phone bed manager or bleep them if no answer to arrange a ward bed. A5 High Care has preference over C1DW when there are limited beds available in the wards, because we need to clear our beds so that we can accept new patients from C1DW. If you do not get help from the Bed Manager, phone your consultant for assistance.
3. Phone the registrars whose patients are discharged and let them know to which ward they are going. If the patientwas admitted directly to ICU, check when the patient arrived (ambulance sheet) and check on C1DW roster who was on call that day - inform that registrar that it is his patient and which ward they are going to.

Additional things to make everybody's life easier:

1. It is a clever idea to write the basics on the "clinical notes forms" for the next day in the evening, e.g. diagnosis, medication, what day their lines are etc. Also write your blood forms. It saves time for your morning round.
2. Check the blue file to see that there's enough forms and the blood trolley for stock (blood tubes, syringes, blood culture bottles etc) for the night. Do this before nursing handover at 19:00 because the store room key gets locked away at night.
3. Do the blood gases at around 07:00 to be ready for the technologist coming on at 07:30. The technologist does rounds in A9 at 06:00 in the morning so the gasses will just lie there.
4. On the consultant round confirm which patients are for active resuscitation

Job description when working in C1DW team

Morning ward round starts at 08h00, ensuring there is a plan for each patient. You may also be rostered for the afternoon shift (15h00-23h00), then hand-over round starts promptly at 15h00.

Thereafter the C1DW intern assists in the ward work, making sure:

- The plan is instituted - make sure investigations happen. If the patient is supposed to get a CT scan, make sure he is on the list etc.
- Utilise the P2 CT list which requires patients to have a valid creatinine result/working IV line and ward location sent to the following email

address: Victoria.Johannessen@westerncape.gov.za

- Follow-up results. If the result is significant – institute treatment. If you are unsure about what to do about the new results, discuss it with the MO / registrar / C1DW consultant.
- If results do not show anything we going to treat at TBH, transfer patient back to the secondary hospital.
- Discharge patients who do not need to be in hospital anymore.
- Help to see new patients once the ward work is done.
- Assist in supervising students with procedures.
- Assist with "siftings" (all patients presenting to "siftings" or walking into C1DW from the street). If it is a straight forward thing you can sort out and discharge – do so. If you are unsure – ask the C1DW registrar / consultant.
- Liaise with the nursing staff to facilitate the finding of beds and movement of patients out of C1DW.

TEAMWORK AND RESPECT

You will be part of a team caring for ill patients. Working as a member of the team will ensure that the patients get optimum treatment and will give you the reassurance that you are supported by senior staff members, including the registrars and consultants. Do not hesitate to ask for assistance from senior staff if you need it – that's what they are there for. At the same time you will regularly have student working with you. In the Department you can expect to be treated with dignity and respect and should never be bullied, or subject to any form of discrimination or harassment. At the same time we expect you to treat other members of the team with the same respect and not abuse them in any way. Should you be the victim of or witness any abuse or victimisation, please report these to our 'safety officers' Dr Schrueder, Dr F Bassa or Prof K Moodley.

SAFETY AND SECURITY

The Tygerberg estate is large and safety is always an important issue. Always exercise caution when going about your business in the hospital. Avoid walking in the parking area in the dark. If you need to get to your vehicle afterhours, please contact security to accompany you. Do not leave valuables lying around – lock up your bags etc if you are not carrying them with you.

Department of Medical Imaging and Clinical Oncology

DIVISION OF RADIODIAGNOSIS

Head: Prof Richard Pitcher

Background:

The Division of Radiodiagnosis is fully digitized, with a picture archiving and communication system (PACS) and a radiology information system (RIS). The Division is therefore filmless and paperless. Imaging requests are entered electronically, and images (with attached reports) can be viewed on workstations throughout the hospital.

X-Ray examinations may only be requested by doctors.

To use the digital imaging system, doctors require training, and to be registered on the system. Individual log-in with a user-name and password is required.

To register as a user:

1. Open the Internet Explorer on any TBH computer.
2. Select **RIS REGISTRATION** from favourites or alternatively enter the following address into the address bar: http://tbhris.pgwc.gov.za/ris/rispage.htm

By clicking the links from this page you can:

1. ACCESS TRAINING for use of the RIS (recommended first step)
2. COMPLETE A REGISTRATION FORM as a PACS/RIS user
3. Get details of the SUPPORT you can expect as a PACS/RIS user

Electronic imaging requests must provide comprehensive clinical information. This includes the past medical history, a clear presenting problem, examination findings, the results of special investigations, a clear clinical question and an indication of the urgency of the investigation.

After completing the electronic request for an ***emergency investigation,*** doctors are required to ***phone the duty radiologist*** in the relevant modality, for authorisation of the study. Contact details are provided below. ***Please note: Urgent requests that are not discussed with the duty radiologist, will not be approved on the system.***

If, for any reason, the radiologist on duty in any modality cannot be contacted for arrangement of an urgent examination, the on-call radiologist can be contacted through the Tygerberg Hospital exchange (ext.6666).

All requests for special imaging investigations (ultrasound, fluoroscopy, CT, MRI, vascular/interventional) are subject to approval by duty radiologists in the respective imaging modalities. ***Duty radiologists have the prerogative to cancel requests deemed inappropriate or those with inadequate clinical details.*** If an examination is deemed inappropriate, the duty radiologist will, wherever possible, phone the referring clinician's contact number (as reflected on the RIS). Should the referring clinician not be contactable for whatever reason, the examination will be cancelled and a note will be attached to the electronic request. ***Doctors can view the status of all their requests on the system.*** When registering to use the system, doctors will receive training in this aspect.

General enquiries
08:00 -16:00 weekdays:
C4B X-Ray Unit appointments: ext. 5913
Reception: ext. 5900
Assistant Director Radiography: ext. 5918
Chief Radiographer: ext. 5149 or speed dial options 3206/3207

After 16:00 and over weekends:
C1A X-Ray and Mobile Unit Radiographers: ext. 5233 / 5378
Radiologists: ext. 5868

Referral of patients

Plain film radiography

Non-urgent

In-patients
Complete the electronic request form on the Physician Utility, selecting priority P2 and the appropriate resource. The Division of Radiodiagnosis will send for the patient.

Out-patients:
General:
Complete the electronic request form on the Physician Utility and then send the patient to X-Ray Reception on 4th Floor (H4 East).

Orthopaedics*:*
Complete the electronic request form on the Physician Utility and then send the patient to X-Ray Reception on 6th Floor

Paediatrics
All paediatric examinations (in- and out- patients) except orthopaedic cases are done on 1st floor.

Urgent

In-patients

Complete the electronic request form on the Physician Utility, selecting priority P1 and the appropriate resource. The Division of Radiodiagnosis will send for the patient

Out-patients:

General:

Complete the electronic request form on the Physician Utility, selecting priority P1 and the appropriate resource. Send the patient to 4th Floor X-Ray Reception (H4 East).

Orthopaedics:

Complete the electronic request form on the Physician Utility, selecting priority P1 and the appropriate resource and then send the patient to X-Ray Reception on 6th Floor

Emergency services (F1 and C1D)

Complete the electronic request form on the Physician Utility, selecting priority P1 and the appropriate resource. For all special investigations (ultrasound, fluoroscopy, CT, MRI, angiography/intervention), the request should be discussed with the duty radiologist (ext. 5868). The Division of Radiodiagnosis will send for the patient.

Trauma patients

Complete the electronic request form on the Physician Utility, selecting priority P1 and the appropriate resource. All special investigations (as above) should be discussed with the duty radiologist (ext. 5868). The Division of Radiodiagnosis will send for the patient.

All special examinations (ultrasound, fluoroscopy, CT, MRI, vascular/ interventional)

Non-urgent

Outpatients

Complete the electronic request form on the Physician Utility and select priority P3. The patient should then be sent to the 4th Floor Radiology Department Reception (H4 East) to be given the time and date of the appointment and any instructions in preparation for the examination.

Inpatients

Complete the electronic request form on the Physician Utility, selecting

priority P2. The Division of Radiodiagnosis will communicate with the ward regarding the date and time of the appointment and any preparation instructions.

Urgent

All urgent special investigations must be requested electronically, selecting priority P1 ***and then discussed telephonically with the duty radiologist in the respective modality.***

Normal hours 08:00–16:00:

Contact the duty radiologist at the imaging modality required:

Fluoroscopy:	ext. 5928
Ultrasound:	ext. 5095
CT:	ext. 4768, 5931
MRI:	ext. 5415
Vascular/intervention:	ext. 6446, 5924

After hours: 16:00–08h00:

Contact the radiologist on duty at ext. 5868, or through exchange at ext. 6666.

- Preparation for special examinations is available at H4 East Reception (after hours at C1A X-Rays).

Note:

- ***Children undergoing anaesthesia for CT or MRI examinations will require consent from the parent or guardian.***
- ***Patients undergoing arteriograms or biopsies must sign consent.***

Mobile X-ray examinations

Complete the electronic request form on the Physician Utility, selecting the appropriate priority.

Lodox

Complete the electronic request form on the Physician Utility, selecting priority P1. Also arrange telephonically at ext. 5233/5378.

X-Ray examinations or screening in main theatres

Normal hours

Theatre lists to be sent to C4BT the previous day. Complete the electronic request form on the Physician Utility.
Confirm the time of the theatre procedures.
Check for availability of C-arm before anaesthetic is administered.

Urgent cases need prior arrangement at ext. 5924/5279.

After hours:

Complete the electronic request form on the Physician Utility. Book telephonically at ext. 5378/5233.

Please note:

- Parents or guardian must give written consent for children under the age of 18.

For CT and MRI please note:

- Urea and creatinine results are required for all patients > 65 and for any younger patients with risk factors for renal disease.
- IV line for all inpatients.
- The requesting clinician is required to obtain consent from the parent or guardian for any child under the age of 18 for anaesthesia to be administered during the imaging procedure.

NUCLEAR MEDICINE DIVISION

Head: Prof J Warwick

Gold Avenue, 10th Floor, Tygerberg Hospital
PET/CT Centre: Gene Louw building (adjacent to X-block)

Enquiries

Bookings: ext. 4268 (general Nuclear Medicine); ext. 6552 (PET/CT)
Results: ext. 4265, Room 41 or ext. 6552 (PET/CT). Reception (patients): ext. 4261
Enquiries after 16:00 and over weekends: Registrar / consultant on call (information at radio room, ext. 6666)

Completion of referral forms

Referral forms must be completed in full because procedures and treatment may influence the interpretation of studies. The forms can be downloaded from TBH-ECM:

Click on 'General', then 'Hospital forms', then 'Nuclear Medicine'.

General Nuclear Medicine: The request form named 'Department of Nuclear Medicine' is for general Nuclear Medicine studies that are performed on 10th floor. These forms can be delivered in person, faxed to 021-9384694 or emailed to Chantal.Lewis2@westerncape.gov.za.

PET/CT: There are several request forms for PET/CT. The form named 'Request Form for PET/CT Study' should be completed as well as a 2nd form depending on the kind of scan (18F-FDG, 68Ga-PSMA, 68Ga-DOTANOC or 18F-FDOPA). These forms can be delivered in person, faxed to 021-9386553, or emailed to TBH.PetCtCentre2@westerncape.gov.za.

Routine appointments

Non-urgent examinations

Inpatients: Send only the request form. Nuclear Medicine will contact the ward / referring doctor as soon as space is available.

Outpatients: Send the patient with fully completed referral form to the appointment area of Nuclear Medicine.

Urgent examinations

Contact the registrar on call (ext. 4268 / 4265 or after hours at the radio room on ext. 6666).

Special examinations

Myocardial perfusion studies

All patient appointments must be arranged by the referring doctor specifically with the responsible registrar; information available at ext. 4265/4268).

The patient's full history, current medication and contact information, including a telephone number where the patient can be reached, must be available when the appointment is made.

Patient information brochures should be provided to patients. If not available in your department/ward, they can be collected from Nuclear Medicine.

Patient preparation: certain medications may need to be stopped prior to the study. This needs to be discussed with the responsible registrar.

Ventilation and perfusion lung scintigraphy

This service is available after hours and on weekends. A lung scintigram can be properly interpreted only if a recent chest X-Ray (<24 hours old) is available.

Please note that Tc-99m Technegas is used as ventilation agent, which is often not optimal in patients with chronic obstructive airway disease.

Female patients who are breastfeeding should express breast milk prior to the scan, as interruption of breastfeeding of 12 hours after the scan is necessary

Treatment of hyperthyroidism

Treatment of patients suffering from hyperthyroidism with radioactive iodine (I-131) will be considered only after the patient has been evaluated at Nuclear Medicine, after a thyroid scintigram has been done, and after thyroid functions are known.

Please book individual patients with the registrar responsible for the Nuclear Medicine thyroid clinic (information available at ext. 4265/4268/6206).

Position emission tomography (PET/CT) studies

PET/CT bookings must be made at the PET/CT Centre at ext. 6552, but will only be finalised after authorisation by the responsible Nuclear Medicine registrar.

For any PET related questions, enquiries or information, contact the registrar at ext. 6552/4265).

The request form for PET/CT studies with the patient's full history, weight, current medication and contact information, including a telephone number where the patient can be reached, must be completed and sent to the PET Centre. PET/CT request forms are available from the PET/CT centre, extension 6552, or can be downloaded from TBH-ECM.Specific patient preparation may be necessary (e.g. a fasting period, or special diet). Make sure that this information is conveyed to the patient.

Results

The results of Nuclear Medicine investigations, including PET/CT studies, are posted on TBH-ECM and can be retrieved using the patient's folder number.

General remarks

1. Nuclear Medicine examinations on children are performed with the consent of the nuclear physician, who has been given full authority by the chief executive officer of the hospital. Parents, therefore, do not need to sign consent.
2. Nuclear Medicine examinations may be requested only by doctors.
3. If you are unsure about patient preparation or want to find out whether

there is a Nuclear Medicine examination that could help with a certain clinical problem, please contact ext. 4265 / 4268 / 6552 (for PET/CT studies) or one of the doctors.

4. Some examinations such as whole-body iodine studies, MIBG studies, labelled white cell studies and most haematological studies must be discussed with the Nuclear Medicine doctor before an appointment will be given.
5. Please provide a full history on the relevant request form as far as possible.
6. For female patients, it is important to inform the Nuclear Medicine department if a patient is pregnant or breastfeeding. While most studies are contra-indicated in pregnant patients, others, like VQ scans, can still be safely performed. Interruption of breastfeeding may be necessary in some cases.

Department of Psychiatry

Executive Head: Prof. S Seedat

Intern managers
Overall intern co-ordinator
Dr Roxane Jones 021 940 4400 / 021 940 8718 / 076 810 5506
roxane.jones@westerncape.gov.za

Stikland Hospital
De La Haye Avenue, Bellville
Dr Roxane Jones (details as above)

Tygerberg Hospital
Psychiatry, 2nd Floor, Faculty of Medicine and Health Sciences
Dr Kerry Louw 021 938 9765 / 083 256 1777
kerrylouw@sun.ac.za

Community Psychiatry
Dr. Corrie Schuman 082 339 4958
cornelia.schumann@westerncape.gov.za

An introduction to the rotation will be held, details of which will be communicated to you prior to starting the Psychiatry rotation. An orientation document and information pack will also be emailed to you.

Learning outcomes
Learning outcomes for this rotation are defined in detail by the HPCSA and can be summarised as follows:

- To manage uncomplicated psychiatric conditions seen at district hospital level
- To manage common mental-health problems in primary care and community psychiatry
- To manage acute psychiatric emergencies in primary care and in hospital
- To have opportunities for collaboration with other primary healthcare workers, such as nurses and allied health professionals
- To integrate the experience, knowledge and skills gained in all other domains.

Length of rotation
Two months

Sites where rotation will occur
Stikland Hospital, Tygerberg Hospital and district / community level services

Surgical Department

Surgery Intern Rotation Orientation

Welcome to your surgical rotation!

All interns rotate through surgery for a period of 3 months.
These units include

- Surgical GIT
- Pediatric Surgery
- Breast and Endocrine Surgery
- Burns
- Vascular
- Trauma
- Urology.

All new rotations start on the 1st day of the month without exception.

Calls
F1 calls:

F1 (surgical emergency unit) shift system with 3 interns - each to be on shift for 4 days, followed by 2 days off, followed by 4 days on (see separate roster).

F1 intern **will not be called to the ward or theatre**, and should remain in the unit at all times.

He/She is responsible for all new patients admitted to F1 (under the guidance of the F1 registrar/consultant during the day and registrar on call after hours). This includes Vascular, Breast and Endocrine Surgery and Urology.

Cocktail calls:
On call from 4pm until 8am on week days, and 8am-8am (24 hours) on weekends.

Includes emergency admissions for burns and pediatric surgery, and emergencies in the wards (burns, pediatrics, vascular, breast and endocrine, abdominal, urology).

This does NOT include routine ward work in these units.

Theatre calls:
On call from 4pm until 8am on week days, and 8am-8am (24 hours) on weekends.

Includes assisting in emergency theatre where needed (including all the cocktail units as well as cardiothoracic surgery).

When not busy in theatre, to help out where needed.

THEATRE IS PRIORITY.

Call Rosters:
Email a copy to
Radio (lmvanren@pgwc.gov.za),
Ilna Conradie (ilnaconradie@gmail.com),
Mariska Brand (mbran@sun.ac.za) and

Leave:
Leave is granted according to a leave schedule. (Please contract Dr Ilna Conradie prior to the rotation to arrange these requests)

Either the first or last two weeks of the month during Abdominal surgery rotation.

Total of 7 days allowed

The leave is for week days only and weekends prior and after the leave dates should be arranged with the registrar and consultant of the particular firm.

No leave will be granted during the cocktail rotations.

All leave forms should be filled in at the beginning of the rotation and signed at orientation. (YOU CAN NOT GO ON LEAVE WITHOUT A SIGNED AND APPROVED LEAVE FORM)

Sick leave forms as well as overtime forms should be handed to **HR** in the admin building and will be signed in their office.

Sick leave
Please inform your **consultant, registrar** as well as **intern curator** of absence before 8am.

It is the **intern's responsibility** to find a replacement for their call.

Interns' duties:
1. Admission of patients to general wards, F1 (surgical gastroenterology emergencies) and special units, as well as the daily care of these patients. You are requested to discuss any problems with the registrar or duty group in question. You may request basic special examinations at your own discretion, but are expected to discuss advanced examinations with the senior members of your team.
2. Responsible for taking the admission notes, as well as keeping the follow-up notes. Where students take these notes, you are responsible

for checking that they are correct and ***must counter-sign the notes.*** You must also write an appropriate discharge summary to give to the patient on discharge, containing the relevant clinical information about the admission. This should be done on TBH.org – ask your registrar to show you how you should register and access this system. Please take special care in writing detailed summaries so that the diagnosis, treatment and further plan is clear. ASK if you don't know what to write in a referral/summary.

3. Student interns and other students work under supervision and you have to ensure that the standard of patient evaluation and general ward work of students are satisfactory. Your opinion may be sought when marks are allocated to students in your duty group. Please remember that students are here to learn and not only to do ward work – the ward work is optional for students and not compulsory.
4. Emergency firm services are scheduled weekly and on Saturdays and Sundays according to the duty roster (drawn up by yourselves). Interns are responsible for initial assessment and management of incoming patients in F1 (surgical gastroenterology) or the "cocktail" admission units. After-hours cover of ward patients is the responsibility of the intern on call, in conjunction with the patient's treating registrar. You may on occasion be requested to adapt to changes in the duty and training programmes of the department's service units.

Academic obligations:
As a member of an academic department, you are expected to attend the following meetings, as well as other meetings scheduled as per the service where you rotate. **Your active participation in discussions is expected:**

Wednesdays 14:00. Personnel meeting, M&M meeting, academic discussion and teaching ward round, or other activities as listed in the departmental program. According to the HPCSA, you should attend at least 4-8 of these meetings. Before signing your books, I will check your attendance with our secretary and sign if satisfactory.

Intern Curator: Dr Ilna Conradie ilnaconradie@gmail.com 0836822329

GENERAL SURGERY SERVICES

Head of Division: Prof E Steyn

Surgical Gastroenterology/ Abdominal Surgery
This service manages all GIT and soft tissue septic surgical pathology and is truly a general surgical service.

There are four service units:
Monday (General) – Dr Anton Lambrecht,
Tuesday (Upper GIT) – Dr Jeanne Lubbe,
Wednesday (Colorectal) – Dr Tim Forgan
Thursday (HPB) – Dr Stefan Hofmeyr

Burns
Regional Adult Burns Unit – please see info sheet below

Breast and Endocrine Unit
Manages mainly breast and thyroid/parathyroid disease, but includes malignancies of the skin and soft tissue, salivary gland-, and adrenal tumors.

Pediatric surgery
A comprehensive pediatric surgical service for neonates and infants, including pediatric trauma. (please see separate information sheet).

Trauma Service and Surgical Unit
Trauma Service manages all initial assessment, stabilization and resuscitation of the injured patient while the Surgical Unit co-ordinates complex polytrauma patient care and manages all trauma patients that need surgical interventions as well as post-ICU trauma care.

Vascular Surgery Unit
A sub-specialist unit that manages all acute non-trauma and chronic arterial disease (occlusive and aneurismal) and complex venous disease. Also manages delayed-presentation vascular trauma (over a month post-injury).

The F1 shift Intern
The ''abdominal surgery'' call from before (2018)
- Shifts from 7am – 6pm/6pm – 7am. One intern on shift at any given time. Depends on availability of interns as well as clinical demand.
- No calls to the wards or theatre

- Clerk ALL new patients (load shared with F1/on call registrar, depending on theatre) – this includes vascular, urology, breast/endocrine and abdominal surgery.
- Clerking includes: filling in appropriate surgical admission book, draw bloods, arrange xrays, scans, g-scopes etc as guided by your differential diagnosis.
- New patients seen by intern should be presented to the appropriate registrar as soon as evaluated in order to focus investigations and plan management

The Cocktail Call Intern

- Calls from 4pm – 8am on week days
- 8am – 8am on weekends
- Relieved post call at 9am - by intern rostered on Relief rotation
- On site available for emergencies in paediatric surgery, burns, vascular surgery, BE (Breast and Endocrine) and urology, and abdominal surgery wards.
- Routine ward work/ward rounds to be done by the firm's intern/registrar and NOT the on-call intern
- Sleeping quarters in D6 urology (key with the sister)
- Advice for new admissions, written by interns:
  - **Paediatric surgery**: Get yourself a yellow booklet (in G4 or G Ground) clerk, bloods (FBC, U+E, CRP if septic), drip ± fluids, prescription chart (pain Rx, A/B), then discuss with registrar on call. Xrays and admission to G4 as per registrar's instructions.
  - **Burns**: Get yourself a burns booklet (in A1E - follow booklet step by step), clerk, bloods (FBC, U+E), drip + fluids (as per protocol: R/L 3ml/kg/%TBSA burns IVI), prescription chart (pain Rx, vitamins, FeSO4, Folate, Zinc), then discuss with registrar on call (if needed). Admission criteria: >15% TBSA burns, only exception are burns that involve the face, hands and groin/perineal area (cosmetic areas - admission includes less than 15% burns then), if burns include genitalia - PLEASE put in a urine catheter.

The Theatre call Intern

- Calls from 4pm – 8am on week days
- 8am – 8am on weekends
- Relieved post call at 9am - by intern rostered on Relief rotation
- May be called to assist in theatre by
  - Trauma surgery
  - Abdominal surgery
  - Urology

- Paediatric surgery
- Other cocktail units
- Cardiothoracic surgery

Burns

Shifts 7am-4pm. You can start earlier, especially on theatre days.
See ward patients before theatre starts. Joining the theatre team is compulsory.

Admission criteria:

- Full thickness > 15%
- Partial thickness > 25%
- Inhalation injury
- Burns to the hands, perineum, eyes
- Patients with multiple comorbidities
- Electrical/ chemical burns
- Other: discuss with consultant/registrar on call

Make sure the wounds were cooled down with running cold water for approximately 30 mins when arrival within 4 hours of the burn

On admission:

1. FBC, U&E, LFTs, ABG (if inhalation injury suspected)
2. Pregnancy test (Avoid Silver sulfadiazine if positive)
3. Admission booklets available in secretary office in A1 East – please fill in as thorough as possible!
4. Should discuss with registrar on call PRIOR to admission
5. Registrar should admit the ICU patients/ patients needing ventilation – CALL REGISTRAR-ON-CALL for burns ASAP IF ANY AIRWAY CONCERN, their responsibility to sort out

All protocols are available in the folder (yellow with stars) kept in burns ICU – includes:

- provincial protocol
- acute management of burns patients
- Dressings
- Acute Burns Severity Index (ABSI) used to evaluate severe burns and assist with decision making regarding qualification for admission.
  - 12: don't qualify for admission
  - 10-11 should be discussed with consultant on call for burns

Attendance of academic activities are compulsory: Journal club Mondays & Fridays 13:00

Compulsory: Burns OPD Tuesdays 12:30/13:00 (under normal conditions)

Pediatric Surgery

ALWAYS CONSULT SAMF/ Frank Shann for complete details

DRUG	**USUAL DOSE**		
Antibiotics			
Amoxyl	10mg/kg	tds	(20-40mg/kg/day)
Amikacin	15mg/kg	dly	Check levels d3
Ampicillin	25mg/kg	qid	(50-100mg/kg/day)
Augmentin	10mg/kg	tds	(25-50mg/kg/day)
Cloxacillin	25mg/kg	qid	(100-200mg/kg/day)
Co-trimoxazole (Bactrim)			
<6mo	2,5ml (20/100)	bd	
6mo-5y	5ml (40/200)	bd	
6-12y	80/400mg tab	bd	
Ceftriaxone (Rocephin)	50mg/kg	dly/bd	divided doses
Cephalexin	7.5mg/kg	qid	(or 25mg/kg dly in 4 divided dosis)
Erithromycin	40mg/kg	qid	(30-50mg/kg/d)
Gentamycin	6mg/kg	dly	Check levels d3
Kefzol	15mg/kg	tds	(25-50mg/kg/d)
Meropenem	10-20mg/kg	tds	
Pen V prophylaxis	125mg	bd	
	250mg	bd	
Rocephin	50mg/kg	dly	(20-50mg/kg/day)
Vancomycin			
1w-1mo	10mg/kg	tds	(load 15mg/kg)
>1mo	10mg/kg	qid	(or 20mg/kg q12h)
Zinacef	20mg/kg	tds	(30-100mg/kg/day)
Ertapenem (Invanz)	15mg/kg	bd	
Albendazole	200mg stat <2y		
	400mg stat >2y		
Aciclovir	5mg/kg tds		

MAINTENANCE FLUID:	
2-10kg	4ml/kg/hr
10-20kg	40ml/hr + 2ml/kg/hr
>20kg	60ml/hr + 1ml/kg/hr)

DRUG	**USUAL DOSE**	
GIT		
Cimetidine	5mg/kg	qid
Metoclopramide	0.1-0.15mg/kg	tds
Go-lytely	30ml/kg/hour	till clear

INTUBATION DRUGS:	(give in this order)
Atropine	0.02 mg/kg
Ketamine	2mg/kg
Scoline	2mg/kg

DRUG	**USUAL DOSE**	
Vitamins:		
Abidec/ Vidaylin	0.6ml	dly
+Vitamin D	400iu=01ml	dly
Elemental Fe	3mg/kg	1-3X/d
Fe gluconate	8-16mg/kg	1-3x/d
Folate	2mg	dly
Vitamin C	20-50mg	dly
ZnSO4	2mg/kg	dly
Analgesics		
Codeine syrup	0.5mg/kg	4-6qhrly
Ibuprofen	5mg/kg/dose	tds
Morphine	0.2-0.4mg/kg/day	
Give in 24ml 0.9%NaCl at 1ml/hr IVI		
Paracetamol	10-20mg/kg	q6h
Tilidine (Valeron)	1mg/kg qid	
	[OR 1drop/yr +1 (1drop=2.5mg)]	

DRUG **USUAL DOSE**

Electrolytes

KCL (K+<3.5mmol/L) 2-3ml (4-6mmol) 15%/ 200ml IVI

Mist KCl 1mmol K+/kg tds

Intra-lesional sclerosant

Bleomycin 0.3mg/kg (1mg/ml)

Order day before needed from X-block

TB abd	Rifamp	INH	Pyrazin	Ethamb
5-10kg	75	50	250	
11-20	150	100	500	200
21-30	300	200	1000	400

Sedation

Ketamine 1-2mg/kg IV/ IM
OR 8mg/kg po

Chloral hydrate 50ml/kg po

Dormicum 0.5mg/kg to max 15mg

Bowel cocktail (bacterial overgrowth diarrhoea)

Flagyl 7.5mg q8h po

Gentamycin **PO** 50mg/kg/24h [max 360mg] q6h

Cholestyramine 1g q6h po

Losec 1mg/kg/d in divided doses bd

Sucrulfate 500mg q6h

Sexual assault protocol:

Bloods: FBC, U&E, RPR, HIV, Hep B&C

Drugs: AZT, 3TC, Kaletra; Flagyl, Ceftriaxone, Azithromycin, Bicllin, outstanding vaccinations

Cocktail interns: paediatric surgery responsibilities (16h00-08h00 and weekend cover)

- **G-ground**: Assess, discuss with paediatric surgery on-call registrar, clerk and manage all new admissions for paediatric surgery as discussed. (*Other surgical disciplines e.g. orthopaedics should be referred to the relevant team.) No patient may be discharged or admitted to*

G4 without discussion with a senior paediatric surgery staff member. Paediatric Surgery Out-patients is on Tuesday and Friday mornings (08h00) should any one require follow-up.

- **G4**: Assist with replacement of IV cannulas, results follow-up and monitoring of ill patients and phlebotomy as requested by nursing staff or registrar on call. *Remember to phone G4 (#4660) and discuss all G-ground admissions with the sister in charge once confirmed with registrar on call.*
- **Trauma**: Assist paediatric surgery registrar as required, only on their request (these referrals must be directed primarily to the registrar on call, not to the intern)

Paediatric Fluid therapy

MAINTENANCE FLUIDS: always calculate according to body weight

Neonates: 10% neonatalyte <1month; start at 60ml/kg on first day postnatally & escalate ~20ml/kg/d up to 150ml/kg/day (max 180)

All other children: use 0.45%NaCl & 5% dextrose ± add 20mmol KCl 15%/litre

>1month-6 months: 100-120ml/kg/day; for pyloric stenosis give 120-150x usual maintenance rate

> 6 month: 4ml/kg/hour for 1st 10kg; add 2ml/kg/h for next 10kg; add 1ml/kg/h for every kg >20kg ("4,2,1 rule")

RESUSCITATION FLUIDS:

Bolus: 10-20ml/kg crystalloid (e.g. Ringers Lactate, 0.9%NaCl) **repeated as necessary**

Replace ongoing losses: e.g. nasogastric appropriately (e.g. ml for ml 6 hourly with Plasmalyte B if small bowel contents or with 0.45% NaCl & added KCl for gastric losses >10ml/kg/day)

Blood: transfuse 4ml packed red cells per kilogram per g/dL Hb desired over 4 hours; if for acute blood loss give 10-15ml/kg and re-assess

FFPs, platelets: 15ml/kg over 30-60 minutes as discussed with registrar/MO on call

Consent

Children <12 years require parental/ legal guardian consent for all surgical procedures

Children ≥12 years but <18 years (including teenage mothers) must give consent themselves IN ADDITION to parental consent provided they are deemed competent to do so. Age-appropriate language ± pictures must be used to explain procedures (e.g. a small piece of your intestine called

the appendix got blocked and burst causing you pain and infection, and we need to cut it out to make you better and prevent the infection getting worse)

All parts of the Tygerberg Hospital consent form must be filled in appropriately with no abbreviations. If you do not fully understand/cannot explain a procedure, you are not competent to take consent for it and should inform your senior accordingly.

NORMAL VITAL SIGNS FOR CHILDREN:

Weight	BP (mmHg)	HR (bpm)	RR (bpm)	Urinary output (ml/hr)
Up to 5kg	80/45	85 - 205	30 - 60	6 – 10
5 – 9 kg	90/62	100 - 190	24 - 40	16 – 18
10 – 11 kg	94/62	100 - 190	22 - 34	15 – 17
12 – 14 kg	99/64	60 - 140	22 - 34	18 – 21
15 – 18 kg	99/65	60 - 140	22 - 34	30 – 22
19 – 22 kg	100/65	60 - 140	18 - 30	30 – 33
24 – 30 kg	110/68	60 - 100	12 - 20	36 – 45

Abscesses & Cellulitis
Fluctuant:

- Apply topical EMLA for 20-30 minutes (thick layer & cover with tegaderm/opsite) & give analgesia then **incise & drain** with 11 blade [OR large-bore (pink) needle aspiration if small]
- If overlying skin is thick e.g. on scalp or anatomical site requires **general anaesthesia** to adequately and humanely drain, take **consent** for I&D under GA. Arrange with G4 sisters and inform paediatric surgery intern. Paediatric surgery registrar will assist with any difficult cases.
- Give analgesia (& antibiotics if < 3 months/ immune compromised/ ++ cellulitis surrounding)

No fluctuance:

- Discharge if systemically well on oral antibiotics (staph cover or respiratory organisms if cervical) and analgesia to follow up **@08h00 (npo from 07h00) for review in G4 in 2-3 days time.**
- Admit for IV antibiotics to G4 (+limb elevation if appropriate) if any of the following: systemically unwell, pyrexial or poor feeding + <3 months age, significant cellulitis, **breast abscess [staph cover]**, large cervical abscesses/ lymphadenitis, **omphalitis, peri-anal abscess [broad spectrum cover]**.
- Refer: dental abscesses (maxilla-facial/ dentist); hand & foot abscesses or suspected septic arthritis (orthopaedics), peri-orbital cellulitis (ophthalmology)

Staph cover

- Per os: flucloxacillin 25mg/kg 6 rly (± Pen VK 15mg/kg 6 hrly for strep cover)
  - OR cefuroxime 15mg/kg bd
  - OR Augmentin 10mg/kg with Amoxycillin 15mg/kg tds
- IV: cloxacillin 50mg/kg q6h

Broad spectrum cover

- IV: Cefuroxime 25mg/kg q8h + metronidazole 7.5mg/kg q8h
- OR Ampicillin 50mg/kg q6h + gentamycin 6mg/kg daily + metronidazole 7.5mg/kg q8h
- OR Augmentin 10mg/kg + Amoxyl 15mg/kg q8h

Inguinal masses

Inguinal hernia: cannot get above mass, testis palpable and discrete from mass; ± signs bowel obstruction

- Reducible: educate parents (bowel gets stuck in groin canal that didn't close on own; show how to reduce; advise on signs of irreducibility & incarceration; need for surgery) and obtain date for surgery from paediatric surgery registrar on call/ clinic follow-up date.
- Incarcerated: sedate (panado + Valeron) and attempt reduction if no signs strangulation. If unsuccessful insert IV line and assist registrar on call with ketamine sedation for repeated attempt at reduction. Patient must be admitted after successful reduction for surgery on next elective list. Prepare for urgent surgery if unsuccessful.
- Strangulated: redness, tenderness, oedema overlying skin. DO NOT ATTEMPT TO REDUCE. Prepare for urgent surgery and give broad spectrum IV antibiotics.

Hydrocoele: can get above swelling, non-tender, transilluminates; conservative management and follow-up if persists >18 months provided testis is palpable and fluid is not reducible (i.e. non-communicating) otherwise follow-up at PSOPD for review.

Testicular torsion: discuss with registrar if not already referred to urology
Undescended testes: for elective surgery booking; PSOPD follow-up for descent if < 3 months/ < 6months in ex-prem

Appendicitis

- Classical history of progressive RIF pain/ peritonitis or acute abdomen, GIT disturbance, pyrexia: Admit G4, IV antibiotics (Zinacef & Flagyl), analgesia, IV fluids, NPO, consent for surgery after discussion with registrar/MO on call.
- Possible but unclear diagnosis: Admit on analagesia, npo & IV fluids for serial abdominal observations q6h after discussion with registrar/ MO on call. Full history essential! Do u-dipstick, FBC, U&E, AXR, CXR. Further investigations (PCT, Abd US, LFT's, CRP etc) as discussed only. Always ensure adequate analgesia.
- Consider differential diagnoses: UTI, constipation, mesenteric adenitis, abdominal mass, worm bolus obstruction, gastroenteritis, gastritis, Mittelschmerz or dysmenorrhoea, cholecystitis, hepatitis, above the diaphragm: respiratory tract infection, below the belt: inguinal/ scrotal pathology etc.

Intussusception

- All patients with possible intussusception must be fully fluid-resuscitated before going to ultrasound for confirmation. The paediatric surgery registrar/MO on call must be informed.
- Patients going for pneumatic reduction must be consented for the procedure ± proceeding to surgery, have received broad-spectrum antibiotics (IV Ceftriaxone 50mg/kg is easily available and quick to give in G-ground) and have a nasogastric tube in situ on free drainage. A doctor must attend to the sedation and monitoring during the procedure if ketamine (1-2mg/kg) is used and availability of resuscitation equipment checked before sedation given.

Vascular Surgery

Two interns allocated.
Not included in the call roster, but the days are long, covering overtime for the month.
Weekend rounds:

On a Saturday only ONE intern joins the round.
On a Sunday TWO interns should be on duty, since one is needed to continue with the admissions while the other does ward round.

Urology:

Two interns allocated for a period of 1 month

1. Ward D6 and outlying patients' administrative responsibilities [Primary responsibility]
   a. Not assigned to a specific firm
   b. When student interns are present: Liaise with registrar and assist students with difficult intravenous access or venipuncture. Ordering pre-operative investigations.
   c. When student interns are on leave: Responsible for admissions, pre-operative investigations and reviewing of laboratory investigations.

2. Urology Outpatient department
   a. Consulting patients and discuss management with registrar.

3. Urology C6A Theatre
   a. Insertion of suprapubic catheters
   b. Management of difficult catheterization
   c. Perform other minor procedures under supervision.

4. Urology 5th Floor Day theatre
   a. Perform circumcisions and bilateral orchidectomy under registrar supervision.

<u>Cocktail intern responsibilities</u>

1. In-patient assistance Ward D6:
   a. Commencing blood transfusion
   b. Venous access
   c. Certification of death.
   d. Management of acute vascular incidents whilst registrar is on route.

2. Acute admissions:
   a. Assist with urology emergency admissions if registrar is occupied – will usually be seen by the F1 intern
   b. Management of outlying urology patients in F1

Trauma

Report on the 1st day of rotation at 08H00 to trauma resus area (1st floor) for introduction & handover wardround. Introduce yourself to the consultant. Strongly recommend wearing your own/TBH theatre scrubs & comfortable closed shoes while working in the trauma unit.

Brain death tests on trauma patients may not be done by interns but it is important that interns learn what each test involves (ie. observes how these tests are done).

Interns responsibilities during trauma rotation:

Get as involved as possible in the management of trauma patients.

Receive from ambulance crew and assess polytrauma patients.

Logroll/ immobilize spines.

Intubate/ICD & CVP insertion/apply back slabs and POPs/catheterize.

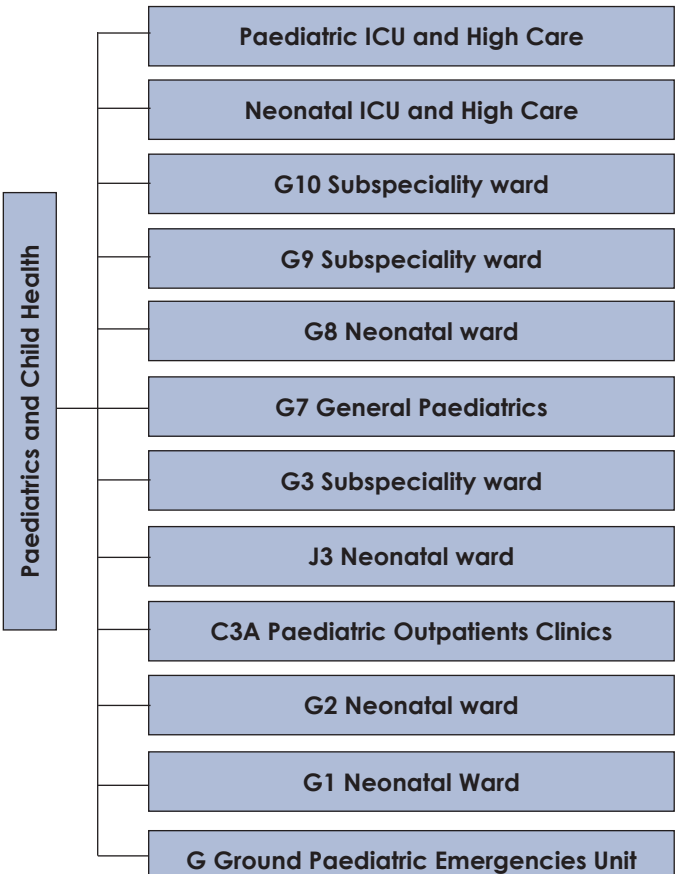
Suture.

Write neat and concise notes on all patients (medico-legal).

Present trauma patients to the medical officers and handover patients correctly.

GOOD LUCK AND ENJOY!

Department of Paediatrics and Child Health



Dear Doctor

Welcome to the Department of Paediatrics and Child Health at Tygerberg Hospital. Figure 1 illustrates the structure of the department which is mainly housed in the G Block of the hospital. The duration of your rotation in this department will be four months. During your time in this department you will rotate through its four major subsets namely; Neonatology, General Paediatrics, Paediatric sub-specialities as well as Paediatric Acute Care. **In each area, you will work as part of a team and not independently.** The included information on the different wards serves as a guideline of what you can expect to be part of and alternatively what is expected of you in the different wards. It is hoped that you will find this an enriching experience.

On the first day of the Rotation

Meet the Intern Coordinator in the C3A Seminar Room at 08h00 for Orientation. **Attendance at this session is compulsory for all new interns starting in the department.** The finer workings of the department will be explained to you on this day as well as you will be given all the relevant rosters. The seminar room is situated on the Third Floor of the Hospital, on Gold Avenue.

Should the first day of the block fall on a weekend or a public holiday, only the doctors on duty (including ward rounds) need to come to the hospital and they will be met by a representative at 08h00 in G ground. The intern coordinator will then meet the whole group at 08h00 in the C3A seminar room on the first official working day.

Ward G10

Total capacity: 28 to 30 patients. Includes an Isolation Unit
Houses three sub specialities.
The number of interns depends on the availability.
ID should always have an intern.
1 Intern to be shared between Cardio & GIT.
G10 Interns cover each other post-call or when on leave.

Cardiology	Infectious Diseases	GIT Medicine
• Consultants (2+) • Registrars (2)	• Consultants (2+) • Registrar (1) • Medical Officer (1) • Intern (1)	• Consultants (1+) • Registrar (1) • Intern (1)

Your duties in GIT Medicine will include:

- Day to day care of the inpatients (10 to 15 patients)
- Arranging investigations and follow-up of these
- Arranging referrals to other services as indicated.
- Preparing discharge summaries

Ward G9

Houses three sub specialities

Pulmonology	Endocrinology	Neurology
• Consultants (2+) • Registrar (2-3) • Intern (1)	• Consultant (1) • Registrar (1) • Intern (1)*	• Consultants (2) • Registrars (2) • Intern (1)*

Intern* Endocrine/Neurology

Your duties will include

Shared responsibility for Endocrine and Neurology inpatients

Mondays

You are assigned to **Endocrinology** on these days and are expected to:

- Assist at the Endocrine/Diabetic clinic in C3A
- Assist with endocrine tests in the ward
- The official inpatient capacity is 5 patients although there may be more than this number to look after.
- You are required to help the endocrine service on other days only after prior arrangement with the neurology consultant

Tuesdays to Fridays

You are assigned to **Neurology** on these days and are expected to:

- Assist with the day to day care of patients
- The official inpatient capacity in this section is 10 patients.

Pulmonology Intern

Your duties in Pulmonology will include:

- Day to day care of the inpatients (10 to 15 patients)
- Arranging investigations and follow-up of these
- Arranging referrals to other services as indicated.
- Preparing discharge summaries

G7 General Paediatrics

Staff
Consultants (2)
Registrar (1)
Medical Officer (2)
Interns (2)

- Ward Profile
- Total patient capacity: 27.
- High turnover ward with 100 to 150 admissions per month with a range of diagnoses and level of care from acutely ill to chronic medical conditions for rehabilitation. A 2-bed high care unit expands to 6 beds during the 'Surge season'. Sources of patient admission include PICU, GGround, district and regional hospitals in the drainage area.

Duties include:
Day to day care of patients in the ward
Attendance at weekly ward meetings on a Monday
Attendance at monthly Morbidity and Mortality meetings
Ensuring complete TB Notification and counselling of patients diagnosed with TB prior to discharge

- Information on TB notification supplied

Ward G3
Houses three sub specialities

Haematology/Oncology

- Team: 3 consultants/1PMO/2 registrars/2 subspeciality registrars
- Patients: 9 in patients, Daily outpatient clinic

Nephrology*

- Wednesdays and Fridays is Nephrology Clinic, the intern assumes primary responsibilty for ward patients as the registrar attends to the clinic patients.

Cardiology*

Intern duties:

- Mainly assigned to Nephrology and Cardiology but occasionally may be requested to assist in Haem/Onc

Neonatology

The neonatal division spans across four wards; G1, G2, J3 and G8. The level of patient care differs from high to low-dependency special care and comprises mainly care of extreme low gestational age neonates.

G1	• Out born babies • NICU graduate babies • High-dependency special care baies • 32 patients • 2 consultants/1 registrar/2 medical officers/1 intern
G2	• In born babies • Admission ward with a high turnover • High-dependency special care babies • 27 patients • 2 consultants/1 registrar/2 medial officers*/1 intern
J3	• Admission Ward • Transfers from G2 and G1 • Medium to low-dependency special care babies • Full-time Kangaroo Mother Care • 30 patients • 1 consultant/1 registrar/1 medical office/1 intern
G8	• Transfers from G2 and G1 • Medium to low-dependency special care babies • Full-time Kangaroo Mother Care • 30 patients • 1 consultant/1 registrar/2 interns

Intern duties include:

- Day to day care of neonates assigned to you
- Assisting with patient transfers out to other units or hospitals

- Attendance at new born deliveries in labour ward or theatre as per CS Bleep roster
- Attending to babies with minor abnormalities in the postnatal wards as per postnatal ward duty roster

G Ground

This ward has 4 functions: an emergency unit where patients referred from primary care or other hospitals are triaged and attended to; a 24-bed short-stay ward; an OPD; and an acute stabilisation area for critically ill children.

Telephone numbers you might need to know

G ground	6378
G1	6268/6573
G2	4513
G3	4570
J3	6147
G7	4664/5012
G8	4723
G9	5633/5635
G10	5002/5004

Call Roster

There are three interns on call at all times after hours. Handover on all weekdays is at 16:00 and the call ends at 08:00. Interns are required to handover to the day team before going home but this usually only lasts 30 minutes and thereafter post call intern may leave. Saturday and Sunday calls are 12 hours- days start 08:00 – handover to evening team at 19:00 , evening start at 19:00 and finish at 08:00. The paediatric service runs as a team and on occasion interns maybe asked by a senior colleague to work in an area other than where they are allocated. Interns cover the following areas on call:

Intern 1: G Ground (handover in g ground at 16:00)

Intern 2: Neonates (Meet in G2 at 16:00, intern is mostly based in labour ward at C/sections and in admission ward but the whole team works together and therefore intern may required to work in any of the neonatal areas. If back up is needed in labour ward either of the two senior people on call, medical officers or registrars, may be contacted for assistance)

Intern 3: Post-natal wards and general paediatric wards (start in post-natal ward at 16:00 as finish any outstanding work then contact ward registrar/ MO and assist with ward work)

Ward Rounds

Interns that work the weekend, which will normally be a Friday night/ Sunday day shift, Saturday day/Sunday night shift or isolated Saturday night shift, will usually be required to do ward round on both Saturday and Sunday mornings. Once you are finished in the ward you are allocated to move down through the wards and assist until everyone is done. This is sometimes also co-ordinated via WhatsApp. If everyone works together then most people get to leave at a reasonable time rather than some people finishing at 10:00 and others at 13:00

Indisposition Roster

Each intern is allocated 2-3 weeks of indisposition during their 4 month rotation. You are required to be in Cape Town for this week, readily contactable and available to come into work at short notice if required. This is not a frequent occurrence and only used in a dire emergency ie if you become ill on the way to work or during a call. Use of the indisposition roster needs to be arranged via the intern co-ordinator only and needs a doctors certificate to be implemented.

If you are sick the day before or on the morning of your call please swap with a colleague and you can "pay back" the call as soon as you are better.

Please note that absenteeism due to illness, on a Monday or a Friday , needs a doctors certificate.

Basic Life Support and Neonatal Advanced Life Support Courses

These courses are compulsory and are arranged for during your first month in paediatrics. The exact dates, reimbursement etc can be arranged though Ms Engelbrecht, one of our paediatric secretaries, in C3A (se2@ sun.ac.za, extension 4538). No leave is granted over the course dates.

HEALTH CARE IS COSTLY

WASTAGE IS MORE COSTLY

Working more cost effectively = More patients saved !!

UNIT FOR INFECTION PREVENTION AND CONTROL (UIPC)

Head: Dr W.A J. Meintjes
Telephone: 021 938 5051 or IPC Sister on call via switchboard
Location: H-corridor East side, 9th floor

IPC manual: available at wards and on G-drive of ward computer
IPC survival kit: a bag, a set of z-cards with IPC-related information and a personal 50ml alcohol hand-rub is available free of charge to TBH professional staff.

Standard precautions
Standard precautions (SP) are minimum infection control (IC) procedures for the care and protection of patients and healthcare workers based on risk assessment.

- **Hand hygiene:** wash and dry hands thoroughly
  - before each patient contact
  - after removing gloves
  - if hands are visibly contaminated with organic matter, alcohol rub / sanitizer may be used in the absence of visible contamination, for rapid hand disinfection.
- **Protective clothing**: appropriate use for each indication:
  - gloves: all contact with blood or body fluids
  - surgical masks: aerosols or splash contamination of mucous membranes and face from blood or body fluids
  - visors: to protect eyes from splash contamination
  - plastic aprons: to prevent contamination from blood/body fluids.
- **Do not re-cap needles**: The ***user*** of a sharp instrument is responsible for discarding it immediately and carefully in a puncture-proof container.
- Thorough **cleaning of clinical equipment** is essential before sterilisation or disinfection.
- **Waste management**:
  - Please familiarize yourself with the waste management policy included in the IPC manual on the G-drive on the computers at ward level. All waste generated by user should be discarded on completion of the procedure by the user him or herself.

Separate all waste items according to the colour-coded containers:

- Yellow sharps container: used syringes, needles, blades, broken ampoules etc.

- Box with red plastic bag: infectious or clinical waste
- Black plastic bag: non-infectious or municipal waste
- Clear plastic bag: CSSD equipment

Checklist of protective equipment required for common procedures

Procedure	Hand disinfection	Gloves	Apron	Mask	Eye protection
IV cannulation	✓	✓			
Wound dressing	✓	Aseptic technique			
NG tube insertion	✓	✓			
Airway insertion	✓	✓		✓	✓
Dental procedures	✓	✓		✓	✓ (high speed drills)
Suturing	✓	Sterile ✓	✓	✓	
Central lines (CVP)	✓	Sterile ✓		✓	✓
Insertion of urinary catheter	✓	Sterile ✓	✓		
Fibre-optic procedures	✓	✓	✓	✓	✓
Delivery (labour)	✓	✓	✓	✓	✓
Surgery (clean/ dirty)	✓	Sterile ✓	✓	✓	✓

TRANSMISSION BASED PRECAUTIONS (always applied in addition to standard precautions)

Airborne precautions e.g. for tuberculosis, measles, chickenpox

Droplet precaution e.g. for diphtheria, streptococcal pharyngitis, scarlet fever, meningococcal infection, influenza, mumps, parvovirus, rubella, adenovirus, mycoplasma pneumoniae, pertussis, pneumonic plague

Contact Precautions e.g. for highly resistant pathogens, clostridium difficile, shigella, scabies, pediculosis, impetigo

	AIRBORNE PRECAUTIONS	DROPLET PRECAUTIONS	CONTACT PRECAUTIONS
	Single (private) room Door closed at all times Negative air pressure, 6–12 air changes per hour Discharge of air outside or high-efficiency filters before circulation	Single room – door may be open. If not possible, space beds at least 1 metre apart. No special ventilation required	Single room if possible, or place patients together who have active infection with the same micro-organism (cohorting).
RESPIRATORY PROTECTION	PTB: Wear a N95 respirator when entering room of patient with known or suspected infectious pulmonary TB patient and when disposing of secretions. Measles/chickenpox: Susceptible persons should wear a surgical mask. Persons immune to measles and chicken pox need not wear a mask.	Mask to be worn when working within 1 metre of the patient	As for standard precautions.
GLOVES AND HAND-WASHING	As for standard precautions	As for standard precautions	Wear gloves when entering patient's room, or making any contact with the patient, equipment or a contaminated surface. Remove gloves before leaving patient's environment and wash/ disinfect hands.

	AIRBORNE PRECAUTIONS	DROPLET PRECAUTIONS	CONTACT PRECAUTIONS
GOWN/ PLASTIC APRON	As for standard precautions	As for standard precautions	Single plastic apron per patient. Change daily or when soiled.
PATIENT TRANSPORT	Limit the movement of and transport patients for essential purposes only. If transporting is necessary, patient must wear a SURGICAL mask (NOT an N95).	Limit movement and transport patients for essential purposes only. If transported, patient must wear a surgical mask.	Limit overall movement and transport patients for essential purposes only.
PATIENT-CARE EQUIPMENT	As for standard precautions	As for standard precautions	Dedicate use of equipment to a single patient. If not possible, clean and disinfect before use on another patient.

BOX WITH RED PLASTIC BAG:

- Any clinical waste that was in contact with a patient, e.g.:
- Used bandages & dressings
- Urinary catheter & drainage bags
- IV admin sets
- Abdominal swabs
- Used syringes
- Theatre dressings
- Sputum holders
- Suction catheters
- Airways, ET tubes etc.
- Trochars
- Linen savers (blood, vomit)
- Used gloves
- Dialysis sets

NOTE:
Safe & responsible discarding/handling of waste is the responsibility of all staff members

SHARPS CONTAINER:

- hyperdermic needles
- Stilettes
- Broken vials
- Blades
- Lancets

Broken glass (bottles, crockery) should be put in a separately sealed box and sent with ward waste.

AUXILIARY SERVICES

HUMAN NUTRITION

Assistant Director: Ms C Schübl (021 938 4351)
10th Floor, A Block, Tygerberg Hospital.

Secretary
021 938 4477

Head of Clinical Firms
Mrs N Esau 021 938 5168
Mrs M du Plessis 021 938 5151

Head of Food Service Administration Firm
Ms N Fredericks 021 938 5612

Head of Tube Feed Room and Milk Kitchen
Ms C Cloete 021 938 4161

Nutrition Support nursing sister
Sr S Kinnear 021 938 4105
Sr C Pedro 021 938 4105

Dietician on call
Page the on call Dietitian for either adults or paediatrics via the radio room (ext 6666)

Working hours
Monday to Friday: 07:15–15:45
Saturdays, Sundays & Public Holidays: 07:30–11:30
During weekends and public holidays the dietitian on call may be paged via the radio room (ext. 6666) at the above times. Only referrals for tube feeds will be seen over weekends and public holidays. *No* consultations or tube-feed discharges can be done on these days.

Role of the dietitian
The dietitian is responsible for the overall nutritional management of adult and paediatric patients on normal or therapeutic diets, and for providing nutritional support in the form of total enteral or total parenteral nutrition to patients on an indication basis.

Furthermore, the dietitian provides nutritional instruction on dietary modifications for patients with special nutritional needs or with disease-specific diets.

The following criteria should be used when referring to the dietitian for assessment and nutritional management:

- BMI <18.5 kg/m2 (adults)
- BMI >30 kg/m2 (adults)
- Growth faltering or failure to thrive (children) – downward crossing of two or more centiles
- Weight loss of 10% over last 3–6 months in adults
- Inadequate oral intake
- Patients requiring nutrition support eg supplementation or tubefeeding
- Patients requiring special diets
- New and uncontrolled patients living with diabetes
- Patients with hypertension
- Patients with high cholesterol, high triglycerides, high blood glucose levels
- Newly diagnosed and/or malnourished HIV patients
- Patients on ARVs
- Patients not gaining weight on the Nutrition Therapeutic Programme (NTP)
- Patients with micronutrient deficiencies
- Complications impacting on a patient's ability to eat, e.g. nausea, loss of appetite
- Lactating mothers experiencing difficulty with breastfeeding (can also be referred to a lactation consultant, midwife or infant- feeding counsellor)
- Critical care patients (ICU and high care)
- Total Parenteral Nutrition (TPN) or Supplemental Parenteral Nutrition (SPN)
- Eating disorders
- Patients with renal disease (CKD, CAPD, haemodialysis, renal transplant, AKI, nephrotic syndrome)
- Abdominal surgery
- Metabolic complications
- Work up for Bariatric surgery (pre- and post-surgery)
- Oncology patients
- Liver disease
- Thermal injury
- Severe malnutrition (oedematous malnutrition)
- Refeeding syndrome

- GIT diseases (e.g. peptic ulcers, inflammatory bowel disease)
- Preterm infants/Low Birth Weight (LBW)
- Trauma surgery

In addition, dietitians may themselves identify patients requiring nutritional support or consultation.

Procedure for requesting dietetic services
Nutritional status evaluation, dietary consultation and/or Total Enteral Nutrition (TEN) support of inpatients will be attended to only at the request of a doctor by means of a written referral. Referrals must be made on admission of the patient or as soon as a diagnosis has been made.

Referrals should, as far as possible, contain the following information:
- The immediate clinical problem and reason for referral
- A diagnosis if available
- Supporting clinical and laboratory data
- Prescribed medication

The dietitian must be notified in advance *(not on the day of discharge*) of a patient's referral and discharge plan. Liaison with the dietitian may take place during ward rounds, ward visits or by telephone.

On-call system
The referral should be communicated as early as possible by the doctor by calling radio room (ext 6666) and request for either the adult or paediatric on call Dietitian (weekdays 07:30 – 15:00, and weekends 07:30 – 11:30)

Adults
This service is available only for outpatients who live far from the hospital, patients in ward C1DW, C2A, C2H and J2. Out-patients referred to the on-call Dietitian should be sent with their medical episode folder, with a referral - with the diagnosis and all the comorbidities – and 3 stickers to A10 West, room 150. The patients will either be seen by the dietitian on call or be booked for the department's outpatient clinic, depending on the diagnosis.

The department runs a Health-and-Lifestyle clinic where patients referred for weight loss or those living with diabetes are booked at the department's outpatient clinic for group consultations consisting of two (weight loss / bariatric work-up or diabetes) sessions over a period of four to six weeks.

Patients referred for conditions other than overweight/obesity or diabetes and who do not qualify to be seen immediately by the dietitian on call will be booked for an individual session at the department's outpatient

clinic. The Health and Lifestyle Clinic is held at 14:00 on Tuesdays for the overweight group / bariatric work-up and Thursdays for the diabetes group.

Paediatric

This service is available for paediatric patients referred from C3A. Only patients requiring specialised nutritional management (e.g. severely malnourished children not yet on the Nutrition Therapeutic Programme (NTP), children with biliary atresia and cystic fibrosis should be referred. Patients requiring routine nutritional management (e.g. obesity or constipation) should be referred for management at community clinic level.

Please note: The dietitian on call may not always be available immediately owing to other on-call consultations or other clinical duties.

Discharge on tube feeding or supplements

Patients requiring enteral feeding via a nasogastric tube (or other feeding routes) can be referred to the community for continued enteral support only after the patient has reached and tolerates full feeds. The dietician must be notified in advance of such a discharge to ensure that the necessary referral letters and products (maximum 7 days' supply) are provided and training of the patient or caregiver is carried out. Only the following products may be issued on discharge: Fresubin Fiber Powder (adults) or Pediasure (paediatrics). NOTE: No tube-feed or supplemental drinks discharges can be done over weekends or public holidays.

No specialised products can be supplied. (Currently, such products are not issued at Tygerberg Hospital because of limited financial resources and limited stock levels.) In ***exceptional*** cases, other or specialized products may be issued to state-dependent patients on the recommendation of the Dietitian with a prescription of a doctor and an authorisation letter from Management (which must be attached to the prescription).

Adult and paediatric patients who are severely underweight may be placed on the Nutrition Therapeutic Programme (NTP) if they qualify according to specific and fixed criteria. Patients must be referred to the dietician, who will assess them and determine whether they qualify for the NTP. The dietitian will complete the necessary referral letter for the CHC or clinic and provide nutritional counselling and a starter pack with NTP products. NOTE: The NTP is not a form of nutritional support for patients who cannot afford food. These patients must be referred to the Social Worker.

Patients who are already on the NTP in the community should not be

referred again to the dietician for another NTP referral.

Note: Enteral products are not to be prescribed by the Dr on the medicine prescription chart. The pharmacy does not keep any stock of enteral or supplemental feeds. All patients in need of nutritional support must be referred to a Dietitian for evaluation

Total Parenteral Nutrition (TPN)
All such referrals are dealt with by separate adult and paediatric Nutrition Support Teams. After completing the referral, please contact or page the nursing sister of the Nutrition Support Team (Sr Kinnear) for adult TPNs or the ward Dietitian in the case of a paediatric TPN patient. The Nutrition Support Team will then evaluate the patient and recommend the appropriate prescription and route for nutritional support. TPN orders have to be placed by **10h00** every day. Such referrals are replied to speedily in most cases and within 24 hours of receipt in all cases. TPN can however not be initiated over weekends as all orders for TPN patients are placed on a Friday for the weekend.

MEASURES TO NOTE DURING COVID PANDEMIC

During the COVID pandemic the Dietitian's offices have been relocated from A10 to E10 West. The reception is now in E10 R64.

The Health and Lifestyle Clinic (for either weight loss or dietary management of diabetes or other chronic diseases of lifestyle) is currently not operational due to de-escalation of services.

Out-patients referred to the on-call Dietitian will either be seen by the dietitian on call or be referred to their nearest clinic or CHC, depending on the diagnosis.

DEPARTMENT OF OCCUPATIONAL THERAPY

Assistant Director and Head of Department: **Miss Sharon Ngemntu**
Contact Details: Ext. 5962/5986
Location: Tygerberg Hospital, Ground Floor, Blue avenue
Reception contact details: Ext. 5062 or Tube Number T5

SMS CODES:
- Adult Psychiatry: 29977
- Burns and Internal Medicine: 29981
- Paediatrics: 21875/29974
- Neurosurgery & Neurology: 29977 & 21159

Occupational Therapy Services at Tygerberg Hospital (TBH):
The primary goal of Occupational Therapy (OT) is to "enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement". (World Federation of Occupational Therapy, 2012).

Examples of occupations that are addressed at TBH:
- ***Activities of daily living*** – occupations related to the care of self (e.g. self-care activities such as eating, dressing, bathing, etc.)
- ***Instrumental activities of daily living*** – occupations related to the care of self and others (e.g. household management, financial management and childcare)
- ***Education*** – occupations that promote learning (activities to participate as a learner in a learning environment)
- ***Play*** – occupations that promote playfulness
- ***Leisure*** – non-obligatory occupations related recreation or socialization
- ***Social Participation*** – obligatory occupations that are related to an assumed position within a civil society (e.g. community participation)
- ***Work*** – formal and informal occupations that involve remuneration and volunteerism (e.g. learnership programs, protected and sheltered employment opportunities, etc.)

How Occupational Therapists at TBH compliment the medical services:
Despite the short length of hospitalization in the acute medical settings, occupational therapists play an integral role in commencing the rehabilitation process, by enabling participation outcomes and reducing

secondary complications. The role of OT in the various service groups at TBH is summarized below:

Critical Care:

- Evaluate the need for splints and positioning devices to preserve joint integrity and protect skin from breakdown due to prolonged pressure.
- Perform bedside evaluations to determine safety in eating and swallowing, as well as make recommendations for assistive devices to aid independence in basic activities of daily living.
- Train families and caregivers to assist with range-of-motion exercises, safe transfers and mobility, and skin checks.

Medical, Surgical, Neurology & Neurosurgery, and Orthopaedics:

- Provide training in self-care activities (e.g., bathing, dressing) with adaptive or durable medical equipment and/or compensatory techniques if needed.
- Use neuromuscular re-education, trunk stabilization, and balance activities to improve clients' ability to move in and out of bed and maintain an upright posture necessary to perform self-care and home management activities.
- Remediate upper-extremity weakness and/or abnormal muscle tone through exercise, relevant simulated activities, and preventive splinting to preserve muscle balance and range of motion.
- Evaluate and use strategies to address cognitive and perceptual deficits.
- Provide wheelchair assessment and management to promote endurance and mobility, depending on patient readiness.
- Train patients in postsurgical orthopaedic and neurosurgical protocols, including appropriate weight bearing and/or postsurgical precautions during activities of daily living (ADL's).
- Provision of scar management, pressure therapy and lymphedema therapy.
- Develop home programs (e.g. Joint Protection; Energy Conservation) and instruct patients, family members, and caregivers in how to use the programs to continue rehabilitation after discharge.
- Fabricate or provide assistive devices and splints, and train patients in their use, to promote healing and maximize independence.
- Where applicable, teach specific techniques for functional mobility (e.g., toilet transfers).
- Contribute to safe discharge planning, including recommendations for transitioning to the next level of care.

Adult Psychiatry:

- Assist patients in organizing their daily activities, including self-care, home management, leisure and social participation.
- Teach stress management techniques and the development of coping skills.
- Meet the needs of patients in psychiatry in-patient units who also have physical impairments or arrange for consulting OT services.
- Facilitate therapy groups to address goal setting, community re-entry strategies, prevocational skills, communication skills, assertiveness training, anxiety management, and basic to advanced ADL's and skills such as home and money management.

Paediatrics:

- Evaluate sensorimotor, cognitive, visual perceptual and developmental milestones.
- Collaborate with and train family members or caregivers to reinforce therapeutic skill acquisition (e.g. kangaroo mother care, play stimulation, etc.).
- Develop and implement an intervention plan, based on the child's needs, to participate in various occupations and environments (e.g., school, home, playground), including socializing with other children.
- Provide buggy/wheelchair and adaptive device assessments and management to promote play, learning and socialization.
- Contribute to safe discharge planning, including recommendations for transitioning to the next level of care.

Work Assessment:

- Perform functional capacity evaluations (FCE's), disability grant assessments, medical boarding assessments and 3rd party claims (RAF; COID).
- Implement return-to-work interventions and reasonable accommodation for injured or diseased employees
- Conduct work site evaluations
- Recommend employment opportunities for persons with disabilities (e.g. protected or sheltered work placements, learnerships)
- Work collaboratively with employers in preventing and promoting healthy work practice (e.g. stress management, absenteeism reduction, ergonomics, injury prevention, reasonable accommodation in the workplace, etc.)

Referral Procedures
Please utilise the revised Tygerberg Hospital Interdepartmental referral form (**TBH0019**).

Add the name and contact number of the referring doctor and date all referrals.

The following information must be included:
- Patient's name
- Patient's age/**D.O.B**
- Patient's infectious disease status
- Patient's address and contact telephone number
- Patient's diagnosis and **date of onset**
- Any relevant or significant history
- Specific problems
- Specify intervention required **(OT referral criterion for different conditions is available in different wards and clinics)**

Please refer timeously.

Neuro & Neusur 2 C-19 Referral Form

Western Cape Government
Health

Name: .....
Folder Number: .....
Date of Birth: .....

TYGERBERG HOSPITAL
OCCUPATIONAL THERAPY DEPARTMENT
NEUROLOGY/ NEUROSURGERY REFERRAL FORM

Date of referral:		
Ward:	**Room**:	**Bed**: .....

INFECTIOUS DISEASES:	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):

HEALTH CONDITION & COMORBIDITIES
(Please indicate diagnosis)_____
_____
_____
_____

RESULTS OF SPECIAL INVESTIGATIONS
_____
_____

PENDING RESULTS _____
_____

REASON FOR REFERRAL (Please tick below)

Address cognitive & perceptual deficits E.g. Cognitive- orientation, memory / perception		**Positioning** E.g. Splinting - Z-splint; AFOs, wrist braces	
Promote, restore, improve function through relevant techniques, exercises & programs		**Wheelchair Assessment** E.g. Permanent/ loan	
Improve activity and participation E.g. Assistance in ADL's; assistive devices		**Assessment & completion of placement forms, & Referral letter to NLC** E.g. WCRC, Stepdown facility	
Education & training E.g. Sensory retraining & precautions related to the upper limb. Educating the family.		**The MDT is advised that should you think the patient might require placement, the block should be ticked - so the OT is mindful that placement forms need to be completed in the future.**	

COMMENTS/OTHER:
_____
_____
_____

Doctor's name: _____
Signature: _____
Contact Number: _____

Tygerberg Hospital
Reply to referral

Interpretation to problem

Management (Diagnostic, Therapeutic & Counselling)

Inpatient		**Transfer when:** _____	**Ward:**_____
Outpatient		**Clinic:** _____	**Date:**_____

SIGNED:_____

Western Cape Government

OT Paediatric Referral Form

Date of referral:			Referral agent name: *(Please print)*.....	
Ward:	Room:	Bed:	Ext:	Cell nr: .....

Name: _____

Date of Birth: _____ Sticker

Hospital Number: _____

INFECTIOUS DISEASE	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):
Diagnosis/Surgery received: *(date, procedure & precautions)*		

Tick:	Occupational Therapy Intervention required:	Comments:
	Positioning- Specify for which body part *(e.g. Splinting, 24 hour postural management for hands, index finger, foot, neck, axilla etc.)*	
	Assistive Device *(E.g. Wheelchair assessment and Issue (Permanent / Loan) or assistive device such as built-up grip, wash mitten, custom device etc.)*	
	Initial Assessment, Treatment and Education *(E.g. Initial Assessment and Home Programme for priority patients, such as developmental Assessment etc.)*	
	Care giver education and training *(E.g. Home programme)*	

Additional Information:

.....

.....

Signed: **Print name:**

.....

Reply to Referral:

.....

.....

Therapist Name:.....**Signature:**.....

Date: .....

Compiled by T. Gabriels and Paediatric Unit August 2020

GUIDELINES FOR REFERRING PAEDIATRIC IN-PATIENTS FOR OCCUPATIONAL THERAPY SERVICES DURING COVID 19

Operational changes made:
No set OT is allocated to the paediatrics ward as redeployment of all clinical staff has taken place. All paediatrics patients requiring OT intervention are discussed and divided amongst the clinical team in the morning. Please ensure that you utilise the new referral form "OT Paediatrics Referral Form". Referrals received after 13h00 will be attended to the next day.

Acute Physical rehabilitation, *with a maximum of three sessions will be provided. A fourth session will be done for re-assessment/discharge planning and referral to the next level of care.* Should there be a need for ongoing OT intervention, the patient will need to be re-referred by a member of the MDT.

How to refer:
Complete "OT Paediatrics Referral Form"
NB: Indicate infectious disease status of the patient
Send referral down via T5 tube system (preferable) or call OT department to notify team that there is a referral in the ward.
Please utilise correct referral form and indicate reason for referral. Incomplete forms will be sent back and referral will not be attended to.

Contact details:
x5062 (Reception)
x5185 (Paediatric Therapist)
x4994 (Paediatric Therapist)
x6148 (Unit manager)

Referral Criteria:
Priority patients need to be identified: according to the Pan Association Health organization www.paho.org/coronavirus) they can be classified as follows:

- Patients with new acute injuries, such as burns, amputations or spinal cord injuries who may develop serious preventable complications. For paediatrics this may include TBM, GBS, SAM, Hydrocephalus etc.
- Patients recovering from surgery that may require occupational therapy intervention. (Splinting, positioning education etc.)
- Patients with conditions who are at risk of suboptimal recovery, such as those recovering from stroke or myocardial infarction or perinatal complications.
- Patient requiring long term rehabilitation that may experience a loss of function or develop complications.
- Early referral to OT is imperative to ensure comprehensive intervention and adequate discharge planning.
- Therapeutic intervention will be limited to decrease staff exposure to COVID 19 and contact time.

Referral criteria explained:
Positioning:
Should a patient require a splint to immobilise/position post-surgery, to prevent contractures or to improve function. (E.g. pre-fabricated wrist brace, custom thermoplastic or soft splint etc.)

24-hour postural management device or positioning in cot to prevent contractures where a splint is not indicated. (E.g. custom wedge, soft elbow splint etc.)

Assistive device:
Assessment and prescription of wheelchair or suitable mobility assistive device.
Assistive device such as a built-up grip, wash mitten or custom device to improve function and participation in activities of daily living (ADLs).

Developmental Assessment, Education and Training:
Initial OT assessment to priority patients as identified above and may include but is not limited to:

- Developmental stimulation, promoting engagement in age appropriate play and activities of daily living
- Issue and demonstration of a home programme where applicable
- Care giver education and training
- Training of nursing personnel in the ward to ensure continuity of care

Out-patient OT services:
Only walk in outpatients will be attended to, if referred by the treating medical practitioner on the day.

All new and follow-up scheduled outpatient appointments have been cancelled as per de-escalation notices received by TBH management.

All clients have been placed on a waiting list and will be contacted once outpatient services resume. Priority needs patients will be identified.

Please feel free to contact the OT department directly for further consultation as needed.

Compiled by T. Gabriels and Paediatrics Unit August 2020

TBH0019 - Interdepartmental Referral Form

Western Cape Government
Health

TYGERBERG HOSPITAL
INTERDEPARTMENTAL REFERRAL FORM

Date of referral:		
Ward:	Room:	Bed: .....

Name: .....
Folder Number: .....
Date of Birth: .....

From:	
Doctor:	
Ext:	Cell nr: .....

To:
Doctor: .....
Other: .....
Department: .....

INFECTIOUS DISEASES:	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):

Reason for referral: (Relevant information from patient history and physical examination)

Results of special investigations:
Pending results:

SIGNED: _____

TBH0019

TYGERBERG HOSPITAL

REPLY TO REFERRAL

INTERPRETATION OF PROBLEM

Management (diagnostic, therapeutic and counseling)					
Inpatient		Transfer when:	.....	Ward:	.....
Outpatient		Clinic:	.....	Date:	.....

SIGNED: .....

TBH0535 - Rheumatology Referral Form

Western Cape Government
Health

Name: .....
Folder Number: .....
Date of Birth: .....

TYGERBERG HOSPITAL
OCCUPATIONAL THERAPY DEPARTMENT
RHEUMATOLOGY REFERRAL FORM

INFECTIOUS DISEASE	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):

DATE: _____

Thank you for seeing this patient.

Diagnosis:	**General information:** *i.e. joints affected, deformities, inflammation etc*
Medical History: *i.e. when was patient diagnosed, other comorbidities etc*	**Surgery/procedures:** *Please list*

REASON FOR REFERRAL

	Tick		**Tick**
Splinting: *e.g. resting splints, wrist braces*		**Activities of Daily Living:** *e.g. assisting in functional tasks*	
Education/Pain Mx/Oedema Mx		**Assistive Devices:** *e.g. wheelchairs, buttonhook, reacher*	

Inclusion (refer to TBH OT)	**Exclusion (refer to CHC)**
- Newly diagnosed Rheumatic condition - Post-surgery related to condition - Discharged patients presenting with severe flareup of condition resulting in deformities which were not previously treated at TBH OT - Patients treated at TBH OT more than 2 years ago	- Old fibromyalgia patients who have attended the groups at TBH OT - Patients discharged from TBH OT and only requiring tubigrip, joint protection or energy conservation principles - Patients treated at TBH OT less than 2 years ago (please check ECM)

Work Assessment:
Please use OT work assessment referral form

COMMENTS / OTHER:

_____

_____

DOCTOR (please print name): _____ **SIGNATURE**: _____

CONTACT NUMBER: _____

TBH0535

Western Cape Government
Health

Occupational Therapy Services – Western Cape	
Western Cape - District Hospitals	**Metro District**
Atlantis/Wesfleur	Bishop Lavis CHC
Beaufort West Hospital	Bothasig CDC
Bredasdorp/Otto Du Plessis Hospital	Delft CHC
Caledon Hospital	Du Noon CHC
Ceres Hospital	Durbanville CDC
Citrusdal Hospital	Elsies River CHC
Clanwilliam Hospital	Goodwood CDC
Eerste River Hospital	Gugulethu CHC
False Bay Hospital	Gustrouw (Rusthof) - Strand CDC
George Hospital	Helderberg Hospital
Helderberg Hospital	Ikwezi CHC
Hermanus Hospital	Kasselsvlei CHC
Karl Bremer Hospital	Kensington CHC
Khayelitsha Hospital	Khayelitsha Site B CHC
Knysna Hospital	Kleinvlei CDC
Ladismith (Alan Blyth) Hospital	Klipfontein / Mitchell's Plain
Laingsburg Hospital	Kraaifontein CHC
Malmesbury/ Swartland Hospital	Lady Michaelis CDC
Mitchells Plain Hospital	Macassar CHC
Montagu Hospital	Maitland CHC
Mossel Bay Hospital	Mfuleni CDC
Murraysburg Hospital	Michael Mapongwana CHC
New Somerset Hospital	Mitchell's Plain CHC
Oudtshoorn Hospital	Nolungile CHC (Site C)
Paarl Hospital	Nomzamo CDC
Piketberg/Radie Kotze Hospital	Ravensmead CDC
Porterville/LAPA Munnik Hospital	Ruyterwacht CDC
Prince Albert Hospital	Scottsdene CHC
Riversdale Hospital	Symphony Way CDC.
Robertson Hospital	Vanguard CHC
Stellenbosch Hospital	
Swartland/Malmesbury Hospital	
Swellendam Hospital	
Uniondale Hospital	
Victoria Hospital	
Vredendal Hospital	
Worcester Hospital	

TBH0611 Hands - Orthopaedics Referral Form-Occupational Therapy

Western Cape Government
Health

Name: .....
Folder Number: .....
Date of Birth: .....

TYGERBERG HOSPITAL
OCCUPATIONAL THERAPY DEPARTMENT
HANDS / ORTHOPAEDICS REFERRAL FORM
OCCUPATIONAL THERAPY AND PHYSIOTHERAPY

DATE: _____

INFECTIOUS DISEASES:	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):

HEALTH CONDITION: (Please indicate diagnosis)

Left	Right	Hand	Upper Limb	Lower Limb	Other:

_____
_____

DETAILS OF SURGERY: _____
_____

DATE OF SURGERY: _____

OCCUPATIONAL THERAPY

(Please refer to reverse side for further detail)

	Tick
Splint eg. Z-splint; dorsal blocking splint; knuckle duster splint	
Pressure Therapy eg. Scar management; pressure garment	
Education Eg. Precautions, healing	
Activity and Participation eg. Assistance in ADL's; assistive devices	
Wheelchair Assessment eg. Permanent/loan	
Work Assessment: Please use OT Work Assessment Form	

COMMENTS / OTHER:
_____
_____
_____
_____
_____

PHYSIOTHERAPY

Mobilisation / Rehabilitation
Precautions / Counter indications:
_____
_____
_____
_____
_____

COMMENTS / OTHER:
_____
_____
_____
_____

Intern	Registrar	Consultant

Doctors Name: (Please print)
_____
Signature: _____
Contact No: _____

TBH0611

Referral Guidelines – Hands & Orthopaedic Patients to Occupational Therapy

Outpatient clinics: Monday – Hands trauma clinic (9am – 2pm for OT) | Wednesday – Hands cold case clinic (9am – 2pm for OT)

CONTACT: X6153

Type of Injury/Repair	When to Refer	Splint	Focus of Treatment
Flexor Tendon Repairs		**Dorsal Blocking Splint**	After assessment - either a passive or early active movement protocol is followed (determined by various patient factors)
• FDP/FDS and FPL	Day 3 - 7 post op	• Wrist: neutral/0°	Passive protocol: First 4.5 weeks: Passive flexion (isolated), with active extension of each finger joint
			Active protocol: First 5 weeks: Joint are warmed up passively before engaging in gradually increased degrees of active joint flexion; also focussing on maintaining active joint extension (PIPJs especially)
		• MCPJs: 60°	
		• PIPJs: 0°	Frequency of sessions depends on patient factors, usually at 1 week; 2.5 weeks; then 4; 6; 8; and 10 weeks post op.
• FDP/FDS Repairs → Zone II - NB: Day 3-7 post op (latest)			• Oedema mx; and Wound/scar mx
			• Education
			• Adapted methods for ADLs
• Short FTR – FCU/FCR	Day 3 - 7 post op	**Short Dorsal Blocking Splint**	• From 4.5 - 5 weeks: Reduce splint wear
NB : Include: structures repaired, full house injury and nerve involvement		• Wrist: neutral/0°	• Continued treatment and follow up to 8 - 10 weeks (then referral to next level of care therapists, depending on progress)
		• MCPJs: free	
		• PIPJs: free	
Extensor Tendon Repairs:		**Mallet Splint**	• Splint fit, and education
• Zone 1 & 2 Mallet finger	Day 0 - 5 post surgery/injury	DIPJ immobilised in slight hyperextension	• 24/7 Splint wear with no allowance of DIPJ flexion
			• 6-12 weeks
• Zone 3 & 4 Central slip/ Boutonniere deformity	Day 0 - 5 post surgery/injury	**Volar Gutter Splint** (PIPJ extension);	• Serial static splinting; stretch/prevent contractures (day wear)
		or Circumferential Gutter;	• F/U for further therapy modalities and initiation of specific exercises
		or Dorsal Gutter with Short Volar Gutter (allows DIPJ flexion)	• F/U for further therapy modalities and initiation of specific exercises
• Zone 5 - 8	3 - 3.5 weeks post repair	**DRES** (Dynamic Radial Extension Splint)	• Splint provides passive dynamic extension of the MCPJs allowing active flexion of the fingers. This assists in functional use of the hand during this period and ensures sufficient tendon excursion.
			• 8-12 week programme of follow up.
Zone 4-7 Extensor tendon repairs where **1-2 fingers** are affected	Day 0 - 5 post surgery/injury	**Yoke Splint** around fingers AND **Wrist Extension Splint**	• Focus is on full active composite finger flexion and extension within the splints
			• Wrist extension splint can be discontinued at 3-5 weeks post repair, dependent on progress
Thumb T1-T2 (EPL)		**Gutter Splint** immobilises IPJ in slight hyperextension, allows MPJ movement	
Thumb T3-T4 (Boutonniere)		**Hand-based Splint IPJ in 30°-40° flexion**	
Fractures:		**Gutter Splint (P2/P3)**	• Splint to immobilise joints proximal and distal to the fracture
Phalanx fractures	ASAP post op/ 2 weeks		• Buddy strapping when safe to mobilise
		Hand-Based Gutter Splint (P1)	• AROM for stable fractures
NB: Consider Physio referral: mobilisation and graded strengthening			• Physio – mobilisation and graded strengthening
		Buddy Strap	• Scar mx (if open fracture or surgery was done)
			• Focus on preventing stiffness and return to functional use of the hand and ADLs
			• We refer to next level of care for further f/u (from 4-6 weeks post surgery/injury)
Metacarpal Fractures	ASAP post op/2 weeks	**Hand-Based MCPJ Blocking Splint**	• As with the phalanx fractures
		Buddy Strap	
Finger Dislocations	ASAP	**Splint** OR **Buddy Strap**	• Splinting to protect, gradually increase ROM (gutter splint) and encourage assisted movement (buddy strap)
NB: Consider Physio referral: mobilisation and graded strengthening			• Oedema mx
			• Reducing Stiffness
			• Encouraging hand use
Distal Radius Fractures	2 weeks post op/ASAP	**Wrist Brace** (commercial) OR	• Education
		Thermoplastic **wrist extension splint**	• Oedema mx
NB: Physio referral		(dependent of whether or not an ORIF was done)	• Scar mx • Home exercise programme–according to healing & pain
			• Assistance in returning to functional use of the hand
Thumb & Scaphoid Fractures		**Thumb spica** (commercial vs. thermoplastic)	• As with distal radius fractures above
Septic Hand Injuries	When splinting is indicated	E.g: **Z-splint** or **1st web-spacer** might be indicated	• Possible splinting for positioning if passive mobilisation in physio is difficult
			• Education (wounds, scar, stiffness, use of hand)
			• Oedema mx
NB: Physio (reduce/prevent stiff hand)			• Facilitation of use of hand in activity
	When there are students in the OT Hands Area – Therapeutic groups are conducted 2-3 times a week to address these treatment focus areas for these patients. Usually in-patients in ward J6		
Finger Amputations	Once wounds have healed	**(only if indicated for increasing ROM etc.)**	• Education (phantom sensations, hypersensitivity, etc.)
			• Scar mx & pressure therapy
			• Desensitisation
			• Facilitation of return to best functional use of hand
			• Possible referral: WCRC/Prosthetist depending on amputation done
Humerus Fractures (not ORIF'ed)	ASAP	**Humerus Brace**	• Education
			• Circumferential pressure applied by brace creates an environment for increased osteogenesis at fracture site.
NB: Physio referral			• Facilitate independence in basic ADLs • F/u for splint adjustment • Referral to next level of care therapists
Complex Regional Pain Syndrome	Once diagnosed	**Splinting if indicated**	1. Education 2. Oedema mx 3. Maintaining ROMs 4, Graded motor imagery 5. Mirror therapy
(Please also consider referral to the pain clinic & social work)			***NB:*** *Assessment & selection of candidates who will benefit from No.'s 4 & 5*

Type of Injury/Repair	When to Refer	Splint	Focus of Treatment
Peripheral Nerve Injuries:			
Radial Nerve Palsy *(Neuropraxia):*	As soon as possible (when wrist brace can be fitted)	• **Wrist Brace**/wrist extension splint	• Education re: Nerve injury and function
			• Sensory precautions
			• Oedema mx
NB: Consider Physio referral to maintain ROMs, and future grip strengthening			• Facilitate independence in ADLs
			• We refer to next level of care for further f/u
Radial Nerve Repairs/PION Lesions: (Neurotmesis/Axonotmesis)	As soon as possible - post repair	• **DRES** (dynamic radial extension splint)	• Education re: Nerve injury and function
			• Sensory precautions
			• Oedema mx
		• Finger flexion strength must be 4/5 for DRES	• Scar mx
			• Facilitate independence in ADLs
			• Activity & participation
NB: Consider Physio referral to maintain ROMs, and future grip strengthening			• Home exercise programmes (HEPs)
		• Night splint: **Wrist Brace**	• F/u every 6 weeks / Refer to next level of care
Median Nerve Repair/Injury	3-4 weeks post op (when post-op dressings are removed)	**1st Web Spacer Splint**	• Temporary compensatory techniques – e.g. precision grip
		Buddy Strap (IF&MF)	• Facilitate independence in ADLs
			• Focus of treatment as with radial nerve repairs
			• We refer to next level of care for further f/u
NB: Consider Physio referral to maintain ROMs, and future grip strengthening			• F/U every 3-4 weeks
Ulnar Nerve Repair/Injury	3-4 weeks post op (when post-op dressings are removed)	**Knuckle Duster Splint** (KDS) for claw deformity	• Splint for day use – functional • Focus of treatment as with radial nerve repairs
NB: Consider Physio referral to maintain ROMs, and future grip strengthening		Night: **Z-Splint** as needed	• We refer to next level of care for further f/u • F/U every 3-4 weeks
Median and Ulna Nerve Repairs with no tendon involvement	4 weeks (POP removed)	Web Spacer/Knuckle Duster	• As above
Brachial Plexus Injury (with no hand function)	ASAP	**Z-Splint** & **Master-ling**	• Home programme
			• Assistance in the areas of ADLS, work etc.
Lower-Limb Injuries and Fractures, *patient bed-bound or non-weight bearing and is a risk of developing lower limb contractures (e.g. shortening of tibialis posterior)*	Refer to OT as needed	**Non-Weight Bearing AFO**	• Education
			• Home exercise programme
		Foot Strap (can be made to secure to the frame or Ex-fix)	• Maintaining ROM of LL joints
			• Physio
		Loan wheelchair (patient expected to walk again)	Loan wheelchairs are only available when second hand wheelchairs are returned to the hospital. Should there not be stock of wheelchairs; patients are provided with info about where to borrow/hire one. (Permanent wheelchairs cannot be issued as loan, due to the cost to patient and hospital).
		Permanent Wheelchair (patient will need the devices for an extended period of time, 1 year +)	Should there not be stock of the correct wheelchair after the patient is assessed, the device is ordered and the patient is contacted when it arrives. We then see them as outpatients for seating and wheelchair training
Multi-Tissue Injuries	ASAP/once back slab and post op dressing can be removed	Assessment will determine what splint is needed. Often a **Z-Splint** for period of immobilisation	A programme will be developed that is tailored to the individual patient's injuries and This will depend on the surgery done, the types of tissue affected, the healing times of affected structures, and what needs to be protected.
Drop Foot (e.g. sciatic nerve injury)	**DO NOT REFER TO OT FOR A WEIGHT-BEARING AFO**	AFO (Ankle-Foot Orthosis)	• Please refer to the Orthotic and Prosthetic management centre via the order form book and process – through "Hulp-middels" • Hulp-middles: X 4783 • Orthotic and Prosthetic management centre: 021 531 5300
Toe Amputations	**DO NOT REFER TO OT FOR SHOE FILLERS**	Shoe Filler	• Please refer to the Orthotic and Prosthetic management centre via the order form book and process – through "Hulp-middels" – As above

Recommendations as part of strategic planning: **DO NOT REFER THE FOLLOWING TO TBH OT:**

Type of injury/condition:	Refer to:	Splint indicated:	Recommendations on Focus of Treatment to Next Level of Care
Carpal Tunnel Syndrome	Refer to community OT	**Wrist Brace**	• Wrist brace (at night for 3-4 weeks) then f/u with Dr (for injections? / surgical release?)
			• Education
			• Activity modification
		(neutral wrist position)	• Ergonomics; Work environment evaluation
			• (Scar mx and tendon gliding post op)
De Quervain's Tenosynovitis	Refer to community OT	**Thumb Spica Brace**	• Thumb spica (at night for 3-4 weeks) then f/u with Dr (for injections? / surgical release?)
			• Education
			• Activity modification
			• Ergonomics; Work environment evaluation
			• (Scar mx and tendon gliding post op)
Trigger Finger	Refer to community OT	**Splint to Block MPJ or PIPJ** depending on where the nodule has formed	• Splint to keep the tendon elongated, preventing triggering and fixed contracture
			• Education on causes
			• Activity modification
			• Home exercise programme • Massage • Scar mx (post op)
Du Puytren's Contracture	***POST OP ONLY*** ***Refer to community OT +/- physio***	**Hand-Based Gutter Extension Splint**	• Splint to maintain length/ROM gained in surgery • Home exercise programme • Physio? • Scar mx and massage • Return to functional use of hand

Please Feel Free To Contact us Telephonically at 021 938-6153

TBH1070 - Occupational Therapy - Amputation Team Internal Referral Form

Western Cape Government
Health

Name: .....
Folder Number: .....
Date of Birth: .....

TYGERBERG HOSPITAL
AMPUTATION TEAM REFERRAL FORM

DATE: _____

PHYSIOTHERAPIST ☐
OCCUPATIONAL THERAPIST ☐ Ward _____ Room _____ Bed _____
SOCIAL WORKER ☐

INFECTIOUS DISEASE	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):

Thank you for seeing this patient.

Male	Female
Age	

Right	Upper limb
Left	Lower limb

Diagnosis:

PVD	CLI	Acute Limb Ischemia	Gangrene	Injury	Other:

Comorbidities/CDL's:

DM II	HPT	IHD	Previous CVA	CCF	Other:

Procedure/s done:

Right	BKA	AKA	Through Hip disart,	Fem. Pereneal bypass	BEA	AEA	Other:
Left	BKA	AKA	Through Hip disart,	Fem. Pereneal bypass	BEA	AEA	Other:

Date of Surgery: _____

- Please assist with Mobilisation ☐ Walking Aids ☐ Physical Rehabilitation ☐
- Patient is likely to need a wheelchair for mobilisation ☐
- Please evaluate:

For Discharge Home	Home Based Care	Possible transfer to step down	Possible F/U rehab at WCRC (outpts)	Disability Grant/ Old Age Pension

Comments: _____

_____

_____

DOCTOR (Print Name): _____ Extension: _____

SIGNATURE: _____ Bleeper: _____

TYGERBERG HOSPITAL

REPLY TO REFERRAL

INTERPRETATION OF PROBLEM
Date: _____

MANAGEMENT (DIAGNOSTIC, THERAPEUTIC AND COUNSELLING)

Inpatient		Transfer When: _____	Ward: _____
Outpatient		Clinic: _____	Date: _____

SIGNED: _____

Western Cape Government
Health

TYGERBERG HOSPITAL
OCCUPATIONAL THERAPY DEPARTMENT

REFERRAL FORM FOR PLASTIC SURGERY

Date of referral:			**Referral agent name:** *(Please print)*.....	
Ward:	**Room:**	**Bed:**	**Ext:**	**Cell Nr. :** .....

Name: _____

Date of Birth: _____ **Sticker**

Hospital Number: _____

INFECTIOUS DISEASE	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):

DIAGNOSES: _____

_____

INJURY/ONSET DATE: _____ **SURGERY DATE:** _____

PROCEDURES: _____

_____

_____

REASON FOR REFERRAL TO OCCUPATIONAL THERAPY:

Tick applicable	**OT Intervention required**	**Comments**
	Splinting - specify for which body part *(e.g. hands, index finger, foot, neck, axilla)*	
	Scar management *(e.g. Scar massaging, Tubigrip, Silicone gel, pressure garments)*	
	Activity and Participation *(e.g. assistance in ADL's; issuing assistive devices, adaptations to activity / environment)*	
	Wheelchair assessment *(e.g. permanent/ loan)*	

SIGNATURE: _____ **DATE:** _____

Western Cape Government
Health

TYGERBERG HOSPITAL
OCCUPATIONAL THERAPY DEPARTMENT
Tel: +27 21 938 5062/6153 / Fax: +27 21 938 6545

BURNS UNIT OT REFERRAL LETTER

Date of referral:			Referral agent name: *(please print)*	
Ward:	Room:	Bed:	Ext:	Cell nr.: .....

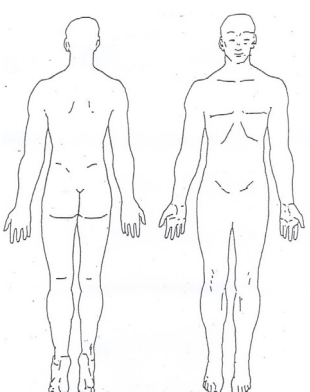
Name: _____

Date of Birth: _____ Sticker

Hospital Number:

INFECTIOUS DISEASE	*Please circle appropriate choice & complete detail of infection*	
Infection risk present:	No	Yes (specify):

TBSA:	.....	Date of injury:	.....
Burn depth:	.....	Inhalation injury:	Yes / No
Affected areas:	....	Cause of injury:	....



Indicate affected body parts using the key below

Key	
Superficial thickness	^^^
Superficial partial thickness	=
Mid partial thickness	~~
Deep partial thickness	///
Full thickness	x

TBH1117

Surgery received: *(date, procedure & precautions)*	…… …… …… …… ……

Tick:	Occupational Therapy Intervention required:	Comments:
	Splinting - specify for which body part *(e.g. hands, index finger, foot, neck, axilla)*	
	Scar management *(e.g. Scar massaging, pressure therapy)*	
	Activity and Participation *(e.g. assistance in ADL's; assistive devices, adaptations to activity / environment)*	
	Wheelchair assessment *(e.g. permanent/ loan)*	
	Work Assessment *(Please use OT Work assessment form)*	
	Other *(Please specify)*	

Please do not hesitate to call and discuss any specific treatment or splinting requests with us

Comments:

……

……

……

……

……

Signed:

……

WAU Internal Referral Form

Western Cape Government
Health

Occupational Therapy Department
Tygerberg Hospital
Enquires: T. Gabriels/A. Pieterse/ A. Vent
x6148/6152/5963/5062

INTERNAL REFERRAL FORM
WORK ASSESSMENT UNIT

Please write legibly and consult the Tygerberg Hospital Work Assessment Internal Referral Protocol Guideline to determine if the client would be appropriate for a work assessment (If not available in the clinic, please give us a call)

REFERRING AGENT DETAILS

Name (Print):	**Clinic:**		**Date:**	
Profession:	**Signature:**			
Contact details (contact numbers, fax number and email address):				

CLIENT DETAILS/STICKER

Client Name:	**Folder Number:**
Contact Number (at least two):	**Date of Birth/Age:**
Address:	

INFECTIOUS DISEASE	Please circle appropriate choice and complete details of infection	
Infection risk present:	No	Yes (specify):

REFERRAL DETAILS (Attach a discharge summary, if referral is made by the treating clinician)

Primary diagnosis and date of onset:					
Secondary diagnoses:					
Management to date (surgical/rehabilitation, date and facility):					
Future management:					
Medication:					
Health status:	Acute	Chronic		Stable	**Medical prognosis:**
Functional impairment:	Yes	No	Uncertain	If yes, specify:	
Medically eligible for DG	Yes	No	Please consult the **guidelines for the medical assessment of disability for social assistance purposes** to determine if it is a need for a work assessment (If not available in the clinic, please give us a call).		

WORK RELATED DETAILS: (Please tick or complete details)

Level of education:		**Employed**	Yes	No	**Date last employed:**
On sick leave (Duration):		**Occupation/type of work:**			
On a disability grant (Duration):					

REASON FOR REFERRAL (Please tick)

Assessment for open labour market		Assessment for medical boarding	
Assessment for disability grant eligibility		Assessment for alternative placement/sheltered or protective employment	
Assessment for return to work		Assessment for learnership	
Assessment for insurance claim		Other (Please specify):	

REPLY TO REFERRAL:

All forms not completed fully will be returned to the referral source *Reviewed: May 2021*

PHARMACY

Location: Main Pharmacy, Ground Floor, Entrance no 7, C-Block

Pharmacy Management Contact Details

Pharmacy Manager: Mr M W Isaacs 021 938 5225

Assistant Manager-Operations: Dr G Muntingh 021 938 4917

Assistant Manager–Finance and supply chain: Ms I Adams 021 938 4619

1. **Supervisor -OPD**: Ms F Parker 021 938 4915
2. **Supervisor -Paediatrics**: Ms R Ilunga Wangole 021 938 4915
3. **Supervisor-In-patients/Discharges:** Ms T Bouwer 021 938 4916
4. **Supervisor –Stock management**: Ms S Melson 021 938 4507
5. **Supervisor -Antimicrobial stewardship**: Ms M Erasmus 021 938 4915/6
6. **Supervisor- Manufacturing department**: Ms Diana Razavi 021938 4917
7. **Supervisor- scheduled medication**: Mr Zaid Morkel 021 938 4917
8. **Supervisor X-Block** – Odette Garland 0219385898

Enquiries: ext. 4915/4916 (after hours: ext. 4915 only)

The hours below are the official working hours, but the pharmacy closes only after the last patient has been assisted*.
For all pharmacy-related queries during working hours, please contact our reception: Marshall Fortuin on 021 938 4798. If there is no reply, then you can contact one of the numbers listed above.

Oncology Pharmacy -The X-Block /Gene Louw pharmacy is located in the Gene Louw building

Enquiries: Ms O Garland (X-Block Pharmacy Supervisor) 021 938 5898

Pharmacy Hours

Outpatients (OPD)
Monday–Friday: 08:00–16:30*
Our OPD services is not available over weekends *(please refer to Pharmacy Weekend circular)*.
Closed on Christmas and the last day of March and September for compulsory official stock-taking.

In-patients
Monday–Friday: 08:00–13:00, 14:00-16:30.
Closed between 13h00 and 14h00 for lunch, however still busy with work during this time.

Cut-off time is strictly 14:30 (only antibiotics, new admissions or emergency requests will be accepted)

Saturday, Sunday, and Public Holidays: 09:00–12:30, cut-off time is strictly 11:00 (only antibiotics and emergency requests will be accepted
Closed on Christmas Day and for compulsory official stocktaking on the last day of March and September.

X-Block
Monday-Friday: 07h30-16h00*. X-Block pharmacy does not offer an after-hour service (closed Saturday, Sunday and Public Holidays). The cut-off for inpatient orders is 14h30 – only antibiotics and emergency medication until 16h00. In case of emergencies after 16h00, medication may be ordered via the Main Hospital pharmacy or the on-call pharmacist. Discharge prescriptions to be handed in at least 24 hours prior to patient leaving – exceptions may be negotiated with pharmacists on a case to case basis.

Total parenteral nutrition ((TPN) ext 5835)
Ordering cut-off time is 10:00 am from Mondays to Fridays. Very important as TPNs are ordered from the supplier on a daily basis and the supplier has cut-off times for receiving orders

TPNs are not dispensed on weekends and public holidays. If there is a potential patient, it is advisable to order for that patient on Friday. If the TPN is not used, it can be returned to Pharmacy the following Monday. Room numbers should be stated on the order forms for easy delivery. TPN should not be shared among patients, unless it is discontinued, then the TPN, can be used for another patient.

On Call Pharmacist / Clinical Pharmacologist
The pharmacist or clinical pharmacologist on-call is available after hours (i.e. when the pharmacy is closed). In an emergency you may contact the pharmacist via the afterhours nr: **063 275 5462.**

The clinical pharmacologist can be contacted via the Hospital switchboard **ext. 9**

Prescription requirements
The triplicate (referral) prescription must be used for all medicines prescribed for patients at outpatients/clinic level and ward level. This format of prescription is the only one at Tygerberg Hospital that conforms to the legal requirements.

A prescription will be dispensed immediately, if it complies with legal requirements.

Prescriptions with items that need to go to the Pharmacy and Therapeutic Committee (PTC) for approval will be:

- **Where the dose and indication deviate from the Provincial Code List, EML, Tertiary and Quaternary EML and SAMF**
- **Off- Label indications**
- **If an item is restricted on the code list**
- **When an item is not on code and Section 21 items**

PTC approvals are given within 2-7 days, so please allow Pharmacy time, to source the item. Please ensure that patient contact details are correct in the case of an OPD patient

All referral prescriptions must be endorsed by TBH Pharmacy before patients are sent to referral clinics for monthly medication collection

Inpatient antimicrobial prescription chart: required for ALL antibiotics prescribed.

All prescriptions are required to meet the following requirements (in accordance with the Medicines and Related Substances Act, 1965 [Act 101 of 1965] as amended and provincial regulations:

- Supply the date of the Rx, patient's name, surname, hospital number, date of birth and weight, especially for children.
- Use a TBH prescription sheet with the patient's correct name and folder number, as well as the correct name of the clinic/ward, where applicable. Each clinic/ward/theatre has their own budget and it is important to ensure that the correct ward/clinic or theatre names are added to the prescription sheet for financial-control purposes.
- Use the generic name of the medicine (no brand names), the strength, dose and dose interval, the route of administration and period of treatment (maximum 28 days for chronic medication at one time).
- Write the prescription in a legible handwriting and do not use any abbreviations, either Latin or otherwise.
- The signature of the doctor must appear on the prescription, as well as his/her name in print, his/her MP number and radio-call or mobile numbers. **You may apply for a stamp with your information at ext. 5752 (Ms Bindeman) and stamp each prescription. Pharmacy advises that doctors use a stamp and sign, otherwise Rx will be sent back if not legible.**
- A prescription for chronic medication may be repeated for a maximum of 5 repeats, i.e. the original issue plus 5 repeats, giving a total of 6 issues on a prescription.
- Schedule 1– 5 medicines may be repeated for a maximum of 5 times only.

- After, Schedule 5 items are repeated 5 times, a psychiatrist must evaluate and decide whether the prescription should be repeated. Except for the Neurology and Psychiatry departments, Benzodiazepines are only allowed once, and for a maximum of 14 days.
- **Schedule 6 items may not be repeated.** The prescription must be re-written each time. Schedule 6 prescriptions (e.g. morphine) require that the total quantity of the medication that is requested should not exceed 30 days' supply (28 days in the public sector) and that the final volume of liquid or number of tablets should also be written out in words. The doctor must add his name in print below the signature as well as his qualifications.

The quantities and duration must all be written in words.

Patients categorised as H3 or P (Private) need to have their prescriptions signed by the Manager: Medical Services, in order to receive medication at the Pharmacy. Alternatively, patients may be issued with a private prescription to purchase medication privately. This does not apply to children under the age of 6 years who are members of a medical aid.

Triplicate (Referral) prescriptions

If you refer a patient to a community-service centre the following must appear on the referral prescription:

- Patient's name, address, and folder number
- Correct name of the institution to which the patient is being referred
- Full diagnosis, with a corresponding diagnosis on the form for each medication
- Only one item per **line ALLOWED.**
- Correct generic medicine names, dosage strength, dosage intervals and the amount of repeats for each item **abbreviations, e.g. HCTZ for Hydrochlorothiazide, are not allowed.**
- Original date of the prescription
- Patient's follow-up date at Tygerberg Hospital. This must be in multiples of 28 days according to the number of repeats, e.g. for 1 issue with 3 repeats the follow-up date is 4 x 28 days from the original date of the prescription. (If you deviate from this, the patient will either run out of medication or receive an oversupply of medication. Use the 28-day calendar.)
- Only medicine that is open for referral may be referred out (this is determined by the Western Cape Medicines (PGWC) Code List
- Medicine that is classified **as general** may be prescribed by any doctor; medicine that is classified as **specialist initiated** must be started by a specialist in a particular field and the patient may be transferred to the periphery for follow-up repeats and continued management.

Medicines that are classified as specialist only, may only be referred to the periphery for a maximum of 5 months (6 issues, 1 at TBH and 5 from the periphery) after which the patient has to return to TBH for re-evaluation and a new prescription. Patients have to return to TBH for re-evaluation and a new prescription. **Patients on medicines classified as tertiary hospital only, may not be referred.** Where such patients cannot return to TBH, an agreement must be reached with the pharmacy to assist with the process, whereby the patient, the pharmacist of the nearest hospital in the periphery and TBH pharmacy work together in the best way to get the medicine to the patient. In these cases there must be a repeat prescription in the patient's folder at TBH.

- **All prescriptions must be sent to pharmacy before they are referred out. Under no circumstances must patients' by-pass the pharmacy. If the patient has sufficient medication the new prescription must still be endorsed by TBH Pharmacy before patient leaves.**
- Pharmacy may be contacted at 021 938 4917 to assist with arranging this process.

Availability and purchase of medicine

Medication available from government is subject to certain restrictions. Information is given in the Provincial Code List. (Every Head of Department has a copy; it is also available on the intranet for your perusal.

Please note:

- Any substances that does not appear in the Provincial Code List may be requested on an **Individual Request Form**, accompanied with a full motivation, which will be discussed by the Pharmacy and Therapeutics Committee (PTC) before a purchase is approved, **always remember to attach evidence, actual studies must be attached not review articles.**
- **In the case of an individual request that has to be assessed by the PTC, inform the patient before-hand that they may not receive their medication on the day, that the motivation is submitted.**
- If a product is not registered in South Africa, the Pharmacy will not stock it unless prior approval has been given by the South African Health Products Regulatory Authority (SAHPRA) in Pretoria in terms of the Section 21 requirements and Hospital's Pharmaceutics and Therapeutics Committee for a specific patient. Special request forms (Section 21 request forms from SAHPRA) are available from Pharmacy or from the Intranet. Such requests are based on an agreement between the doctor, the patient and SAHPRA only.
- A medicine that is not available at Tygerberg Hospital will definitely not be available at the community centres, which have an even more limited range of medicines.

- An emergency room containing medication for Inpatients is available for after-hours emergencies, this is situated in A-block next to the Night Matron's office. Access to this is available only through the after-hours nursing manager on duty. Any medication removed from the emergency room must be recorded on the appropriate forms available in the emergency room.
- Because the hospital has a limited budget for medication, you are seriously requested to prescribe medicine in a responsible manner, to give each patient an equitable chance of being treated.
- Inpatients should be assessed regularly. Please change intravenous antibiotics to the oral form as soon as possible. This will avoid unnecessary costs from intravenous administration sets, needles and vacolitres, and saves valuable nursing time.
- Before a prescription for chronic medicine is re-written, patients should be consulted to determine whether they have indeed taken their medicine to date and what supply they still have at home. The availability of unused medicine is one of the most frequent reasons for poisoning in children. It is important to know if a patient is compliant before you make a dosage adjustment.
- If uncertainty exists, as to the availability, dosage or cost of a medicine, Pharmacy should be contacted at the numbers given above.
- Always pay attention to detail when copying another's Dr's Rx as you are responsible for the errors on your own Rx.

Please familiarise yourself with the following documents, ask pharmacy for assistance, when in doubt

1. Provincial Code list
2. Supplementary lists
3. Section 21 forms
4. Individual request forms
5. Legal referral prescription
6. SAMF
7. Antimicrobial Prescription Chart Policy

PHYSIOTHERAPY DIVISION

Assistant Director: Ms A Swart (Ext.4576)
Location: B5 West passage, Tygerberg Hospital
Reception: ext. 5152 (messages will be conveyed)

PHYSIOTHERAPY SERVICES

The job purpose of a physiotherapist is to provide a holistic clinical service consisting of curative, preventative, rehabilitative and health-promotive procedures in the fields of respiratory, neurology and orthopaedic therapy.

Summary of clinical services provided by TBH Physiotherapy Department:

- Inpatient service to all wards of TBH (core working hours of 08h00-15h30)
- Limited afterhours and weekend duties
- Outpatient service to clients residing in the catchment area of TBH
- Outpatient consultation in complex cases referred from other clinics
- Outpatient monitoring of certain elective procedures e.g. shoulder replacements
- Specialist outpatient clinics: Hands clinic, CF (Craniofacial) assessments

Education: The TBH Physiotherapy Department is involved in education and training of staff, students and the public through various programmes.

Services not provided:

- Sputum induction
- Routine mobilisation
- Manufacturing of splints
- Routine suctioning
- Wheelchairs (provided by Occupational Therapy).

During your Orthopaedic rotation, you will find a specific section dedicated to Physiotherapy at the back of the Ortho Interns Booklet. It contains relevant information to make your orthopaedic rotation easier – please take the time to read this section.

TYGERBERG HOSPITAL PHYSIOTHERAPY SERVICES DURING COVID-19 PANDEMIC

The burden of COVID-19 cases has resulted in our Physiotherapy staff and resources being put under immense pressure. This document serves as the current guideline relating to physiotherapy services during the COVID-19 pandemic. As the requirements for Physiotherapy intervention evolves, this document will be reviewed.

General principles:

- Physiotherapy is divided in to a COVID and a non-COVID Team
- All physiotherapy services are limited to essential services that can only be performed by a physiotherapist – irrespective of the patient's COVID status. This point is as per instruction from Infectious Diseases and Occupational Health – and the purpose is to 1) limit exposure to physiotherapists and 2) to conserve PPE.

COVID ICU:

- COVID Team works in ICU and manages patients as per individual assessment done by the physio
- Weekends: limited service by 1 COVID Team physio

COVID high care and wards:

- Physiotherapy referrals strictly from consultant.
- Physiotherapists should meet regularly with medical staff and be involved in determining the appropriateness of physiotherapy interventions for patients according to the referral guidelines.
- Physiotherapists should not manage persons under investigation (PUIs) unless there is a definite indication for urgent intervention. This guideline will remain in place, irrespective the length of time needed to determine the patients' COVID-19 status.
- Indications for chest physiotherapy:
  - Lung collapse
  - Atelectasis
  - Thick tenacious secretions and ineffective cough
  - Patient struggling to clear secretions
- NO Referrals for:
  - Routine chest physiotherapy
  - Tracheal aspirate collection or sputum induction
  - PEP bottles (bubblePEP) / IPPB (currently not recommended in available guidelines)

"Low risk COVID" wards:

- All physiotherapy services are limited to essential services
- Physiotherapists should not manage persons under investigation (PUIs) unless there is a definite indication for urgent intervention. This guideline will remain in place, irrespective the length of time needed to determine the patients' COVID-19 status.
- COVID+ patients and PUIs who do require physiotherapy will be managed by our COVID Team.

TBH Physio OPD:

- De-escalated to only essential cases. Patients will only be seen by prior arrangement with Physio.
- All other patients who arrive for appointments will be added to our waiting list or referred to a physio service in their catchment area.

The above guidelines are intended to ensure effective Physiotherapy management for the affected patients and the safety of the Physiotherapy staff.

Your co-operation in the implementation of the above guidelines is greatly appreciated.

GENERAL GUIDELINES FOR REFERRALS TO PHYSIOTHERAPY

Use ECM TBH0019 – Interdepartmental Referral Form

REFERRAL CONTENT - GENERAL INFO	REFERRAL CONTENT - SPECIFIC INFO
• Name & Surname • Age • Contact details • Folder number • Ward • Date • Name of doctor & contact details • Diagnosis • Treatment plan	• Problem identified • Significant history • Results of investigations • Regimes/protocols • Precautions & contra-indications • Relevant medications

Referrals should be comprehensive and must include suspected/ confirmed infectious/communicable diseases at all times.

When referring, also keep the following in mind:

- Contra-indications for physiotherapy: critically low platelet count, acute haemodynamic instability, and active haemoptysis
- Precautions for physiotherapy: fractures, osteoporosis, acute haemodynamic instability, low HB/HGT, raised intracranial pressure, abnormal clotting profile, malignancy, fat and pulmonary emboli
- Appropriate and adequate analgesics should be prescribed

- Inhalation therapy must be prescribed by the doctor and administered by nursing staff

AFTER HOURS – LIMITED SERVICE
After-hours physiotherapy is available for inpatients (excluding D4, J1 & J3) for chest patients according to policy 61/2006 (included at end of Physiotherapy section). Policy is available in all wards.

WEEKEND AND PUBLIC HOLIDAY SERVICES – LIMITED SERVICE
Physiotherapy over weekends and public holidays: as per policy 61/2006. Ward physiotherapists will place patients whom they think require weekend chest physiotherapy on the weekend list. If you feel a patient requires weekend treatment, please discuss with your ward physiotherapist or refer before/on Friday.

INPATIENT SERVICES
Physiotherapy services are available in most TBH wards (excluding wards D4, J1 & J3 – where there are part-time locum services). In most wards there is a specific physiotherapist allocated to that ward, except for Orthopaedics, which is allocated according to the medical firms.

Please identify and refer patients for physiotherapy as soon as possible. Physiotherapy students from UWC and SU shadow and do clinical rotations in Tygerberg Hospital. PLEASE DO NOT refer patients to physiotherapy students; the appropriate therapist must be contacted.

DISCHARGE PLANNING IS VERY IMPORTANT:
- Plan for discharge from Day 1
- Ensures holistic patient management
- Improved discharge planning → Earlier discharge
- Early intervention & problems addressed
- Early identification & prevention of complications
- Mobility assistive devices, home programs etc supplied & ready by the time of discharge
- Carers prepared for patients discharge and consulted regarding follow-up care
- Referral and follow-up plan in place
- Prevention of long-term problems / disability

Inpatient referral procedure
Use ECM TBH0019 – Interdepartmental Referral Form

New referrals must reach the department by 12h00 on weekdays. Because the office for Mobility Assistive Devices (MADs) closes at 12h00 on Fridays,

early referral is essential for same-day discharge.

Referrals that are communicated in the afternoon may only be attended to the following day. Please contact the ward physiotherapist to discuss any urgent referrals.

Contact details of ward physiotherapist will be available in wards.

Leave the referral in clerk's office/specific ward arrangement and phone Physiotherapy at ext. 5152. PLEASE DO NOT send referrals via the tube or internal mail system as these referrals are often lost or only arrive weeks later.

TBH physiotherapists will answer the written referral and place it in the patient's medical folder. Physiotherapy notes will usually be kept in the patient's nursing folder.

OUTPATIENT SERVICES

Outpatient services are available to:

- Clients residing in the direct catchment area of TBH
- Complex cases referred from other clinics
- Monitoring of certain elective procedures e.g. shoulder replacements
- Specialist outpatient clinics: Hands clinic, CF (Craniofacial) assessments

Patients that are followed up at TBH Doctor's Clinics will not automatically be accommodated at TBH Physiotherapy OPD.

Outpatient referral procedure

- Leave a detailed referral (ECM TBH0019 – Interdepartmental Referral Form) in the medical folder **AND**
- Phone Physiotherapy reception for an appointment.

If it is not possible to give the patient an appointment, the patient will be placed on a waiting list. Outpatients will NOT be treated at TBH if they arrive without an appointment arranged by Physiotherapy.

Urgent OPD referrals should be discussed with the appropriate OPD physiotherapist.

SERVICES AVAILABLE OUTSIDE OF TBH

Please CONSULT your ward physiotherapist regarding services available and referral options.

Outside facilities require COMPREHENSIVE REFERRALS – they do not have access to ECM & PACS.

Forms:

- ECM TBH0019 – Interdepartmental Referral Form or
- TBH0186 – Community Referral Form

Referrals should specifically include:

- Diagnosis
- History
- Specific instructions (many clinics only have Community Service Therapists)
- Precautions & contra-indications (many clinics only have Community Service Therapists)
- Relevant info from investigations
- Contact details of referring doctor

OPTIONS FOR FOLLOW-UP CARE OUTSIDE TBH

1. **Rehabilitation at an inpatient centre**

   The following inpatient centres are available:

   - Western Cape Rehab Centre (WCRC) in Mitchells Plain – inpatient centre for spinal, neurology and amputation patients; limited nursing care
   - Aquarius Healthcare Centre in Mitchells Plain – semi-private centre for more chronic patients; also provides rehabilitation
   - Booth Memorial in Oranjezicht, Cape Town – semi-private, more long-term facility; limited nursing care
   - Karl Bremer Stepdown Facility
   - St Joseph's Home for Children

   Neurology patients may be referred for inpatient therapy at a specialised centre. Referrals to these centres are co-ordinated by the **social worker**. The various institutions have different admission requirements and separate application forms. If there is uncertainty as to the patient's suitability for a specific centre, please discuss the case with the physiotherapist concerned. There is a screening process and patients are admitted for a limited period only before being referred to their closest community health centre.

2. **Outpatient physiotherapy services**

   Patients should be referred to their closest day hospital/community health centre/other secondary hospitals/private practices (in the case of patients with medical aid) where services are available. Details of available physiotherapy services can be obtained from Physiotherapy reception ext. 5152.

   Detailed referrals should accompany the patient because the therapists at other centres do not have access to the patient's folder or X-Rays etc.

   Patients will be seen by APPOINTMENT ONLY – no walk-in patients are treated on the same day.

3. Home-based care
Referral for home-based care is usually done by the ward sister when the patient is discharged.

MAD (MOBILITY ASSISTIVE DEVICES) SERVICES
Contact number MAD Office: ext. 4783. The office closes at 12h00 on Fridays.

Tygerberg Hospital does not provide Mobility Assistive Devices to medical aid patients and prison inmates. (Contact numbers for alternative sources are available from the physiotherapist or the yellow pages). Old-age homes also often have their own stock.

The issuing of mobility assistive devices is the responsibility of the discharging hospital. Mobility assistive devices are ordered by the physiotherapist or ward sister using:

- TBH0537 "Aansoek om uitreiking van hulpmiddele" - aluminium crutches, frames, walking sticks etc.

Wheelchairs
Occupational Therapy manages wheelchair assessments as well as the wheelchair waiting list. The issuing of wheelchairs is the responsibility of the discharging hospital.

TED stockings
The ward sister/doctor can order TED stockings by using the MAD requisition form (TBH0537 "Aansoek om uitreiking van hulpmiddele"). Guidelines regarding size are provided on the form. Physiotherapists are not involved in the ordering or fitting of TED stockings.

Slings and braces
Doctor to order and fit.

Orthotics and prosthetics
Ankle foot orthoses (AFOs) and other orthoses can be ordered by using the orthotics-and-prosthetic requisition book and sending the request to the Conradie Orthotic and Prosthetic Centre through the MAD Office.

Splints
Occupational Therapy makes splints. They can be contacted at ext. 5062.

TYGERBERG ACADEMIC HOSPITAL

NOTICE

Notice No.: 61/2006 **5 September 2006**

PHYSIOTHERAPY SERVICE ON WEEKEND/PUBLIC HOLIDAYS

Due to a combination of staffing resource constraints and limitations on the Physiotherapy overtime budget, adequate remuneration of Physiotherapists for overtime work has become problematic. It has thus been necessary to review the current system of Physiotherapy overtime cover. The aim of the exercise has been to ensure as adequate an overtime service as possible whilst providing for an acceptable combination of time-back and overtime payment to Physiotherapists who work overtime.

PHYSIOTHERAPY OVERTIME SYSTEM FOR WEEKENDS/PUBLIC HOLIDAYS:
Time of cover: 7:30am to 11:00am.
Number of physiotherapists on duty: 3
Bleep via radio: call 6666

New Referrals must be communicated telephonically by 10h00. A brief referral form must be filled in for each patient.

The following criteria must apply when selecting patients for treatment:

- Patients just extubated
- Lung collapse on X-ray
- Patients with complicated /severe pneumonia who have secretions and are unable to expectorate.
- Inhalation burns with associated lung infections

All pre-operative and prophylactic physiotherapy must be referred by Friday ahead of a weekend or the day ahead of a weekday public holiday. The physiotherapist will assess the referrals and where necessary will discuss personally with the referring doctor.

An average of *34 beds total in the Units listed below will be covered over weekends. The figures as reflected per Unit are a guideline only and will vary per unit:

A1E	3 beds
A1W	4 beds
A2 W & E	7 beds
A5 ICU	4 beds
A9ICU & Trachy's	***6 beds**
Wards, Resusc, A6, A7 ICU	10 beds

The following types of patients will NOT in general be accommodated for "automatic" physiotherapy intervention over weekends/public holidays:

- Patients in respiratory distress due to:
  - COPD,
  - Asthma, and
  - Dyspnoea.
- Terminally ill patients including those who are in respiratory distress and those in which medical intervention has been suspended. (Patients for TLC)
- All mobilisations

When calling out the physiotherapist the following information MUST be on hand:

- Patient's' name, folder number and ward
- Vital signs
- Recent X-rays
- Findings on auscultation (patients must cough prior to auscultation)

Patients should be receiving adequate analgesics and, where appropriate, inhalation therapy.

In cases where the patient is unable to expectorate: suction bottle, - tubing, - catheter and sterile gloves must be on hand.

Trauma patients should be fully assessed and appropriately managed prior to the requesting of physiotherapy intervention.

NB: (Requests from student interns, interns (house doctors) and nursing staff may not be accepted).

The above policy and procedure are intended to ensure that the best possible, most focussed, use is made of the limited resource of Physiotherapy overtime capacity at the same time as ensuring that the vital service that Physiotherapy provides to ICUs/High Care and other areas after-hours is maintained.

Your co-operation in the implementation of the above is sincerely appreciated.

Dr P Ciapparelli
DIRECTOR : CLINICAL SERVICES

NB: Figures with asterisks, i.e. for 6 beds and 34 beds, denote where changes have been made to the policy document after consultation and discussion with Doctors concerned in A9ICU. The earlier agreed upon average total for this unit was 4 beds and the grand total was 32 beds.

SPEECH THERAPY AND AUDIOLOGY

Assistant Director: Ms Jenny Birkenstock

Tygerberg Hospital, 5th floor, Gold Avenue
Reception: 4825/4
Email:
jenny.birkenstock@westerncape.gov.za(Head of Department)
candice.randall@westerncape.gov.za (Chief Speech Therapist)
elise.abrahams@westerncape.gov.za (Chief Audiologist)
gill.kerr@westerncape.gov.za (Chief Audiologist)
jennifer.perold@westerncape.gov.za (Cochlear Implant Program Co-ordinator)

Role of speech therapist and audiologist
A *speech therapist* performs the function of assessment and remediation of speech, language-learning and feeding/swallowing disorders for adult and paediatric in- and outpatients.
An *audiologist* is responsible for assessing hearing status in adults, children and infants, including appropriate follow-up and management (e.g. hearing-aid fitting).

Referral procedures
Use Tygerberg Hospital's standard referral form.

For referrals please include the following patient information:
- Patient's name
- Patient's age
- Patient's address and/or contact telephone number (in case of pending discharge)
- Patient's diagnosis
- Any relevant or significant history
- Specific problems
- Intervention required (e.g. regarding communication, hearing or feeding/swallowing)
- Please add the name and contact number of the referring doctor
- Please date all referrals

Ward patients: Please contact the department telephonically and provide the patient's name, ward and the reason for referral. Complete the referral form and place it in the patient's hospital folder.

Outpatients: Please contact the department telephonically in order to make an appointment. Please complete the referral form, indicating the date of the outpatient appointment on the form. Place it in the patient's hospital folder and give a copy to the patient to bring to the appointment.

In cases where telephonic contact is not possible, email referrals can be made to the Head of Department or the appropriate Chief therapist. Please remember to include patients contact details in these cases.

In the case of cochlear implant referrals, the program coordinator may be contacted directly by email or telephone (021 938 5086)

Please refer timeously. When in doubt – refer!

Clinical areas: Evaluation and Treatment

Speech Therapy
- Neurological Disorders, including CVA and traumatic brain injury
- Voice disorders
- Stuttering
- Early communication intervention (0–3 years)
- Preschool speech and language disorders
- Feeding and swallowing disorders (infants, children and adults) including modified barium swallow / video fluoroscopy
- Craniofacial abnormalities, including cleft lip and palate
- Head and neck cancer
- Autistic Spectrum disorder

Audiology
- Diagnostic testing: children and adults.
- Neonatal infant hearing screening (in- and outpatients).
- Electrophysiological testing (auditory brainstem response, auditory steady-state response testing).
- Hearing-aid fitting (children and adults).
- Aural rehabilitation.
- Cochlear implants.

SOCIAL WORK DIVISION

Social Work Consultants/Supervisors
Dr N Frans, Tel. 021 938 4527
Mr L Lindoor Tel 021 9385873
Mrs L Smith, Tel. 021 938 4752

Central office at Room 37, E7 West, Tygerberg Hospital
Telephone: 021-938 4164/021-938 5684

The psycho-social care and support services rendered by the Social Work Department forms an important component of the extensive treatment offered at Tygerberg Hospital, based on the World Health Organisation's definition of health as a condition of "mental, physical and social welfare". As a professional member of the medical team, the hospital social worker gives professional attention to the psycho-social challenges of inpatients, outpatients and their families, particularly those whose challenges relate to or arise from illness and/or hospitalisation. Among these are:

- Impact of loss of work or protracted absence on the maintenance of the patient and his/her dependants owing to illness or permanent disability
- Discharge problems and planning with regards to referrals to various Intermediate Care Facilities for further continuum care.
- Accommodation problems resulting from loss of income
- Future care of the patient and/or dependants necessitated by protracted illness or disability
- Family and marriage problems, domestic and Gender based violence
- Alcohol abuse, alcoholism and drug Addiction.
- Emotional disorders, fears, worries, uncertainty and unrealistic attitudes owing to the social implications of the illness
- Unwanted pregnancies, teenage pregnancies and termination of pregnancies.
- Child abuse, sexual molestation of children and nutritional deficiency illnesses. (In terms of the Child Care Act (38 of 2005), all persons in whose care and treatment children are kept, are compelled to report any incidence of these nature.)
- Abuse and neglect of the elderly
- HIV/AIDS counselling (pre-test and post-test)
- COVID 19 related counselling of patients and their families.
- Adjustment issues owing to chronic illness diagnosis.
- Practical assistance in the form of clothing, food, toiletries, blankets and transport fare.

- Support and care services to the staff in conjunction with Metropolitan Health.

Where appropriate, the social worker also play a crucial role in the medical rehabilitation of patients through assessment and referring to the appropriate short/long term rehabilitation facilities. In addition, the co-operation of statutory welfare services through NPO's and private welfare organisations and community resources is sought to offer continuous social work services to the patient his/her dependants, families and relatives.

Referral procedure
A written referral to the social worker is required with the knowledge of the patient and his/her family. In the case of children or any other person at risk or in situations of danger/lethality, a referral may be made without consent.

Written referrals
Written referrals should contain the following information:
- Identification such as name, file number, address of patient
- Clear contact details of referring doctor and referral date
- Current clinical problem or a possible diagnosis
- Reason for referral
- Medical treatment plan and prognosis and possible discharge date.

No verbal referrals can be accepted. The social worker is responsible for filing a written feedback report in the medical file.

Liaison with the social worker may take place during ward rounds (where possible), team meetings, ward or clinic visits and by telephone. The details of a social worker who renders services in a specific ward or clinic are generally available from the ward or clinic clerk. The Social Work department may also be contacted directly. All social workers can be reached via the hospital switch board.

All social workers render services in more than one ward or clinic therefore it is not possible to allocate full-time social workers to each department.

There is a rotation of social workers rendering services on site over weekends and public holidays.

A telephonic consultation service is available after working hours including week ends and public holidays. The social worker consultant on standby duty can be contacted via the hospital's switchboard.

SPECIMEN SAMPLING MANUAL

IMPORTANT NOTES:

- **Please send sufficient sample to avoid rejection as insufficient sample.**
- **Electronic gatekeeping (eGK) rules are set up by the DOH. Please ensure familiarity with rules to avoid unnecessary rejection of requested tests**
- **Please ensure that correct phlebotomy techniques are used when sampling patients' blood.**
- **Please send separate stool and fluid samples for Chemistry and Microbiology test requests for these sample types.**

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INTRODUCTION

This specimen manual is intended as a guide to all people taking specimens that are sent to the National Health Laboratory Service – Tygerberg Coastal. This manual covers phlebotomy instructions as well as the correct sampling procedures for various other sample types. Please read the following instructions carefully before taking samples.

Please remember that all diagnostic information from our laboratories is dependent on the quality of specimen received.

GENERAL INSTRUCTIONS:

- This manual should be used as a training document and should be read and signed by all people who are responsible for taking samples that are to be sent to the NHLS TBH.
- Please ensure that the correct procedure for the positive identification of the patient has been followed before taking any samples from a patient.
- Samples **shall not** be processed by the laboratory if they are not labelled correctly
- Do not pre-label samples – this may lead to erroneous labelling at times.
- Please ensure that laboratory specimens are stored out of direct sunlight.
- Please ensure that the correct sample container – with correct anticoagulant (where relevant) is used. All the necessary information required is covered in this manual. Kindly submit a sufficient number of samples for all the tests requested.
- Please ensure prompt, adequate mixing of blood samples taken into anticoagulant tubes (purple/blue top). These samples should be mixed adequately by gently inverting at least 8 times – **do not shake!** Failure to mix adequately may result in the sample clotting rendering it unsuitable for analyses.
- Please ensure that samples are stored safely for transport and handling.
- Please ensure that samples are not at risk to leak out or break, as the laboratory **shall not** process these samples.
- Please check blood tubes for cracks before taking and sending samples.
- Please check expiry dates on tubes before taking samples into tubes.
- Please ensure that safety and infection control procedures are followed at all times.
- Please take note of the special precautions and storage instructions for certain tests. These are detailed under the relevant department doing the test.

- If a test requested is not covered in the sampling manual, please phone the laboratory for special instructions regarding correct specimen containers, special sampling procedures and requirements/ precautions to be taken.
- Please read the instructions at the beginning of each discipline's section for individual tests as each department may have different instructions that need to be adhered to when taking certain samples types.
- Any after-request tests (tests not requested on original request form) must be telephonically requested with the relevant laboratory and a new request form must be faxed to the laboratory stating the additional tests required. The laboratory will inform you if the after-request can still be carried out.
- If in any doubt regarding any aspect of our service, please feel free to contact the Laboratory at any time.

Following these instructions will ensure that a high quality service can be maintained by the NHLS to the benefit of our clients as well as to the patients.

ROUTINE VENIPUNCTURE AND SPECIMEN HANDLING

VENIPUNCTURE PROCEDURE (Vaccutainer to be used- syringe only for blood gases or when vacutainer is not possible)

The venipuncture procedure is complex, requiring both knowledge and skill to perform. Each phlebotomist generally establishes a routine that is comfortable for her or him. Several essential steps are required for every successful collection procedure:

- Identify the patient
- Assess the patient's physical disposition (i.e. diet, exercise, stress, and basal state)
- Check the request form for requested tests, patient information, and any special requirements
- Prepare the equipment, the patient and the puncture site
- Select a suitable site for venipuncture
- Perform the venipuncture Vaccutainer to be used- syringe only for blood gases or when vacutainer is not possible)
- Collect the sample in the appropriate container
- Label the collection tubes at the bedside or drawing area
- Assess the need for sample recollection and/or rejection
- Recognise complications associated with the phlebotomy procedure
- Promptly send the specimens with the request form to the laboratory

1. PATIENT IDENTIFICATION

Verbal identification

- Greet the patient and identify yourself.
- Ask the patient to state his/her full name.
- Always ask patients to state their names.
- **Never** ask, "Are you John Tlale?"
- **Remember that many patients have a tendency to say yes to anything in the outpatients setting.**
- Ask the patient's date of birth and ask them to spell their names if you want to query the patient's identity.

Verifying identification

Examining any of the following should follow verbal identification: -

- Identity book
- Wrist band (wards)
- Ankle band (paediatric & neonates)
- Hospital/clinic card/book
- Wristband: All information on the wristband should match the details provided on the request form. **Note: a wristband lying on the bedside table may NOT be used for identification.**
- Ankle band: used for paediatric patients and newborns.
- Bed Number: a bed number on the request form cannot be used to identify ward patients.
- Hospital card/book: should be inspected to confirm the patient's name, hospital number, date of birth and doctor

2. COMPLETING THE REQUEST FORM

A request form must accompany each sample submitted to the laboratory (or one form if multiple tests are requested on a patient). This request form must contain the proper information in order to process the specimen. The essential elements of the request form are:

- Patient's surname and first name
- Patient's hospital number, clinic number or ID number
- Patient's date of birth and sex
- Requesting physician's complete name: Include the HPCSA registration number. Use BLOCK letters. Do not use signatures.
- Contact number.
- Person who took the specimen
- Date and time of collection (Do not complete the form in advance)
- Source of specimen
- Diagnosis
- Indicate the test(s) requested

Write legibly and use BLOCK LETTERS when writing any information on the form.

3. LABELLING THE SAMPLE

Please note: the laboratory will not process unlabelled specimens

A properly labelled sample is essential to ensure that the results of the test match the patient. The essential elements in specimen labelling are:

- Patient's surname and first name.
- Patient's hospital number, clinic number or ID number.
- Where available make use of the addressograph sticker provided.
- Please ensure that the label is placed lengthwise with the patient's name starting at the top of the tube and *not centrally or spirally wrapped around it.*
- The label must not be placed on the lid of the specimen tube but start just below it.
- When using a EDTA/purple tube which has a slip wrapped around it -this is a label and requires a request form to accompany it.
- Each sample should have its own label (e.g. if an EDTA and a clotted blood is sent, place one label on the EDTA and another on the clotted blood).

4. ORDER OF DRAW

PLASTIC TUBE TOP COLOR AND ORDER OF DRAW –

Draw Blood Culture bottles first, then proceed with blood tube order of draw (1-12) below:

1. 	**LIGHT BLUE top plastic tube** PT, PTT, Fibrinogen, Fibrin D-Dimer, other Coagulation Testing **Note:** invert gently 3 - 4 times	7. 	**BRIGHT GREEN top** **(SODIUM HEPARIN)** **plastic non-gel tube** Mycobacteriology (AFB) Blood Culture, HLA-B27, Chromosome Studies
2. 	**GOLD gel plastic tube** Most Chemistry tests & Immunology Tests, Hepatitis Tests, Serologies	8. 	**LAVENDER top plastic tube** Hematology: CBC, Platelet, Sed. Rate Chemistry: CD4, CD8, G6PD, Hemoglobin A1C & Hemoglobin Variants
3. 	**RED top plastic tube** For tests requiring serum **Note:** contains clot activator	9. 	**WHITE top plastic tube (PPT)** Hepatitis and HIV Viral Loads, BNP
4. 	**ROYAL BLUE top plastic tube** Copper, Zinc, Trace Elements	10. 	**PINK top plastic tube for Blood Bank ONLY.**
5. 	**LIGHT GREEN top** **(LITHIUM HEPARIN)** **gel plastic tube** Troponin, Metabolic Panels, Lipid, Liver Panels, Ammonia (ice), HIV Rapid Anti-body	11. 	**TAN top plastic tube** Lead
6. 	**DARK GREEN top** **(LITHIUM HEPARIN)** **plastic non-gel tube** Ionized Calcium	12. 	**GRAY top plastic tube** Glucose, Lactate (Lactic Acid) on ice

***IMPORTANT*: Please follow the correct order of draw as numbered above and thoroughly mix all specimens (except Light Blue top) by inversion 8-10 times.**

Blood collection tubes must be drawn in a specific order to avoid cross-contamination of additives between tubes. The recommended order of draw is:

- First - blood culture bottles (yellow-black stopper)
- Second - non-additive tube (red stopper or SST)
- Third - coagulation tube (light blue stopper). A light blue stopper (sodium citrate) tube is NEVER the first tube drawn. If a coagulation assay is the only test ordered, draw a non-additive tube (red stopper or

SST) first, and then draw the light blue stopper tube.
- Last draw - additive tubes in this order:
  - Heparin (dark green stopper)
  - Oxalate/fluoride (light grey stopper)
  - EDTA (lavender stopper)

NOTE: Tubes with additives must be thoroughly mixed (by gentle inversion and not shaking). Erroneous test results may be obtained when the blood is not thoroughly mixed with the additive, especially tests for Haematology. Overzealous mixing also results in haemolysis. Certain tests cannot be performed accurately with the presence of haemolysis.

5. VENIPUNCTURE SITE SELECTION

Although the larger and fuller median cubital and cephalic veins of the arm are used most frequently, wrist and hand veins are also acceptable for venipuncture.

Certain areas are to be avoided when choosing a site:

- Extensive scars from burns and surgery - it is difficult to puncture the scar tissue and obtain a specimen.
- The upper extremity on the side of a previous mastectomy - test results may be affected because of lymphedema.
- Hæmatoma - may cause erroneous test results. If another site is not available, collect the specimen distal to the haematoma.
- Intravenous therapy (IV) / blood transfusions - fluid may dilute the specimen, so collect from the opposite arm if possible. Otherwise, satisfactory samples may be drawn below the IV by following these procedures:
  - Turn off the IV for at least 2 minutes before venipuncture.
  - Apply the tourniquet below the IV site. Select a vein other than the one with the IV.
  - Perform the venipuncture. Draw 5 ml of blood and discard before drawing the specimen tubes for testing.
  - Cannula/fistula/heparin lock - hospitals have special policies regarding these devices. In general, blood should not be drawn from an arm with a fistula or cannula without consulting the attending physician.
  - Oedematous extremities - tissue fluid accumulation alters test results.

Procedure for Vein Selection

- Palpate and trace the path of veins with the index finger. Arteries that pulsate are most elastic and have a thick wall. Thrombosed veins lack

resilience, feel cord-like, and roll easily.

- If superficial veins are not readily apparent, you can force blood into the vein by massaging the arm from wrist to elbow. Tap the site with index and second finger, apply a warm, damp washcloth to the site for 5 minutes, or lower the extremity over the bedside to allow the veins to fill.

6. PERFORMANCE OF A VENIPUNCTURE

Approach the patient in a friendly, calm manner. Provide for their comfort as much as possible, and gain the patient's co-operation.

- Identify the patient correctly.
- Properly fill out the appropriate request form, indicating the test(s) ordered.
- Verify the patient's condition. Fasting, dietary restrictions, medications, timing, and medical treatment are all of concern and should be noted on the lab request slip.
- Position the patient. The patient should sit in a chair, lie down or sit up in bed. Hyperextend the patient's arm.
- Apply the tourniquet 3-4 inches above the selected puncture site. Do not place too tightly or leave on more than 2 minutes.
- The patient should make a fist without pumping the hand.
- Select the venipuncture site.
- Prepare the patient's arm using an alcohol prep. Cleanse in a circular fashion, beginning at the site and working outward. Allow to air dry.
- Grasp the patient's arm firmly using your thumb to draw the skin taut and anchor the vein. The needle should form a 15 to 30 degree angle with the surface of the arm. Swiftly insert the needle through the skin and into the lumen of the vein. Avoid trauma and excessive probing.
- When the last tube to be drawn is filling, remove the tourniquet.
- Remove the needle from the patient's arm using a swift backward motion.
- Press down on the gauze once the needle is out of the arm, applying adequate pressure to avoid the formation of a hæmatoma.
- Dispose of contaminated materials/supplies in the designated containers.
- Mix and label all appropriate tubes at the patient bedside. Label the tubes with the patient's name and hospital/clinic number.
- Place specimens in the appropriate collection box for delivery to the laboratory.
- For an urgent specimen request a messenger to collect this specimen immediately.

7. PERFORMANCE OF A FINGERPRICK

- Follow the procedure as outlined above for greeting and identifying the patient. As always properly fill out the appropriate request slip, indicating the test(s) ordered.
- Verify the patient's condition. Fasting, dietary restrictions, medications, timing, and medical treatment are all of concern and should be noted on the lab request slip.
- Position the patient. The patient should sit in a chair, lie down or sit up in bed. Hyperextend the patient's arm.
- The best locations for fingerpricks are the 3rd and 4th fingers of the non-dominant hand. Do not use the tip of the finger or the centre of the finger. Avoid the side of the finger where there is less soft tissue, where vessels and nerves are located, and where the bone is closer to the surface. The 2nd (index) finger tends to have thicker, callused skin. The fifth finger tends to have less soft tissue overlying the bone. Avoid puncturing a finger that is cold or cyanotic, swollen, scarred, or covered with a rash.
- Using a sterile lancet, make a skin puncture just off the centre of the finger pad. The puncture should be made perpendicular to the ridges of the fingerprint so that the drop of blood does not run down the ridges.
- Wipe away the first drop of blood, which tends to contain excess tissue fluid.
- Collect drops of blood into the collection device by gently massaging the finger. Avoid excessive pressure that may squeeze tissue fluid into the drop of blood.
- Cap, rotate and invert the collection device to mix the blood collected.
- Have the patient hold a small gauze pad over the puncture site for a couple of minutes to stop the bleeding.
- Dispose of contaminated materials/supplies in designated containers.
- Label all appropriate tubes at the patient bedside. Label the tubes with the patient's name and hospital/clinic number.
- Place specimens in the appropriate collection box for delivery to the laboratory or deliver the specimens promptly to the laboratory.

8. ADDITIONAL CONSIDERATIONS

How to prevent a haematoma

- Puncture only the uppermost wall of the vein
- Remove the tourniquet before removing the needle
- Use the major superficial veins
- Make sure the needle fully penetrates the upper most wall of the vein. (Partial penetration may allow blood to leak into the soft tissue

surrounding the vein by way of the needle bevel)
- Apply pressure to the venipuncture site

How to prevent Haemolysis
- Mix tubes with anticoagulant additives gently 5-10 times
- Avoid drawing blood from a hematoma
- Avoid drawing the plunger back too forcefully, if using a needle and syringe, and avoid frothing the sample
- Make sure the venipuncture site is dry
- Avoid a probing, traumatic venipuncture

Indwelling Lines or Catheters
- Potential source of test error
- Most lines are flushed with a solution of heparin to reduce the risk of thrombosis
- Discard a sample at least three times the volume of the line before a specimen is obtained for analysis

Haemoconcentration

An increased concentration of larger molecules and formed elements in the blood may be due to several factors:
- Prolonged tourniquet application (no more than 2 minutes)
- Massaging, squeezing, or probing a site
- Long-term IV therapy
- Sclerosed or occluded veins

Prolonged Tourniquet Application
- Primary effect is hem concentration of non-filterable elements (i.e. proteins). The hydrostatic pressure causes some water and filterable elements to leave the extracellular space.
- Significant increases can be found in total protein, aspartate aminotransferase (AST), total lipids, cholesterol and iron
- Affects packed cell volume (PCV) and other cellular elements

9. PATIENT PREPARATION FACTORS

Therapeutic Drug Monitoring:

Different pharmacological agents have patterns of administration, body distribution, metabolism, and elimination that affect the drug concentration as measured in the blood. Many drugs will have "peak" and "trough" levels that vary according to dosage levels and intervals. Check for timing instructions for drawing the appropriate samples.

Effects of Exercise:
Muscular activity has both transient and longer lasting effects. The creatinine kinase (CK), aspartate aminotransferase (AST), lactate dehydrogenase (LDH) and platelet count may increase.

Stress:
May cause transient elevation in white blood cells (WBCs) and elevated adrenal hormone values (Cortisol and catecholamines). Anxiety that results in hyperventilation may cause acid-base imbalances, and increased lactate.

Diurnal Rhythms:
Diurnal rhythms are body fluid and analyte fluctuations during the day. For example, serum cortisol levels are highest in early morning but are decreased in the afternoon. Serum iron levels tend to drop during the day. You must check the timing of these variations for the desired collection point.

Posture:
Postural changes (supine to sitting etc.) are known to vary lab results of some analytes. Certain larger molecules are not filterable into the tissue; therefore they are more concentrated in the blood. Enzymes, proteins, lipids, iron, and calcium are significantly increased with changes in position.

Other Factors:
Age, gender, and pregnancy have an influence on laboratory testing. Normal reference ranges are often noted according to age.

10. SAFETY AND INFECTION CONTROL
Due to contact with sick patients and their specimens, it is important to follow safety and infection control procedures.

Protect yourself

Practice universal precautions:
- Wear gloves and a lab coat or gown when handling blood/body fluids.
- Change gloves after each patient or when contaminated.
- Wash hands frequently.
- Dispose of items in the appropriate containers.
- Dispose of needles immediately upon removal from the patient's vein. Do not bend, break, recap, or resheath needles to avoid accidental needle puncture or splashing of contents.
- Clean up any blood spills with a disinfectant such as freshly made 10% bleach.

If you stick yourself with a contaminated needle:

- Remove your gloves and dispose of them properly.
- Squeeze puncture site to promote bleeding.
- Wash the area well with soap and water.
- Record the patient's name and ID number.
- Follow your institutions guidelines regarding treatment and follow-up.

NOTE: The use of prophylactic zidovudine following blood exposure to HIV has shown effectiveness (about 79%) in preventing seroconversion

Protect the patient

- Place blood collection equipment away from patients, especially children and psychiatric patients.
- Practice hygiene for the patient's protection. When wearing gloves, change them between each patient and wash your hands frequently.

11. TROUBLESHOOTING GUIDELINES

If an incomplete collection or no blood is obtained: -

- Change the position of the needle. Move it forward (it may not be in the lumen)
- Or move it backward (it may have penetrated too far).
- Adjust the angle (the bevel may be against the vein wall).
- Loosen the tourniquet. It may be obstructing blood flow.
- Try another tube. There may be no vacuum in the one being used.
- Re-anchor the vein. Veins sometimes roll away from the point of the needle and puncture site.

If the blood stops flowing into the tube: -

- The vein may have collapsed; re-secure the tourniquet to increase venous filling. If this is not successful, remove the needle, take care of the puncture site, and redraw.
- The needle may have pulled out of the vein when switching tubes. Hold equipment firmly and place fingers against patient's arm, using the flange for leverage when withdrawing and inserting tubes.

Problems other than an incomplete collection: -

- A hæmatoma forms under the skin adjacent to the puncture site - release the tourniquet immediately and withdraw the needle. Apply firm pressure.
- The blood is bright red (arterial) rather than venous (dark red). Apply firm pressure for more than 5 minutes.

12. BLOOD COLLECTION ON BABIES

- The recommended location for blood collection on a newborn baby or infant is the heel.
- Pre-warming the infant's heel (42 C for 3 to 5 minutes) is important to obtain capillary blood for blood gas samples and warming greatly increases the flow of blood for collection of other specimens. However, do not use too high a temperature warmer, because baby's skin is thin and susceptible to thermal injury.
- Clean the site to be punctured with an alcohol sponge. Dry the cleaned area with a dry cotton sponge. Hold the baby's foot firmly to avoid sudden movement.
- Using a sterile blood lancet, puncture the side of the heel. Do not use the central portion of the heel because you might injure the underlying bone, which is close to the skin surface. Do not use a previous puncture site. Make the cut across the heelprint lines so that a drop of blood can well up and not run down along the lines.
- Wipe away the first drop of blood with a piece of clean, dry cotton. Since newborns do not often bleed immediately, use gentle pressure to produce a rounded drop of blood. Do not use excessive pressure or heavy massaging because the blood may become diluted with tissue fluid.
- Fill the capillary tube(s) or micro collection device(s) as needed.
- When finished, elevate the heel, place a piece of clean, dry cotton on the puncture site, and hold it in place until the bleeding has stopped.
- Be sure to dispose of the lancet in the appropriate sharps container. Dispose of contaminated materials in appropriate waste receptacles. Remove your gloves and wash your hands.

13. PACKING OF SAMPLES

- Place the sample(s) of only ONE patient in the zip lock compartment of a sample bag.
- Fold the request form in 4 with the printed side of the form on the outside of the folded page and the ward clearly visible
- Close the Zip lock on the bag to prevent the samples from falling out.
- Place the request for in the second sleeve of the bag with the ward side of the form facing outward.
- Do not seal the bag with any staples as this is a safety risk.

14. SENDING OF SAMPLES

- The following samples should be hand delivered. Do not send via the shute:
  - Blood gas

- Any sample on ice
- Coagulation tubes: These tubes are made from glass and could break in the tube
- Blood Culture bottles: These containers are made from glass and could break in the tube
- Arranged priority samples

Collection Tube	Additive	Mode of Action	Uses
Red Top (Plain) 	None	Blood clots and the serum are separated on centrifugation.	Chemistry, Immunology, Toxicology & Serology.
Gold 	None	Serum separator tube (SST) contains a gel at the bottom to separate blood from serum on centrifugation.	Chemistry, Immunology & Serology. Trop T **Do not use** for Antibiotic or Toxicology requests.
Purple 	EDTA liquid	Forms calcium salts to remove calcium	Chemistry Homocysteine, PTH, HbA1C, (full tube) Ammonia on ice Haematology (FBC, ESR), Blood Bank (Crossmatch), CD4 counts and viral loads - invert 8 times to prevent clotting and platelet clumping Chemistry (HBAC1); (Homocysteine& PTH on ice)
Light Blue 	Sodium citrate	Forms calcium salts to remove calcium	Coagulation tests (INR and PTT), **full draw** required - invert 8 times to prevent clotting and platelet clumping.Note: PTT stable for 6hrs after drawn-must reach lab at least within 4hrs after drawn in ward.

Collection Tube	Additive	Mode of Action	Uses
Dark Green 	Sodium heparin or lithium heparin	Inactivates thrombin and thromboplastin	Chemistry Transketolase, for lithium level, use sodium heparin Ketones on ice(to reach lab within 15 minutes of phlebotomy) Immunology Oxidative Burst Test-to reach laboratory within 1 hr of blood draw.
Light Grey 	Sodium fluoride and potas-sium oxalate	Anti-glycolytic agent preserves glucose up to 5 days	Chemistry Lactate, Glucose's, requires **full draw** (may cause haemolysis if short draw) Lactate on ice
Black 	Sodium citrate (buffer-ed)	Forms calcium salts to remove calcium	Wintergreen Sedimentation Rate (ESR); requires **full draw**

LIST OF TUBES USED FOR PHLEBOTOMY

DIVISION OF ANATOMICAL PATHOLOGY
Head: Prof Johann Schneider

Telephone Number: 021 938 4065

Secretary: Elke Leicher: 021 938 4041

Consultants:	Prof Johann Schneider (Head Anatomical Pathology)	021 939 4065
	Prof William Bates	021 938 4044
	Dr Abrie van Wyk	021 938 5675
	Dr Daniel de Wet	021 938 6163
	Prof Pawel Schubert (Head of Cytopathology)	021 938 5349
	Dr Cassandra Bruce-Brand	021 938 5224

	Dr Debbie Maartens	021 938 4043
	Dr Adri van Zyl	021 938 4740
	Dr Louis de Jager	021 938 4211
	Dr Rubina Razack	021 938 4046
	Dr Liezel Coetzee	021 938 4048
	Dr Dan Zaharie	021 938 4626

Results:	021-938 4330
Enquiries:	Histology 021 938 5226 / 938 5350
	Cytology 021 938 4040 / 938 4202

There are four main subdivisions of the service:

1: **Surgical diagnoses** – including biopsies and other tissue specimens.
2: **Autopsies**
3: **Cytology** – including gynaecology exfoliative and fine needle aspirations.
4: **Oral & Maxillofacial Pathology**

1. SURGICAL DIAGNOSES

1.1 Routine services:

The Department provides a daily service. Specimens are received from the theatres, wards, clinics and other institutions. Specimens are received by the 9th floor, NHLS Specimen Reception. Frozen Section specimens and muscle biopsies to be delivered to the 10th floor Histology Laboratory.

Depending on the size of the specimen, which has an influence on the fixation time, the specimen will be trimmed and processed between 2 and 24 hours of receipt.

The process includes dehydration of the specimen and impregnation with paraffin wax. The process is usually completed in 13 hours.

The specimen is then sectioned, processed, embedded, cut, stained and sent to the registrar for provisional evaluation. As soon as possible thereafter the specimen is examined by the registrar and consultant and the report is taken to the typists for typing.

The time-span from receipt of the specimen to final availability of the report varies depending on the complexity of the specimen diagnosis.

Anatomical Pathology request forms must be legibly and completely filled out to be accepted by the Division. Failure to do so will inevitably lead to delays in processing of the specimen. The request forms are available from Dept. Anatomical Pathology.

Immediate fixation in 10% Formal Saline (Formalin) is essential for the preserving of tissue, unless specialized tests are required such as Frozen Section, Muscle biopsy, Electron Microscopy or Immunofluorescence.

Formalin is available in theatres, wards, clinics and at the reception area of Anatomical Pathology.

Factors influencing the speedy availability of the report include:

1.1.1 Size of the specimen – adequate formalin fixation of large specimens may need 24 hours. Remember: the volume of formalin should be 10 times the volume of the specimen.

1.1.2 Specimens that is lost in the theatres or elsewhere in the hospital.

1.1.3 Special stains or Immunohistochemistry – are done to elucidate specific characteristics of the tissue and may delay diagnoses for at least 24 hours.

1.1.4 Specimens requiring decalcification

1.1.5 Incorrectly labelled specimens

1.2 Special services.

1.2.1 **Immunofluorescence laboratory (Telephone 021 938 5676)**
FRESH unfixed tissue wrapped in a swab moistened with normal saline in a sealed container must be sent immediately and be clearly marked "for immunofluorescence examination – fresh unfixed tissue.

1.2.2 **Electron microscopy (EM) (Telephone 021 938 4213)**
2 or 3 small (3mm x 3mm) blocks of a representative well-preserved area of tissue which has been fixed in GLUTARALDEHYDE. Glutaraldehyde is obtainable in theatres and from the EM lab at Tel 021 938 4213.

1.3 Urgent specimens:

1.3.1 **Expedited diagnosis:** An expedited diagnosis may be arranged by the registrar or consultant, with the pathologist on call (call switchboard for number or person on call) on the day prior to the diagnosis, for a telephonic result on the day following receipt of the specimen.

1.3.2 **Emergency diagnosis:** Very urgent specimens which need a diagnosis within 4 – 6 hours must be arranged with the pathologist on emergency duty by the registrar or consultant.

Procedure:
During working hours contact the pathologist on call via the telephone exchange at the hospital or phoning 021 938 5226 / 5350.

After hours contact the pathologist on call via cell phone, which is obtainable from the telephone exchange at the hospital.

The pathologist, registrar and technologist on emergency call are all available on cell phone (number available from the telephone exchange).

1.3.3 **Frozen section diagnosis:** The surgeon who requires an intra-operative diagnosis usually requires this investigation.

All frozen sections must be arranged with the pathologist on call who will ensure that the on call team (registrar and technologist) is ready to receive the specimen.

Reports:
All reports are available on Trakcare and Web View to authorized personnel

Telephonic enquiries (Tel 938 4330)

The Dictaphone typists may under NO circumstances issue telephonic reports. Copies of the printed report may be requested and fetched from them at their office on the 10th floor. Should a report not be available on the LIS, then the clinician is free to contact the registrar to whom the case has been assigned.

2. AUTOPSIES

Because there is confusion as to the correct manner in which to request an autopsy as well as to obviate problems that may be encountered during the performance of such a procedure it is suggested that the following guidelines be followed:

The Department of Forensic Pathology has approved these guidelines.

In the event of a "natural death" (see Forensic Medicine), an autopsy can be requested, for academic purposes or to determine the **exact cause of death.**

2.1 Request of autopsies

The following must be sent to reception (tel no 5226 / 5350) as soon as possible after the post-mortem has been requested.

2.1.1 The folder, X-rays and other relevant test results of the deceased patient.

2.1.2 "Notification/Register of Death/Still birth" (B1 1663) – the ward staff completes the entire form except Sections D and G. If sections D and G are accidentally completed by the clinician, and the request for a post-mortem from the Division of Anatomical Pathology is made at a later stage, the body might have already been handed over to the family or undertaker.

2.1.3 Consent from family – (form 3 – closest relative). If no person is available to grant consent, please contact the Clinical Executive Officer on call. The Clinical Executive Officer can then give written consent for such a post-mortem. If telephonic consent is obtained, 2 witnesses must also sign the form. Faxed consent is acceptable, with two witnesses.

2.1.4 Complete form 2 – the clinician requesting the autopsy (preferably the consultant or registrar) so that the department knows to whom the report is to be sent.

2.1.5 Autopsy Examination request form – a relevant summary of the clinical picture. The more precise and relevant the information provided, the more specific the post-mortem examination is directed at solving any problems.

2.1.6 The above forms (TH 310/10.89 5010780/TH 9/2/93 5008778/TH 10/2.93 5008786/TH 11/2.93 5008794) should be available in every ward and can be obtained from the photocopy room, by the ward clerks.

SHOULD THERE BE ANY UNCERTAINTY/PROBLEMS WITH THE NATURE OF THE DEATH PLEASE CONTACT THE FORENSIC PATHOLOGIST ON EMERGENCY DUTY

2.2 Attendance at autopsies

Arrangements can be made between the pathologist on call and the clinician involved. There is an autopsy discussion on all adult autopsies daily at 12.15 in the mortuary.

2.3 Rejection of post-mortems

Autopsies are occasionally rejected at the discretion of the consultant on call /head of discipline No autopsy is indefinitely rejected and further motivations will always be considered in these cases.

3. CYTOLOGY LABORATORY

Please note that cytology has its own separate request form and requires the following information:

- Name of patient
- ID no / Date of birth
- Location / Ward
- Date of collection of specimen
- Referring doctor and contact number
- Nature/origin of specimen
- Adequate history including previous treatment eg. Previous radiotherapy
- Previous histology and cytology reference numbers.

Please note that the laboratory is legally entitled to reject specimens which do not have these details legibly supplied.

Specimens can be delivered on the 10th floor - E-passage Cytology Room 2351 or the Corelab on the 9th floor in TBH complex

Please discuss urgent cases with the laboratory (ext. 4202, 4040) or pathologists (ext. 4045, 6163, 5349, 4048) as these will only be done by prior arrangement. Contact the Laboratory or the Pathologists before taking the sample to ensure optimum handling of the specimen. For after-hour call-outs, dial radio room at 6666 for pathologist on call.

- For **urgent cases** make sure that the request form contains a **contact number** as well as a **time /date** by when the result is required.
- If **more than one investigation** is to be done,(e.g. pleural fluid for Cytology and TB culture) please submit **separate specimens and request forms** (where possible)
- It is very important that slides prepared by the clinician e.g. cervical smears, brushings and FNA's are fixed promptly and correctly to optimize cytodiagnosis. Please see *Addendum 1* on correct fixation of specimens.
- **Slide holders** are available on request from the **Cytology laboratory. All other clinics** may order **slide mailers** and **request forms, free of charge,** from **NHLS, Green Point** (stores).

Order forms available from the lab or Green Point stores.
Ph 021 417 9322 / 9324
Fax 021 421 3501

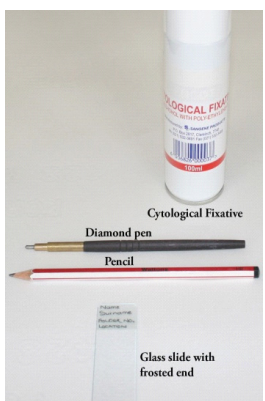
Take note of the following when labeling slides:

- Please write **FULL NAME, SURNAME, FOLDER NUMBER** or **DATE OF BIRTH** and **LOCATION**
- Please use standard slides with **frosted end** for labeling.
- Please label with **PENCIL ONLY** on frosted end (use diamond pen to scratch name on non-frosted slides).
- **NEVER use STICKERS or INK** to label slides as they do not withstand the staining process.
- Name and smear should be on the **same side** of the slide.
- Please do not send an **unlabeled slide** in a **labeled container.**

Cytological Tests According to Organ System

Female genital tract

- Cervical smear
- Vaginal smear
- Vault smear
- Endocervical smear
- Endometrial smear
- Vulvar smear



Please state clearly on the requisition form:

- Date of last menstrual period (LMP)
- If patient is currently pregnant
- Years menopausal
- Relevant history eg previous procedures (eg cone biopsy, radiation treatment and date of these procedures) or previous conditions eg. atypia or carcinoma
- Appearance of the cervix
-

Collection notes:

- Please use standard glass slides with **frosted end** for labeling.
- Spray-fix **IMMEDIATELY** after taking smear (within 10 seconds)
- **Please see above notes on labeling slides!**
- Allow smears to dry before packing for transporting to the lab
- Please **do not** use the Cytology request form to **directly wrap** the pap smear slides, as this poses an infection risk.
- **Slide holders** are available on request from the **Cytology laboratory, all other clinics** may order **slide mailers** and request forms, **free of charge**, from **NHLS, Green Point** (stores).

Respiratory system

- Sputum
- Bronchial brushings
- Bronchiolar-alveolar lavage (BAL)
- Bronchial washings
- Tracheal aspirates
- Pharyngeal brushings
- Antral aspirates/sinus washings
- Nasal smears

Collection notes & Fixation:

- Please submit sputum after an **early morning deep cough** to ensure that sputum, and not saliva, is collected.
- Containers with fixative (Carbowax) are available at reception at 10th floor, E-passage, Room 2371.
- For outside clinics, use plastic specimen container and fix these fluids with an equal amount of 50% to 70% alcohol.
- Please make sure that if multiple specimens were collected by use of different techniques or from different sites – the **specimen type** is **clearly marked** on the container.
- The 45ml screw top container is used for sputa, while smaller amounts like bronchial lavages are normally collected in the 15ml screw top tubes.

Fluids

- Pleural
- Peritoneal
- Pericardial
- Hydrocoele
- Cerebrospinal fluid
- Cyst fluid
- Peritoneal washings

Collection notes:

- Please ensure that the fluids reach our laboratory as soon as possible – in case of a **delay of more than 24h**, please add **equal amount of 50% alcohol (please indicate if alcohol was added).**
- **Cerebrospinal fluid** must reach the lab (Room 2371) preferably within **4h** after tap to prevent cellular degeneration. If not possible, fix with **equal amount of 50% alcohol.**
- For small amounts of fluid, 15ml screw top tubes are used, while the

75ml screw top container is used for larger amounts.
- Please send full volume of fluid drained. If a litre bottle is used, please ensure it is sealed properly, especially for glass bottles.

Gastro-intestinal tract

Oesophageal brushing
Gastric brushings
Duodenal brushings
Pancreatic duct aspirates
Bile duct aspirates / brushings
Colonic brushings

Collection notes:
- It is very important that the slides are **fixed immediately** (within 10 seconds) with cytological spray fixative to prevent degeneration of cells. See Addendum 1 on correct fixation of specimen.

Urogenital tract

Voided urine
Catheterized urine
Ureteric urine
Renal cyst aspirate
Renal pelvis brushings
Urethral smear

Collection notes:
- Please state clearly if the patient has recently:
  - Undergone catheterization
  - Undergone cystoscopy
  - Undergone retrograde radiography
- Cells in urine deteriorate rapidly. Specimens must reach the lab preferably within **a few hours**, if not possible an **equal amount of 50% alcohol** may be added.
- Please note that early morning urine and 24h urine collections are unsuitable for cytodiagnosis. (midstream collection most suitable)
- Urine is normally collected in 75ml screw top containers.

The breast

Nipple discharge
Nipple smears
Breast aspirate
Cyst aspirates

Collection notes:

- Spray-fix immediately (within 10 secs)
- If **more than 2 smears** are made, one could be left unfixed for giemsa stain, but should be clearly **marked "unfixed" on slide**.

Other Fine needle aspirations (FNA)

1. Superficial palpable lesions
2. Impalpable/ deep / image guided FNAs

Collection notes:

- Spray-fix immediately (within 10 secs)
- If **more than 2 smears** are made, one could be left unfixed for giemsa stain, but should be clearly **marked "unfixed" on slide**.
- Slides may be sent by porter or via specimen depot.

*See **Addendum II** on FNA

Cytology FNA Clinic

Patients may be sent to the FNA clinic for aspiration of superficial, palpable lesions.

- Appointments are not necessary.
- The clinic is located on the 10th floor, East Side, Room 171. There are signs that can be followed in the Green Passage.
- The clinic operates from 10am to 1pm, Monday to Friday, on a first come first serve basis.
- **Please remind the patients** to bring their referral letters and patient files.

2. Impalpable/ deep / image guided FNAs (on-site theatre FNA's)

- Cytology offers an on-site staining and diagnostic service for adequacy of aspiration from deep-seated lesions in wards, CT Scan, sonar, bronchoscopy and surgical theatres.
- Contact 4045, 5349, 4048 or 6163 to request this service.

Miscellaneous

Tumour imprints
Lymph node imprints
Skin smears
Tzank smears
Ulcer smears
Tissue imprints
Diaphragmic wipes

Collection notes:

- Adequate and rapid fixation is essential
- Please note that material on a swab is not suitable for cytology.

Reports

- It is the policy of the Department to issue printed reports wherever possible.
- Clerks may under NO circumstances issue telephonic reports. Reports can be faxed to the requester.

Reasons for this are as follows:

- To ensure that faulty information is not transmitted telephonically; this has a direct impact on the well being of the patient.
- To obviate differing interpretations by different clinicians of telephonic messages.
- To restrict to an absolute minimum unnecessary time wasting and duplication of enquiries as well as to restrict telephonic enquiries to the absolute minimum.

Telephonic results (Tel 021 938 4330/ 4904/ 4931/ 4040/ 4202)

REPORTS ARE POSTED DAILY AND SHOULD BE AVAILABLE ON THE LAB WARD ENQUIRIES COMPUTER IN THE WARDS.

Special stains

Special stains are available e.g. Ziehl-Neelson for TB, silver stains for fungi etc.

Other special investigations available include immunocytochemistry, flowcytometry

Addendum I

PROPER FIXATION TECHNIQUE

- Air-drying of a specimen causes distortion and loss of cytoplasmic density. Crisp nuclear chromatic patterns are lost and the cytoplasm cannot be coloured properly. Hence rapid fixation is a vital step in cytological preparations.
  When the clinician is preparing a slide e.g.pap smear or bronchial, oesophageal or gastric brushings, the smear should be made in one direction with one motion and the doctor should avoid the same area twice. All prepared slides should be sprayed with cytological fixative immediately to prevent specimen degeneration.
- Please use cytology slides only, with a ground glass edge to prevent traumatisation of cells.
- Check expiry date on spray fixative

Addendum II

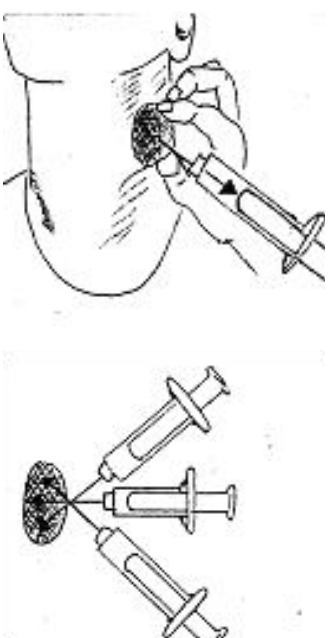
METHOD OF FINE NEEDLE ASPIRATION (For Cytology)

MATERIALS:

22 or 23 gauge needle
10 cc syringe
Clean glass slides (2 – 4 slides, with frosted ends)
(4 = 2 Pap (fixed) + 2 unfixed – air-dried)
Slides clearly labelled with patient's details
Cytology spray fixative
Pencil
Alcohol swabs

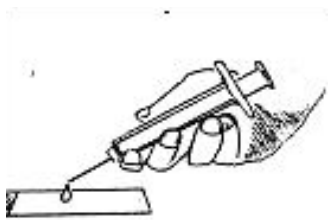
METHOD: (see drawings)

- Use pencil to ensure that patient's details are clearly identifiable on each slide.
- Clean area on skin with alcohol swab.
- Ensure that all air is expelled from syringe and that plunger moves smoothly.
- Attach needle to syringe.
- Fix target lesion between thumb and forefinger.
- Push needle through subcutaneous tissue into lesion.
- Apply 1 – 2 mm constant suction while aspirating, moving needle firmly in different directions Aspirate until material s present in hub of needle.
- Equalize pressure before pulling needle out by releasing all pulling action on plunger.
- Place sterile swab on area and pull out.
- Remove needle from syringe, aspirate 10cc air into syringe,



re-attach needle and firmly push plunger down, with tip of needle on glass slide, 1cm from frosted end.

- Place another slide onto expressed material, without pressure, allow the material to disperse.
- Firmly and slowly pull slides apart in a horizontal direction.
- **NB**! IMMEDIATE FIXATION IS ESSENTIAL FOR OPTIMAL CELLULAR DETAIL.
- Shake and hold Spray fixative can 30cm away from slide. Spray-fix one slide immediately.
- Allow other one slide to air-dry.
- More than one pass is necessary if insufficient material was obtained. Repeat procedure.
- Complete cytology request form as comprehensively as possible.
- Detailed sketches are essential to facilitate diagnosis.



Addendum III

HOW TO TAKE THE PERFECT PAP SMEAR

- Get everything ready
- Label slides and forms
- Do smear first – before PV
- Spread labia
- Insert speculum dry or moisten with saline (not tap water)
- Visualise external os
- Swab cervix free of blood / discharge
- Scrape full circumference firmly
- Lay spatula flat on the side
- Spread along the length of the slide

Should you make use of a cervibrush
- `Insert into os
- `Turn clockwise 360°
- `Roll onto slide
- Sprayfix immediately (within 10 secs)
- Allow slide to dry (after fixation) before packing to send off.

4. ORAL & MAXILLOFACIAL PATHOLOGY

(in association with ANATOMICAL PATHOLOGY and the TYGERBERG ORAL HEALTH CENTRE of THE UNIVERSITY of the WESTERN CAPE)

NHLS Head of Discipline: Prof JJ HILLE

The discipline of Oral & Maxillofacial Pathology is a specialty of both Dentistry and Pathology which deals with the nature, identification, and management of diseases affecting the oral and maxillofacial regions. It is a science that comprehensively investigates the causes, processes and effects of these diseases. The practice of Oral & Maxillofacial Pathology includes diagnosis of diseases using clinical, radiographic, microscopic, biochemical and other examinations, and management of patients. As such this discipline not only adds special value to Anatomical Pathology and the other pathology disciplines, but also to the clinical disciplines of Maxillofacial & Oral Surgery, Oral Medicine and Dermatology in the management of complex oral mucosal diseases, and to General Surgery, Ear-Nose-Throat Surgery and Oncology in head & neck cancer management.

The discipline offers the following services:
- Surgical pathology diagnoses – including biopsies and other tissue specimens (e.g. resections) from the oral cavity, jawbones and surrounding anatomical regions. Kindly refer to the description of the routine diagnostic service in Anatomical Pathology for further details and array of special services. Please submit whenever possible a (panoramic) radiograph and/or CT scans for accurate diagnosis of bone lesions. Note that frozen sections on bony specimens are not possible.
- Microscopic examination of oral mucosa surface brushings to detect fungal infection and bacterial overloads. Kindly sample with a cervi-brush and submit exfoliative smears (on glass slides fixed with cytospray or alcohol) to the anatomical pathology laboratory with the specific request to stain for PAS.

- On-site clinical and radiological consultations in oral mucosal diseases and jaw lesions on request (see contact details below).
- Punch and/or scalpel biopsies, surface cytology brushings/modified deep (semi-invasive) cytology sampling for oral mucosal lesions and fine needle aspirations/core needle biopsies of oral deep soft tissues can be performed under local anaesthesia in the FNA clinic on the 10th floor with prior arrangement (see contact details below).

Staff:

Consultants:	Prof JJ Hille	021 938 6159 or 082-5560703
	Dr Amir Afrogheh	021 938 4085
	Dr Johan Opperman	021 938 4049
Registrar:	Dr Julandi Alwan	021 938 5351

ALL URGENT SPECIMENS MUST BE ARRANGED WITH THE LABORATORY.

CHEMICAL PATHOLOGY

The Discipline of Chemical Pathology is situated on the 9th floor of the hospital.
Contact Details

Head of Discipline:	Prof. A Zemlin	4107
Consultants:		4254 4165 4927
Registrars:	Registrars	4174/4150
Consultations	Monday-Friday (08h00-16h00) After hours (telephonically)	4330 4934/4330
Urgent requests	All hours	4934
Any test not listed		4330 /4934
Results/Information	Core hours (After hours, weekends)	4934/ 4904/ 4330
Automation		4936
Protein-electrophoresis		4171
Miscellaneous tests: Urine, stool, pyruvate investigations		4171
Sweat Test appointment bookings	Core hrs: 07h45 -16h15 (Monday-Friday)	4171

General Instructions:

- **Blood gas specimens:** arterial blood; not in contact with air; replace needle with cap; send to lab Within 30 minutes at room temperature. Rejected if needle still attached and if arrives via shute.
- **Creatinine clearance**: clotted blood must be taken AT THE SAME TIME AS 24h urine collection, i.e. during collection period. Include mass and height.
- **Porphyrins**: urine and stool; light sensitive specimens – transport container in black bag. Please send 15ml EDTA blood (purple top tube) for genetic tests with each request.
- **Bence-Jones protein**: 50ml FRESH urine
- **Neonatal bilirubin**: protect against light.
- **24-hour urine collection:** obtain container from lab for the specific test – different tests require different preservatives. Do not discard fluid (preservative) in bottle. Follow instructions on label or from lab. Ensure that the label has all the relevant information to avoid rejection.
- For, **HVA, Fractionated MA determination, AVOID** the following:
  Coffee, Tea, Citrus Fruits, Vanilla Containing Compounds
  Drugs: Chlorpromazine, Methyldopa, Naladixic Acid for 3 days prior to collection.
- **Stool Alpha-1-antitrypsin**: collect a pre-weighed container from the laboratory. A minimum of 10g (half a 40ml urine container) of stool is required for quantification. A blood sample must be collected at the same time for clearance estimation.
- **Stool Reducing substances** request must be sent separately from a Microbiology test request (*a separate request form and specimen- to prevent rejection of test*).
- **Stool Occult blood**: request must be sent separately from a Microbiology test request (*a separate request form and specimen- to prevent rejection of test*).
- **Osmol** requests blood or urine must be submitted as soon as possible (>36 hrs unsuitable).
- Pyruvate to be arranged with the laboratory.
- **Sweat test** to be arranged with the laboratory.
- **Fractionated NMA / VMA** ideal sample is three (3) consecutive 24 hour collections
- **Salivary Cortisol:** Please contact laboratory to arrange for a Salivette collection container and procedure for collection.
- Send all specimens to lab a.s.a.p.
- Request forms must be completed in detail

Index of tests

1. Urea and electrolytes
2. Liver function tests
3. Blood gasses
4. Calcium magnesium and phosphate
5. Iron studies
6. Trace elements
7. Enzymes/ Special proteins
8. Cardiac markers
9. Electrophoresis
10. Lipogram
11. Hormones
12. Tumor markers
13. CSF investigations
14. Tests on urine and stool
15. Fluids
16. Other tests
17. Tests send to other laboratories (See note 2)
18. Steatocrit (stool)

Please note:

1. Reference intervals are on final reports Some reference intervals are **age dependent**. If further information is required, please contact the laboratory.
2. Specimens can be sent to other laboratories. Please contact the laboratory for any tests not mentioned on the list.

Urea and electrolytes

Sodium	Yellow
Potassium	Yellow
Chloride	Yellow
Urea	Yellow
Creatinine	Yellow

Liver functions

Total Protein	Yellow
Albumin	Yellow
Total Bilirubin	Yellow

Conjugated Bilirubin	Yellow
Aspartate Transaminase (AST)	Yellow
Alanine Transaminase-ALT	Yellow
Gamma-Glutamyltransferase (GGT)	Yellow
Alkaline Phosphatas-(ALP	Yellow
Lactate Dehydrogenase -LDH	Yellow
Ammonia	EDTA blood on ice
Lactate	Grey (fluoride tube) on ice

Blood Gasses (to arrive in laboratory within 30 minutes)

pH	Heparin, **on ice,** capped **no needle**
pCO2	
pO2	
HCO3	
Base excess	
O2 Sat	

Calcium, magnesium and phosphate

Calcium (corrected)	Yellow
Magnesium	Yellow
Phosphate	Yellow

Iron studies

Iron	Yellow
Transferrin	Yellow
% Saturation (Fe)	Yellow

Trace elements

Copper	Clotted blood
	Urine-24 h (Mineral free)
Zinc	Plastic screw top tube or special trace metal tube

Enzymes/ Special proteins

Haptoglobin	Yellow
Beta- microglobulin	Yellow
Caeruloplasmin	Yellow
CRP	Yellow
Alpha-1 antitrypsin	Yellow
ADA	Pleural fluid Pericardiac fluid Ascitis fluid CSF
Pyruvate - **arrange with lab ext 4171/4258**	Whole blood

Cardiac markers

CKMB	Yellow
Troponin T	Yellow
Creatine kinase (CK)	Yellow
ProBNP	Yellow (on ice)

Electrophoresis

Immunoglobulin G	Yellow
Immunoglobulin M	Yellow
Immunoglobulin A	Yellow
Serum Electrophoresis	Yellow
Urinary Electrophoresis	Urine
Immunofixation	Yellow
Immunofixation	Urine

Lipogram

Total Cholesterol	Yellow
Triglycerides	Yellow
HDL	Yellow
LDL	Yellow

Hormones

Cortisol (nmol/l)- blood Salivary	Yellow Salivette containers- collect from lab
Estradiol (pmol/l)	Yellow
FSH (IU/l)	Yellow
Free T3	Yellow
Free T4	Yellow
LH (IU/l)	Yellow
Progesterone (nmol/l)	Yellow
Prolactin (µg/l)	Yellow
TSH	Yellow
Testosterone	Yellow
B-HCG	Yellow
PTH	Purple on ice (Separate Sample)
Insulin	Yellow

Tumour and Sepsis markers

AFP	Yellow
CEA (g/l)	Yellow
PSA & FPSA	Yellow
PCT	Yellow

CSF investigations

CSF – Protein	Sterile tube
CSF – Glucose	Grey tube
CSF – Chloride	Sterile tube
Blood brain studies:CSF/IgG Index	Serum/ CSF in a sterile tube
Albumin index	
CSF ADA	

Tests on urine and stool

Alpha-1-antitrypsin For clearance	Stool Include 5ml clotted blood
Apt test	Bloody stool//vomitus/mucus or blood-stained diaper; collect in glass or plastic container.
Amylase (urine)	Urine
Bicarbonate (Total CO2-content)	Urine – random
B2 Microglobulin	Urine – random
Calcium	Urine 24 h
Creatinine Clearance	Urine 24 h Blood gold tube
Creatinine Clearance	Urine 24 h Blood gold tube
Copper	Urine-24 h
Fat globules - Sudan staining	Random stool in sterile tube
Steatocrit	Random stool, not 24 hour. 40 – 50 ml urine container to be used to collect sample.
5-hydoxy indole acetic acid (5-HIAA)	Urine 24 h or random specimen
Homovalinic acid (HVA) (RXH)	Urine 24 h (collect container at lab)
Magnesium	Urine 24 h
Fractionated Metanephrines) RXH	Urine 24 h (collect container at lab)
Myoglobin	Random urine
Micro-albumin	Random urine
Occult blood	Stool random (Separate Sample- no Micro lab test requests on same sample)
Osmolality	Random urine – on ice (Separate Sample –no Micro Lab test requests on sample)
pH	Random urine
Porphyrins	Stool (Random)
Porphyrins and precursors: Porphobilinogen (PBG)	10 ml fresh urine

Reducing agents	10 ml fresh urine in sterile tube (Separate Sample-cannot be shared with other Lab requests e.g. Micro)
Reducing agents	Stool in sterile tube (Separate Sample cannot be shared with other Lab requests e.g. Micro)
Specific gravity (SG)	Random urine
Tubular re-absorption of phosphate (TRP)	24 h urine & blood (yellow top)
TmPO4/GFR	24 h urine
Urea	24 h urine
Uric acid	24 h urine
Urinanalysis	Random urine
Urobilinogen	Random Urine

Determination on fluids

Pleural fluid	
Ascites fluid	
Fluid pH	
ADA	Pleural fluid Pericardiac fluid Ascitis fluid CSF

Other tests

Amylase (Serum)	Yellow
Amylase (urine)	Urine
Ferritin	Yellow
Folate- serum	Yellow
Glucose	Fluoride tube (grey top)
HbA1c	EDTA (Purple top)
Homocysteine	EDTA Purple top-on ice
Lithium	Yellow
Osmolality- serum	Yellow
Paracetamol	Yellow
Porphyrins	Blood (Heparin tube)

Procalcitonin	Yellow
Uric acid	Yellow
Vit B12	Yellow
Vit D (25 OH)	Yellow

Tests sent to other laboratories

ACTH	5 ml EDTA blood on ice	Send on Ice. Sent to Johannesburg
Acetyl choline receptor antibody	5 ml Clotted Blood	Sent to GSH
ACE (Angiotension Converting Enzyme)	5 ml Clotted Blood	Sent to Johannesburg
Acid-a 1,4 glucosidase	5 ml Clotted Blood	Sent outside to Braamfontein
17 –OHP (a-hydroxy-progesterone)	5 ml Clotted Blood	Sent to GSH/ **If <6 months of age sent outside of NHLS**
Amino Acids	5ml Clotted Blood Urine	Sent to RXH
Aldolase	5ml Clotted Blood	Sent outside NHLS
Aldosterone/Renin	Aldo- 5ml clotted blood Renin: EDTA blood	Sent to GSH
Aluminium	10 ml Clotted Blood	Mineral Free Tube. Sent to Johannesburg Avoid antacids containing aluminium
Androstenedione	5 ml Clotted Blood	Sent outside NHLS
Anti-Mullerian hormone	5 ml Clotted Blood	Sent outside NHLS
B-2-Glycoprotein-1 (B2GP1)	5 ml Clotted Blood	Sent to GSH
Blood Brain Barrier (BBB)	Clotted Blood & CSF	Sent to GSH
Bone Specific ALP	5ml Clotted Blood	Sent to Johannesburg
BNP (B-type natriuretic peptide)	5ml Clotted Blood	Sent outside of NHLS

Ca 125	5 ml Clotted Blood	Sent to GSH
Ca 199	5 ml Clotted Blood	Sent to GSH
Ca 153	5 ml Clotted Blood	Sent to Johannesburg
Ca 724	5 ml Clotted Blood	Sent to Johannesburg
Carnitine		Sent to RXH
Caeruloplasmin	5 ml Clotted Blood	Sent to Johannesburg
Calcitonin	5 ml Clotted Blood	Sent to Johannesburg
CDT-Carbohydrate deficiency transferrin)	5 ml Clotted Blood	Sent outside of NHLS
C-Peptide	5 ml Clotted Blood	Sent to GSH
Chromogranin A	5 ml Clotted Blood	Sent to RXH
Copper	5 ml clotted blood Urine	Sent to Johannesburg
CSF Glycine	CSF	Sent to RXH
Dehydroxy-testosterone	5 ml Clotted Blood	Sent outside of NHLS
DHEAS	5 ml Clotted Blood	Sent to GSH
11 Deoxycortisol	5 ml Clotted	Sent to GSH
Erythropoeitin	5 ml Clotted Blood	Sent outside of NHLS
Serum β C-terminal telopeptides (β-crosslaps)	5 ml Clotted Blood	Sent to Johannesburg
Faecal Calprotectin	Stool on ice –STAT to lab-arrange	Sent outside of NHLS
Faecal Elastase	Faeces	Sent to RXH
Free Fatty Acids	Heparinised Blood on ice	Sent to RXH
Free Light Chains	5 ml Clotted Blood	Sent outside of NHLS
Free PSA	5 ml Clotted Blood	Sent to GSH
Fructosamine	5 ml Clotted Blood	Sent to Johannesburg
GALK-galactose kinase	EDTA blood- please arrange with lab	Sent to Johannesburg

GALT (galactose-1-phosphate uridyl transferease)	3x Heparinised/Edta blood- • Child • Mother • Ad hoc control	Sent to RXH
Gastrin	5 ml Clotted Blood	Sent outside NHLS
Growth Hormone	5 ml Clotted Blood	Sent to Johannesburg
Glycaminoglycans (Ugags)	Random Urine- on ice pack	Sent to RXH
IGF1	5 ml Clotted Blood	Sent outside NHLS
IgE	5 ml Clotted Blood	Sent to GSH
Kaletra Levels	Heparinised blood	Sent to GSH Pharmacology
Ketones	Heparinised Blood on ice	Sent to RXH
Lamotrigrine	5 ml Clotted Blood	Sent outside of NHLS
LEAD	Heparin Blood / Urine	Sent to Johannesburg
Lipoprotein (a) Lp(a)	5 ml Clotted Blood	Sent to GSH
Lipinovir	5ml Clotted Blood	Sent to GSH
Mercury (Hg)	EDTA blood & Urine	Sent to NIOH
Mucopoly-saccharides	Random urine	Sent to RXH
Oligoclonal Bands	Clotted blood & CSF	Sent outside of NHLS
Osteocalcin	5ml Clotted blood	Sent outside of NHLS
Oxolates	Urine	Sent to GSH
Pre-Albumin	5ml Clotted Blood	Sent outside of NHLS
RAST (allergy tests)	5ml Clotted blood	Sent to GSH
Red cell Folate	EDTA	Sent outside of NHLS
Selenium	5 ml Clotted Blood	Mineral Free Tube. Sent to Johannesburg
SHBG	5 ml Clotted Blood	Sent to GSH
Soluble Transferrin receptor	5ml Clotted blood	Sent outside of NHLS
Thiamine	2x EDTA (send on ice)	Sent outside of NHLS

Urine Steriod Chromatography	Timed urine – Boric acid preservative (8wk TAT)- arrange with lab	Sent outside of NHLS
VLCFA-very long chain Fatty acids	3x EDTA Blood	Sent to RXH
Vitamin A	5ml Clotted blood (in foil-light sensitive)	Sent to Johannesburg
1.25 Vitamin D	5ml Clotted blood	Sent to Johannesburg
Vitamin E	5ml Clotted Blood	Sent to Johannesburg
Zinc	Clotted Blood collected in a sterile plastic tube	Sent to Johannesburg

HAEMATOLOGY LABORATORY

The Discipline of Haematology is situated on the 9th floor of the hospital. The discipline offers a wide range of routine and specialized investigations to help with the diagnosis and treatment of patients.

Contact Details

Head of Department: Dr ZC Chapanduka	021 938-5348
Departmental secretary	021 938 4608
Consultants	021 938 4399 021 938 4612 021 938 4613 021 938 5692
Registrars	021 938 6108 /4089
Clinical Haematologist	021 938 5888

Request forms

- Please provide the follow information in legible handwriting
- Patient's name, surname, date of birth and folder number
- Ward number, clinic code, date and time of specimen collection.
- Name of doctor (and initials) to be contacted if abnormal results are obtained
- Relevant clinical information
- Relevant therapy, e.g. warfarin and heparin

Specimen tube (C9 Core Lab, □5159 / 5074)

All specimens are received here. Urgent FBC's and coagulation tests must be arranged telephonically.

Any results not available on the ward computers may be obtained at the above telephone numbers

Laboratories

The department is comprised of 5 sections each with different functions

Routine Laboratory	□938-5750
Coagulation Laboratory	□938-4615
Bone Marrow Laboratory	□938-4122
Haemolytic Studies Laboratory	□938-4615
Ante Natal Blood Grouping Laboratory	□931-9398

SPECIMEN TYPES

Specimen	**Description**
EDTA	Purple topped tube (Routine FBC + DIFF)
Sodium citrate	Light blue topped tube (Coagulation)
Sodium citrate	Black topped tube (ESR)
Clotted blood	Red brown topped tube

If a patient identification sticker is used on a specimen tube, it must be shortened and pasted lengthwise to ensure blood level visibility. Stickers wrapped around the tube will damage the automated cell counter's conveyer belt.

ROUTINE LABORATORY (C9B CORE LAB, □5750)

Investigation	**Specimen Type**
Full blood count	4ml EDTA blood
Differential WBC count	4ml EDTA blood
Reticulocyte count	4ml EDTA blood
Peripheral blood smear	4ml EDTA blood
(All the above can be done on one 4ml EDTA blood specimen)	
Lamellar body Count	2ml Amniotic fluid (sent in plain tube)
Erythrocyte Sedimentation Rate (ESR)	2 ml sodium citrate blood (black)

COAGULATION LABORATORY (CORE LAB, □4615)

Investigation	Specimen Type
Clotting profile: INR and PTT	4.5ml sodium citrate
DIC screen: D-Dimer + Fibrinogen	4.5ml sodium citrate
Thrombin time	4.5ml sodium citrate
Anti-Factor Xa (AF10A)	4.5ml sodium citrate

(All the above can be done on one 4.5ml citrte blood)

Investigations for Hypercoagulability

Investigation	Specimen Type
Protein C, protein S and Antithrombin	4.5ml sodium citrate
(The above four investigations can be done on two 4.5ml sodium citrate blood specimen)	
Factor V Leiden	4ml EDTA blood

Screening for Lupus Anticoagulant	4.5ml sodium citrate.

(Investigations for all Hypercoagulibility tests are done in batches and not on a daily basis)

Investigations for Bleeding Tendency

Investigation	Specimen Type
Platelet aggregation studies	Arrange with pathologist
Clotting factor levels	4.5ml sodium citrate blood. Arrange with laboratory
Screening for clotting factor inhibitors	4.5ml sodium citrate blood. Arrange with laboratory

NB: Specimens must reach the Coagulation laboratory within 4 hours of venepuncture.

HAEMOLYTIC LABORATORY (CORE LAB, □4615)

Investigation	Specimen Type
Direct and indirect Coombs test	2ml clotted blood
Cold agglutinins and Cryoglobulins	Arrange with the laboratory before 09:00

Osmotic fragility	5ml Heparin blood (only Mondays to Thursdays) before 12 am. Arrange with lab
G6DP screening test	4ml EDTA blood
Hb electrophoresis	4ml EDTA blood
Sickling Test	4ml EDTA blood
Malaria	4ml EDTA blood

BONE MARROW LABORATORY (C9A, GOLD AVE, ROOM 59, □4122)

Bone Marrow Investigations

Done on a daily basis. It comprises a bone marrow aspirate and one or more trephine biopsies. This is a surgical invasive procedure. The patient therefore needs to give written consent for the procedure. Children and adults are usually done under local anaesthetic. Out-patients need to be admitted in the hospital by the duty firm prior to the procedure. Haematology out-patients are admitted via the X-Block.

Premedication must be given one hour prior to the procedure. The ward sister will be informed telephonically of the time that this must be given. An appointment must be arranged with the laboratory. The referring doctor must then consult the relevant pathologist and confirm the appointment. The procedure will only be done if a completed request form (TH333) is received. Referring doctor responsible for:

1) Consent for the procedure
2) Premidication
3) Request form
4) The safe discharge of the patient after the procedure

NAP neutrophil alkaline phosphatase

- Arrange with laboratory – fresh blood from a finger prick is required.

CSF Cytospin

- A fresh, warm CSF specimen kept at 37°C, which is delivered by hand immediately after the lumbar puncture, is required.

Buffy preparation

- 4ml EDTA blood is required. This is done only if WBC count is <4000 per µl or <4 x 109/µl.

Haemosiderin in urine

- Fresh urine specimen in an ordinary urine specimen container.

Flow cytometry for immunological markers

- Arranged by the referring doctor with the pathologist.

BLOOD GROUPING LABORATORY (C9A, GOLD AVE, ROOM 205, □6081/6082)

Investigation	Specimen type
Ante-natal tests	4ml EDTA blood
Post- Natal tests	4ml EDTA maternal blood 4ml EDTA cord blood
Cordiocentesis	Arrange with laboratory
Amniocentesis	Arrange with laboratory

AFTER HOURS EMERGENCY INVESTIGATIONS (ROUTINE AND COAGULATION)

Contact the extention: 4934

NOTE: Coagulation specimens must be processed within 6 hours following venepucture.

The laboratory's tube station is monitored 24 hours a day and specimens can be sent directly to the laboratory (Tube C9)

MICROBIOLOGY LABORATORY

Contact Details Medical Microbiology & Immunology:

Laboratory located in the C passage, eastern side of the hospital on the 9th Floor.

Consultant on call: contact pager room at 4487/6666

		Tel. number
Head of Discipline:	Prof. Andrew Whitelaw	4032
Consultants:	Dr. Kessendri Reddy Dr. Rena Hoffmann Dr. Collette Pienaar Dr Pieter Nel	4021 4008 4035 4032
Scientist:	Dr. Mae Newton-Foot	4009
Registrars:	Registrars Office	/5193
Laboratories:	Reception Microbiology Blood cultures TB	4012 4006/7 4026 4031
Immunology Laboratory Manager	N.C.Nel	5564
Immunology laboratories		4001/ 4018/ 5278/ 6238

General Instructions:

- All diagnostic information from the microbiology laboratory is contingent on the quality of specimen received. Consequences of a poorly collected and/or poorly transported specimen include: i) failure to isolate the causative microorganism, and ii) recovery of contaminants or normal microbial flora which may be misleading and result in improper treatment of the patient.
- Safety considerations with regard to the handling of specimens:
  - Treat all specimens as potentially hazardous
  - Do not contaminate the external surface of the collection container and/or its accompanying paperwork
  - Minimize direct handling of specimens in transit from the patient to the laboratory. Ideally, specimens should be placed in plastic sealable bags with a separate pouch for the specimen request form.
- Please ensure that samples are correctly labelled and that the request form is filled in with all the relevant data.
- The points listed below each specimen type are to enable clinicians and nursing staff to be able to take a good quality specimen.
- Please contact the laboratory if in any doubt as to the collection or transport of a specimen.

1. FAECAL SPECIMENS - COLLECTION AND TRANSPORT

SPECIMEN COLLECTION

- Specimens should be submitted to the laboratory in a screw-cap container as soon after collection as possible (within 1 - 2 hours). Ensure that the specimen is not contaminated with urine.
- Sample portions containing pus, blood or mucus when submitting a specimen. A tablespoon-sized quantity is sufficient for bacteriological processing.
- The most important requirement is a freshly passed stool specimen, since acid metabolites in stored specimens may be detrimental to enteropathogenic bacteria.
- **Stool specimens in transport medium**: A small amount of stool can be collected by inserting a sterile cotton swab into the stool and rotating it. If mucus is present, it should be sampled. Immediately insert swab into the transport medium(e.g. Cary-Blair, Amies' or Stuart's transport medium). Push swab completely to the bottom of the tube of transport medium and the top portion of the stick touching the fingers, may be broken off and discarded. Recap and tighten firmly.
- **Rectal swabs**: may be submitted where stool cannot be obtained eg. in neonates or severely debilitated adults or when screening for

carriage is required. Moisten the swab in sterile transport medium, insert swab gently through the rectal sphincter, 2-3cm, rotate to sample anal crypts. Remove swab and check for visible faecal material. Place in suitable transport medium and deliver to laboratory promptly Place the tube in a refrigerator or cold box if delay in transport.

- **Biopsy: specimens of bowel wall tissue e.g. colon. Routine MC&S is not recommended** as these tissue samples are considered unsterile and the organisms predominately cultured are considered colonizers of the gastrointestinal tract. TB culture is recommended, if clinically suspected. Submit tissue specimens in a sterile screw-cap jar with a small amount of sterile water/normal saline to prevent desiccation. Specimens for microbiological processing ***must not be submitted in formalin.***
- **Clostridium difficile toxin assay:** patients suspected of antibiotic-associated diarrhoea should have stool submitted for *C. difficile* toxin assay. The request must be clearly indicated on the form. Stools samples must be freshly collected and kept refrigerated or on ice.
- **Parasites**: If parasites are suspected, request testing for parasites
  A modified acid-fast stain is performed to identify *Cryptosporidium parvum*. It is routinely done on all unconcentrated stool specimens of children < 3yrs and on specimens from immunocompromised patients if this is information is available on the request form.

Specimens of doubtful value:

1. Unpreserved stool samples >*2 hours old*.
2. Dry rectal swabs or biopsy samples.
3. *Multiple specimen collections* on the same day.

Please note: Routine MC&S includes microscopy of a wet mount preparation, culture for *Salmonella, Shigella* and *Campylobacter* and sensitivity testing. The wet mount preparation is examined for red and white blood cells and parasites.
If Vibrio cholera or E. coli 0157.H7 (haemolytic uremic syndrome) is suspected, please indicate so on the request form.

2. URINE SPECIMENS - COLLECTION AND TRANSPORT

Urine is normally a sterile body fluid. If not, collected properly, it can become contaminated with normal flora of the perineum, urethra or vagina. The following guidelines are provided to ensure proper specimen collection and subsequent, prompt, delivery of urine samples to the laboratory.

TIMING OF SPECIMEN COLLECTION

- Obtain early-morning specimens whenever possible because of increased bacterial counts after overnight incubation in the bladder.
- Do not force fluids in order to have the patient void urine. Excessive fluid intake will dilute the urine and may decrease the colony count to <105 CFUs/ml.
- For *Schistosoma haematobium* (Bilharzia), send 3 terminal urine specimens for detection of ova.

SPECIMEN TRANSPORT

- Transport urine to the laboratory as soon as possible after collection.
- Urine specimens must be submitted for culture within 2 hours after collection, or refrigerated and cultured within 24 hours whenever possible.

All specimen containers must be tightly closed to prevent leakage. If sample has grossly leaked from the container, the specimen will be rejected for processing.

Please indicate on the request form: the mode of specimen collection (eg. MSU, etc), date, time and clinical diagnosis.

Please note that urine samples obtained by suprapubic aspiration and at cystoscopy are processed differently in the laboratory compared to conventional MSU samples and it is therefore essential, so as to not compromise the accuracy of results, to inform the laboratory about the mode of specimen collection.

SPECIMEN COLLECTION

MIDSTREAM URINE SPECIMENS (MSU):

1. Wash hands with soap and water, rinse, and dry. If the patient is collecting the specimen, provide detailed instructions, including diagrams or a pictorial display.
   Females: Cleanse the urethral opening and vaginal vestibule area with sterile gauze pads soaked with normal saline or sterile water. Do not use disinfectants. Hold the labia apart during voiding.
   Males: Cleanse the penis, retract the foreskin (if not circumcised), and wash with normal saline. Keep foreskin retracted while voiding (to minimise contamination with skin flora).
2. ***Both females and males:*** Allow a few millilitres of urine to pass into the toilet (DO NOT STOP THE FLOW OF URINE) collect the midstream portion of urine in a wide-mouthed sterile container.
3. DO NOT use a urinal or bedpan for collection.

CATHETER URINE

1. Indwelling urinary catheter specimens are the most unsatisfactory of all urine specimens, because these catheters are often colonized and therefore bacterial cultures are difficult to interpret. Remove catheter if catheter-associated urinary tract infection is suspected and collect a MSU or if a catheter is still required, collect the urine specimen after replacement of the catheter.
2. Do not collect the sample from the drainage/collection bag
3. Collect sample from the sampling port with a syringe and needle using an septic technique.
   Clamp catheter tubing below port
   Clean sampling port with at least 2 separate 70% alcohol swabs
   Insert needle obliquely into port and aspirate urine.
   Transfer to sterile container and mark correctly: "indwelling catheter urine specimen".
4. A straight (non-indwelling) catheter can be used by a physician to obtain urine directly from the bladder. This procedure is not routinely recommended because there is a risk of introducing microorganisms into the bladder. It should be performed aseptically if necessary.
5. Urine from an ileal conduit must be collected after removal of the external device and insertion of a catheter into the cleansed stoma.
6. Urine collected by suprapubic needle aspiration of the bladder avoids contamination associated with the collection of voided urine. This is the preferred method for infants and for patients for whom the interpretation of results of voided urine is difficult.
7. Foley catheter tips are **UNACCEPTABLE samples** for culture and will be rejected.

3. STERILE BODY FLUIDS INCLUDING CSF - COLLECTION AND TRANSPORT

CEROBROSPINAL FLUID (CSF)

Please note: CSF MUST BE COLLECTED PRIOR TO ANTIMICROBIAL THERAPY!

Collection considerations for Cerebral Nervous System (CNS) specimens:

Culture	Optimal volume (ml)[a]	Comments
Bacteria	1	Send CSF specimen to microbiology laboratory immediately.
Fungi	5 - 10	Culture for *Cryptococcus spp*. is more sensitive if a higher volume of CSF is processed
Myco-bacteria	5-10	*Mycobacterium tuberculosis, Mycobaterium avium- intracellulare* complex.

An-aerobes	NA	Brain abscess pus or central nervous system (CNS) biopsy specimens.
[a] Amounts are guidelines. Greater volumes increase the chance of organism recovery. NA, not applicable.		

- Use sterile tubes without Clot Activator Material aspirated from a brain abscess and should be immediately transported to the laboratory
- CSF specimens should be transported to the laboratory promptly. Failure to do this may result in the non-viability of fastidious organisms and in overgrowth by more hardy bacteria.
- If prompt delivery is not possible specimens should be kept at room temperature, but never refrigerated. Organisms such as *Neisseria meningitidis* and *Haemophilus influenzae* are sensitive to chilling.

Routine examination of CSF involves:
- Direct cell count
- Gram stain
- India ink stain (for Cryptococcus)
- Culture (Bacteria and Cryptococcus)
- Sensitivity testing on bacteria cultured
- Other investigations: TB culture, Cryptococcal antigen test

INTERPRETATION OF CSF RESULTS:

Condition	Macroscopic appearance	Cell count (per mm^3)	Erythro-cytes	Protein (g/l)	Glucose (mmol/l)
Normal	Clear	0-5 lympho-cytes (0 – 30 cells in neonate, mainly neutrophils)	None	0.15 – 0.4 (0.15 – 1.5 in neonate)	2.2-3.3 (60% of blood glucose)
Bacterial meningitis	Turbid	100-2000 neutrophils	None	0.5 – 3	0 – 2.2
Viral meningitis	Clear or slightly turbid	15 – 500 lympho-cytes	None	0.5 – 1	Normal
Tuberculous meningitis/ Crypto-coccus*	Clear or slightly turbid	30 – 500 lympho-cytes plus neutrophils	None	1 – 6	0 – 2.2

Bloody tap or recent haemor-rhage	Bloody or xantho-chromic	Variable	High	due to blood	Normal

*All parameters may be completely normal in the severely immunocompromised patient with Cryptococcal meningits

OTHER STERILE FLUIDS

Commonly submitted fluids

1. Joint or synovial fluid
2. Pleural fluid
   a. Thoracocentesis fluid
   b. Empyema fluid
3. Peritoneal fluid
   a. Ascites fluid
   b. Paracentesis fluid
4. Pericardial fluid
5. Culdocentesis fluid

SPECIMEN COLLECTION

1. Specimens should be collected with as little contamination from indigenous microbial flora as possible to ensure that the sample will be representative of the infected site.
2. Sterile equipment and aseptic technique must be used to collect specimens to prevent introduction of microorganisms during invasive procedures.
3. If a specimen is to be collected through intact skin, cleanse the skin first. For example, use 70% alcohol followed by 0.5% chlorhexidine in alcohol and wait till dry.
4. In addition to routine information it is essential that the patients' specimen label accurately reflects:
   - The specific body site from which the specimen was taken
   - Provisional diagnosis
5. Collect specimens in sturdy, sterile, screw-cap, leak-proof containers with lids that do not create an aerosol when opened.
6. Although occasionally small clots will form in some fluids, addition of anticoagulant is not recommended; citrate or EDTA inhibits some organisms. If anticoagulant must be used, heparin should be the choice.
7. Although in the past the use of blood bottles for fluid collection has not been recommended, recent studies suggest that the larger the sample volume that can be cultured the more likely the recovery of

low numbers of organisms in fluids such as ascitic fluid will be. As with any broth system, however, the fastest growing organism is often the only one isolated, jeopardizing the recovery of slow growers.

When a broth is used, no direct smear information is available and, therefore, no assessment of the initial distribution of organisms or inflammatory cells can be made. A smear can be prepared, however, at the time of specimen collection and submitted with the broth medium.

TRANSPORT

Syringes:

Specimens obtained by a doctor using needle aspiration should be transferred to a sterile container prior to transport to the laboratory. Alternatively, and only if transferring it from the syringe will compromise the specimen, the **doctor should remove the needle**, using a protective device to avoid injury, and cap the syringe with a sterile cap prior to transporting it to the laboratory. It is essential that the specimen be submitted to the laboratory immediately after collection.

Swabs:

Swabs are the least desirable sample for culture of body fluids and their use should be discouraged. Protection of anaerobes from ambient oxygen is impossible. A good direct smear cannot be made, and the quantity of sample may not be sufficient to ensure recovery of a small number of organisms. If a swab is taken it is essential that it be placed in an anaerobic transport medium.

4. BLOOD CULTURES - COLLECTION AND TRANSPORT

We recommend that a minimum of 2 aerobic blood cultures from different sites should be submitted in order to acquire the optimal volume of blood and to facilitate the interpretation of results.

Anaerobic blood cultures bottles are not available routinely. Most infections involving anaerobes are clinically suspected e.g. intra-abdominal infections. Management of anaerobic infections involves surgical debridement and drainage in addition to antimicrobial therapy. A recent survey in the Western Cape has shown that the beta-lactam inhibitor combination drugs (co-amoxiclav and piperacillin-tazobactam), carbapenems, including ertapenem, and metronidazole remain very active against anaerobic organisms and are suitable agents for empiric therapy where anaerobic cover is needed.

PROCEDURE

Site selection

The phlebotomist should:

- Select a different site for each blood sample.
- Avoid drawing blood through indwelling intravenous or intra-arterial catheters. However if blood cultures have been obtained from intravascular catheters, they should be labelled as such and a blood culture should also be obtained by venipuncture at the same time in order to help assess positive blood cultures from catheters.

Site preparation

- Vigorously cleanse the venipuncture site with 70% isopropyl or ethyl alcohol and wait till dry.
- Apply 0.5% chlorhexidine in alcohol disinfectant in ever increasing circles starting at the point where the venipuncture is to be made and allow to dry..
- Do not touch the venipuncture site after preparation and prior to phlebotomy.

Disinfecting blood culture bottles

- Disinfect the top of the bottle or tube with alcohol and allow top to dry.

Collection of blood

- Using a syringe and needle insert the needle into the vein, and withdraw blood. Do not change needles before injecting the blood into the culture bottle due to risk of needlestick injury.
- After the blood is inserted into the blood culture system mix well to avoid clotting.
- Use a new needle if vein is missed initially.
- Add sufficient volume of blood according to the table below.

SPECIMEN VOLUME

Note: The volume of blood is critical because the number of organisms in the majority of bacteraemias is low, especially if the patient is on antimicrobial therapy. Collection of an appropriate volume of blood improves the time to detection and the yield In infants and children, the number of microorganisms during bacteraemia is higher than in adults. Therefore less blood is required for culture.

Recommended volume per bottle: see label on bottle

Children: Ideally, 3 to 5ml of blood should be added to bottle

Neonates: 1-3ml of blood per bottle

Adults: Ideally 10ml blood per culture bottle (aerobic).

RECOMMENDATION ON NUMBER AND TIMING OF BLOOD CULTURES

a. A minimum of 20ml (blood cultures from different sites) is recommended in order to obtain an optimal yield from blood cultures.

b. Fever of unknown origin (occult abscess, typhoid fever, or brucellosis): Obtain two separate blood cultures initially. It is recommended that a further 2 blood cultures be obtained during temperature spike ideally after 24-36 hours of the initial samples. The increase in positive cultures beyond four cultures is very minimal.

c. Suspected endocarditis – collection of blood cultures do not have to coincide with fever spikes due to continuous bacteraemia.

BOTTLE TYPES:

BOTTLE	USE	BLOOD VOLUME
BacTAlert® SA Standard Aerobic Culture Bottles **(Blue caps) – available in wards**	These bottles are generally used in most of the bacteraemia, candidaemia and cryptococcaemia cases	The optimal blood volume per bottle for culture is 8-10ml.
BacTAlert® PF Paediatric Culture Bottles **(Yellow caps) – available in the wards**	These bottles are aerobic and are used for low volume specimens; such as in neonates	The optimal blood volume per bottle for culture is 4ml (filling volume ranges from 0.5-4ml)
BacTAlert® FA Resin (charcoal) containing Aerobic Culture Bottles **(Green caps) – available in the wards**	The resin bottles absorb antibiotics and the inhibiting components out of the blood; enhancing the recovery of micro-organisms.	The optimal blood volume per bottle for culture is 8-10ml.

Duration of incubationof blood cultures is 5 days; using an automated system.

Please indicate if endocarditis is suspected, because some organisms that cause endocarditis e.g. HACEK group are slow-growing and therefore these bottles need to be incubated for 14 days Suspected *Brucella* is incubated for 28 days and suspected TB and fungi other than Candida/ Cryptococcus (Bactec Myco/F lytic bottles) are incubated for 42 days, before the culture is regarded as negative.

QUALITY CONTROL:

Media

- Check expiry dates of each batch of blood culture bottles used.
- Uninoculated blood culture bottles should be stored in a cool dark place
- Examine bottles for turbidity and/or change of colour before adding any blood.
- Discard any bottles showing abnormal characteristics.

Labelling and transport

Please ensure that all blood culture bottles are labelled correctly (not over bar code and not over the bottom of the bottle that contains the sensor (the machine reads this sensor). Do not remove any barcode numbers from the label on the bottle

The laboratory request form must be completed with all the relevant required data. All specimens should be transported to the laboratory promptly. Failure to do this may result in the death of fastidious organisms and in overgrowth by more hardy bacteria.

INTRAVASCULAR CATHETER TIP CULTURES

Cleanse skin around catheter site with alcohol.
Aseptically remove catheter, and slip 5cm distal tip of catheter directly into sterile tube.

Transport directly to microbiology laboratory to prevent drying.
Acceptable IV catheters for culture: central, CVP, Hickman, Broviac, peripheral, arterial, umbilical, hyperalimentation, Swan-Ganz.

5. PUS SWABS INCLUDING BURN SWABS – COLLECTION AND TRANSPORT

SPECIMENS

Specimens should be collected prior to the administration of antimicrobial therapy. The quality of the specimen is very important in order to isolate the causative pathogen(s) and not colonizing flora or contaminants.

SUPERFICIAL WOUNDS:

Aspirates:

- Syringe aspirates (3- 5 ml syringe with 22- 23 gauge needle) are preferable to swab specimens.
- Decontaminate the surface of the wound with a **chlorhexidine/alcohol** solution The deepest part of the lesion should be **aspirated**. If a vesicle

is present, collect both fluid and cells from the base of the lesion.
- If the initial aspiration fails to obtain material, inject sterile, non-bacteriostatic 0.85% NaCl subcutaneously and repeat the aspiration.
- Transfer the aspirate into a sterile container and transport promptly to the laboratory. If a delay in processing of more than 30 minutes is anticipated, the specimen should be transferred to an anaerobic transport container.

Pus swabs:
If material cannot be obtained with a needle and a syringe, and a swab must be used. Please note that anaerobic organisms are typically missed on superficial swabs.
Any pus swabs without a site indicated on the request form, will be rejected.

Decontaminate/clean the area to be sampled.
- Separate the wound margins with the thumb and forefinger of one hand (wearing a sterile glove) and take a deep swab or make a small opening in a closed abscess with a scalpel blade before extending the tip of the swab deeply into the depths of the lesion with the other hand. Care should be taken not to touch the adjacent skin margins.
- The swab should then be inoculated onto appropriate culture media as soon as possible after collection; alternatively, it can be placed immediately into a suitable transport medium (eg. Amies or Stuart's medium). **Dry swabs are not recommended.**

ULCERS AND NODULES:
a. Clean the area with 70% alcohol and then a 0.5% chlorhexidine in 70% alcohol - solution.
b. Remove overlying debris.
c. Curette the base of the ulcer or nodule.
d. If exudate is present from the ulcer or nodule, collect it with a syringe or a sterile swab.

BURN WOUND SPECIMENS:
The surfaces of burn wounds will become colonised by the patient's own microbial flora or by environmental organisms. When the organism load is large, infection of underlying tissue may occur, and bacteraemia may ensue. Cultures of the surface alone are misleading; therefore biopsies of deeper tissues after debridement are often indicated. Clean the surface of the wound with normal saline/ sterile water before collecting samples. Blood cultures should be taken if septicaemia is suspected.

DEEP WOUNDS, ASPIRATES, AND TISSUE SPECIMENS:

a. Bite wounds:
Aspirate pus from the wound, or obtain at the time of incision, drainage, or debridement of the infected wound.

b. Bone:
Obtain bone specimen during surgery. Submit a sterile container without formalin. Specimen may be kept moist with sterile 0.85% NaCl.

c. Deep wounds or abscesses:
Disinfect the surface with 70% alcohol and then with a chlorhexidine solution. Aspirate the deepest portion of the lesion, avoiding contamination by the wound surface. If collection performed at surgery, a portion of the abscess wall may also be sent for culture.

d. Punch skin biopsies:
Disinfect the skin surface with 70% alcohol and then with a chlorhexidine solution. Collect a 3-4mm sample with a dermal punch. Submit for microbiological analysis in a sterile container without formalin.

e. Soft tissue aspirate:
Disinfect the surface with 70% alcohol and then with a chlorhexidine solution. Aspirate the deepest portion of the lesion or sinus tract. Be careful to avoid contamination by the wound surface.

Colonic and rectal biopsies:
These tissue samples are considered unsterile and the organisms predominately cultured are considered colonizers of the gastrointestinal tract. Routine MC&S not routinely recommended. The exception where biopsy is considered useful is in TB, *Helicobacter* and *Campylobacter* sp. Infections.

f. Throat (Pharyngeal specimens):

- Routinely used for the isolation of Group A Streptococci. Please stipulate on the request form if suspicious of any other pathogens eg. Neisseria gonorrhoeae. Staphylococci may cause tonsillar abscesses – please send pus for culture. If diphtheria is suspected, a sample of the pseudomembrane should be collected.
- Do not obtain throat samples if epiglottis is inflamed, as sampling may cause serious respiratory obstruction.
- Depress tongue gently with tongue depressor.
- Extend sterile swab between the tonsillar pillars and behind the uvula. (Avoid touching the cheeks, tongue, uvula, or lips).
- Sweep the swab back and forth across the posterior pharynx, tonsillar areas, and any inflamed or ulcerated areas to obtain sample.

g. Nasal swabs:

- Submitted primarily for the detection of staphylococcal carriers.
- After moistening the swab with sterile water or saline, insert the swab into the nose until resistance is met at a level of the turbinates (2cm).
- Rotate the swab against the nasal mucosa.
- Repeat the process on the other side with the same swab. Nasal swabs are not suitable for the detection of the aetiologic agents of sinusitis. A needle aspirate of the sinus is the specimen of choice.

h. Swabs for the culture of B. pertussis:

- Insert swab into nasal passage, aiming towards the midline and down. Follow the floor of the nasal passage for ~5 cm (depending on the age of the patient) until progress is blocked by the posterior wall of the nasopharynx.
- Take > 1 swab on consecutive days for optimal results.
- Plates are incubated for 7 days.
- Alternative: nasopharyngeal aspirate.

Please note that the PCR test for the detection of B. pertussis is referred to NICD microbiology laboratory. Send nasopharyngeal aspirate and specifically request Pertussis PCR.

Other upper respiratory tract specimens that may be submitted to the laboratory include sinus aspirates and tympanocentesis fluid.

GENERAL RECOMMENDATIONS FOR SPECIMEN COLLECTION FOR SEXUALLY TRANSMITTED DISEASES:

Cervical swabs

The cervix should be visualized via speculum examination and normal or inflammatory discharges should be removed with swabs. For chlamydia and gonorrhoea, the collection swab should be inserted 2-3cm into the endocervical canal and rotated against the walls of the canal to dislodge columnar epithelial cells. The swab is rolled onto a slide for microscopic examination or placed into appropriate transport/storage medium (Amies transport medium for GC and Chlamydial transport medium) for the subsequent diagnostic test required. Please note that **vaginal swabs** are not suitable for the isolation of *Neisseria gonorrhoea* and *Chlamydia antigen* detection.

Rectal swabs

Insert the swab 2-3cm into the anal canal, press laterally then rotate to obtain columnar epithelial cells with minimal faecal contamination. Process as for cervical swabs.

Urethral swabs
A thin cotton or Dacron swab on a wire shaft is inserted 2-4cm into the urethra, rotated and used to prepare smears for microscopic examination or placed into appropriate transport media.

Eye specimens
Conjunctival scrapings (using spatula or no. 15 blade scalpel without touching lashes or lids) or sterile swab to sample the discharge or lower conjunctival surface. Two swabs are preferred (one for Gram stain and one for culture.)Inoculate directly onto blood agar, chocolate agar or put in appropriate transport media. If gonococcal conjunctivitis is suspected, send specimen in Amies transport medium.

Ear swab cultures
Ear swabs are only useful for isolation of pathogens causing otitis externa. The flora of the external meatus bears no relation to that behind the eardrum. Ear swabs are taken from just inside the external meatus. The most common pathogens are *S. aureus* and *Pseudomonas auruginosa.* Most cases respond to keeping the ear clean and dry. For the isolation of pathogens causing otitis media, fluid from behind the eardrum should be aspirated for culture.

TRANSPORT
- All specimens should be transported to the laboratory promptly. Failure to do this may result in the death of fastidious organisms and in overgrowth by more hardy bacteria.
- If prompt delivery is not possible specimens should be refrigerated at 4-8°C
- Syringes:
  Specimens obtained by a doctor using needle aspiration should be transferred to a sterile tube to transport to the laboratory. Alternatively, and only if transferring it from the syringe will compromise the specimen, the doctor should remove the needle, using a protective device to avoid injury, and cap the syringe with a sterile cap prior to transporting it to the laboratory. It is essential that the specimen be submitted to the laboratory immediately after collection.

ANAEROBIC CULTURES
A foul smelling discharge may indicate anaerobic infection.

Most anaerobes are susceptible to amoxicillin-clavulanate (Augmentin), and metronidazole. No disk sensitivity testing is performed on anaerobes, but the report will indicate whether an anaerobe produces beta-

lactamases (indicating resistance to penicillins).

Aspirated pus for anaerobic culture can be sent in a syringe (needle removed) or sterile tube, and tissue in a sterile container with or without sterile saline.

IUCDs (intra-uterine contraceptive devices) can be sent in a sterile container for culture of Actinomyces.

Pus swabs are not acceptable for anaerobic cultures except when sent in anaerobic transport medium. These specimens **SHOULD NOT** be refrigerated.

6. COLLECTION AND TRANSPORT OF SPECIMENS FOR FUNGAL CULTURE

SKIN

Epidermal scales are collected by scraping the affected areas with a blunt, banana shaped scalpel. Material from the active periphery of lesions is taken for examination. In paronychial infections, the nail fold should be moistened with sterile water and a dental probe used to remove material from under the nail fold. Roofs of vesicles are snipped off with sterile scissors for examination. It is not necessary to pre clean skin with 70% ethanol unless ointments or other topical medications have been recently applied.

NAIL

Whole thickness of affected nails is clipped off using nail clippers. Subungual debris is scraped out with a blunt scalpel or dental probe and often contains much fungus.

HAIR

Scalp and other hair-bearing areas should be examined under a Wood's lamp. Fluorescent hairs (bright green in *Microsporum* infections, dull green in *T. schoenleinii* (favus) infection or hair stumps should be plucked out with sterile forceps. If no fluorescence is noted, lustreless hairs or stumps of hairs broken off at follicular level should be plucked out.

Skin scrapings should also be taken from suspect areas (hair stumps are often extracted by this method). Scalp samples (especially for mass screening) can be obtained using individually bagged plastic massage brushes, velvet squares or even swabs.

TRANSPORT

Specimens should be sent DRY in specimen jars to prevent overgrowth of contaminating fungi. Spores of fungi in these specimens will remain for many weeks to several years when maintained in a dry condition.

SUBCUTANEOUS FUNGAL LESIONS
Send biopsy tissue or aspirated pus in sterile container.

SPUTUM, BRONCHIAL WASHINGS, TRANSTRACHEAL ASPIRATES etc
Collect into sterile containers and transport to the laboratory without delay. Refrigeration will kill the yeasts of *Histoplasma capsulatum* rapidly, therefore this is not advised when histoplasmosis is suspected.

BONE MARROW
Bone marrow should be aspirated into Myco/F lytic blood culture bottles for fungal culture

7. INFECTIONS OF THE RESPIRATORY TRACT

PHARYNGITIS, PERTUSSIS AND LARYNGITIS - see pus swab section.

EPIGLOTTITIS
Culture of the throat is not indicated. Touching the inflamed epiglottis may precipitate complete obstruction of the airway.

SINUSITIS
The specimen of choice is a needle aspirate of the sinuses.
Do not submit a swab. No specimen other than an aspirate is recommended.

SPUTUM AND LOWER RESPIRATORY TRACT - COLLECTION AND TRANSPORT

INTRODUCTION:
Infections of the lower respiratory tract are a major cause of morbidity and mortality. Diagnosis of these infections frequently is complicated by the contamination of specimens with upper respiratory tract secretions during collection. Specimen quality is judged microscopically. A properly collected specimen should contain minimal numbers of squamous epithelial cells and significant numbers of neutrophils with bacterial infection.

Please note: Legionella antigen test on urine is available at the NHLS microbiology laboratory at GSH.

SPECIMEN COLLECTION:
Specimens include sputum, endotracheal aspirates, bronchial washings, bronchial brushes, bronchial biopsy specimens, bronchoalveolar lavage fluid, transtracheal aspirate, lung aspirates and lung biopsy specimens.

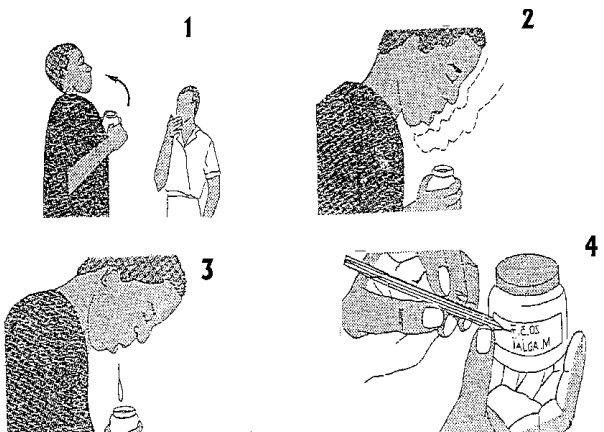
- It is best to obtain a sputum specimen early in the morning, before the

patient has eaten or taken medication.

- Collecting a good sputum specimen is not easy and requires that the patient be given clear instructions and explanation of the difference between sputum and saliva/spit.
- It is important to remember that aerosols containing TB bacteria may be produced when the patient produces a sputum specimen.
- It is best for the patient to produce a specimen either outside in the open air or away from other people.
- Patients should not produce sputum in confined spaces such as toilets.
- The person supervising the sputum collection should stand behind the patient to avoid breathing in any aerosols that may be created when the patient coughs.

THE FOLLOWING INSTRUCTIONS SHOULD BE GIVEN TO THE PATIENT, WHEN COLLECTING SPUTUM SAMPLES:

- The patient should rinse his/her mouth with water, then take two deep breaths, holding the breath for a few seconds after each inhalation and then exhaling slowly.
- The patient should hold the specimen container to the lower lip and gently release the specimen from the mouth directly into the container and avoid spills.
- The specimen container is then capped and clearly labelled.
- The specimens should be transported to the laboratory as soon as possible after collection. **DO NOT FREEZE SPECIMENS!**



PROCEDURE FOR INDUCTION OF SPUTUM for the isolation of *Pneumocystis jirovecii:*

- Patient should preferably not have eaten for 8 hours.
- Patient should brush teeth with water, rinse thoroughly and gargle several times.
- Patient inhales 20-30 ml of hypertonic saline (3-5%) in a fine mist generated by an ultrasonic nebuliser over 10-20 minutes.
- Patient is encouraged to take several deep breaths and cough deeply.
- Collect sputum in sterile containers.
- Sputum collected initially should be sent for TB and AFB, fungal culture and MC&S.
- Later specimens are more likely to be representative of distal respiratory tract secretions and should be sent for *Pneumocystis jirovecii* examination.
- An indirect immunofluorescence test is done – see serology

GUIDELINES FOR PROPER SPECIMEN TRANSPORT

All specimens should be transported to the laboratory promptly. Failure to do this may result in the death of fastidious organisms and in overgrowth by more hardy bacteria. If prompt delivery is not possible specimens should be refrigerated at 4-8OC.

TB LABORATORY

Phone number: 938 4031

Proper collection procedures are imperative for accurate laboratory analysis. The quality of specimens collected and the proper transport of those specimens to the laboratory are critical to successful isolation of etiological agents.

General guidelines for specimen collection for TB analysis:

- Use **only** sterile, screw cap, leak proof, disposable plastic containers for specimen collection.
- Do not use waxed containers as they may produce false-positive smear results.
- Label the container with the patient's name, specimen type and date and time of collection.
- Collect initial specimens before anti-tuberculous medication is started.
- Swabs are not recommended for the isolation of mycobacteria.
- Collect sufficient material for the tests requested (see table below)
- Do not use any fixatives or preservatives
    - The specimen should be transported to the lab as soon as possible after collection. If this is not possible, the specimens should be refrigerated to inhibit the growth of unwanted micro-organisms.

- **Do not freeze specimens.**
  - Mycobacteria are killed by ultraviolet light, therefore specimens should not be placed anywhere where they may be exposed to direct sunlight or become too hot.

TB Diagnostics:
Current national and provincial policy suggests a **single GeneXpert (GXP)** analysis on a respiratory sample (sputum, induced sputum and tracheal aspirate) from an adult TB suspect to screen for TB and to detect resistance to Rifampicin. When performed, the GXP will replace smear microscopy. The GXP diagnostic algorithm should be used when interpreting the result and to decide on further action.

General principles:
- If the GXP result is positive and suggests a **rifampicin susceptible** isolate, a 2nd sample should be sent for microscopy
- If the GXP result is positive and suggests the presence of a **rifampicin resistant** isolate, a 2nd sample should be sent for TB culture and subsequently processed by Hain line probe assay and second-line drug susceptibility testing (DST) will be performed
- If the GXP result is indeterminate a 2nd specimen should be submitted for **TB microscopy and culture** (preferably before the patient is commenced on anti-TB therapy)
- If the GXP result is negative, submit a 2nd specimen for culture ± DST in HIV-infected patients

Please note:
Guidelines for using the GXP on paediatric samples or extrapulmonary samples from adults and children are not yet available and is thus not routinely performed. These samples will be processed for TB microscopy, culture and sensitivity as requested.

The GXP is able to identify rifampicin-resistant strains but is currently unable to identify INH-monoresistant TB strains; this is currently done by the Hain line probe assay.

Acid-fast microscopy is performed on respiratory specimens where TB microscopy is requested for monitoring treatment

If the sample volume is insufficient for GXP, culture ± DST will be performed.

If the sample is highly blood-stained or the consistency of the sample is not suitable for a GXP, culture ± DST will be performed .

If the sample volume is insufficient for culture, acid-fast microscopy will be performed

Please note: the laboratory will not process leaking specimens!

Table: Specimen requirements for mycobacterial isolation and acid-fast stains

SPECIMEN TYPE	SPECIMEN REQUIREMENTS	SPECIMEN INSTRUCTIONS	UNACCEPTABLE SPECIMENS
Abscess contents, aspirated fluid	As much as possible in sterile container	Cleanse skin with alcohol before aspirating sample. Collect sample on swab, and place in transport medium only if volume is insufficient for aspiration by needle and syringe.	Dry swab
Blood	5ml inoculated directly into BACTEC Myco-F-lytic bottle	Disinfect site as for routine blood culture. Mix tube contents immediately after collection.	Blood collected in EDTA, Citrate, Oxalate or fluoride tubes – these inhibit mycobacterial growth even in trace amounts
Body fluids (pleural, pericardial, peritoneal etc.)	As much as possible (10-15 ml minimum) in sterile container.	Disinfect site with alcohol if collecting by needle and syringe.	
Bone	Bone in sterile container without fixative or preservative		Specimen submitted in formalin
Bone marrow	As much as possible in BACTEC Myco-F-lytic bottle	Collect aseptically. Mix tube contents immediately following collection.	

Broncho-alveolar lavage or bronchial washings	5ml in sterile container	Avoid contaminating bronchoscope with tap water. Saprophytic mycobacteria may produce false-positive culture or smear results.	
Bronchial brushing	Sterile container		
CSF	5-10ml in sterile container	Use maximum volume attainable	
Fine needle aspirate	Submit dry, unfixed slide and aspirate in a sterile container or directly inoculated not more than 0.5ml into a MGIT tube (available from Microbiology and the Cytology clinic)	Make smear of aspirate on a clean dry slide. Air dry. Do not use any fixative.	Slide sprayed with fixative
Gastric lavage fluid	5-10ml in sterile container. Collect in the morning soon after patient awakens in order to obtain sputum swallowed during sleep.	Collect fasting early-morning specimen on 3 consecutive days. Use sterile saline. Adjust to neural pH with 100mg of sodium carbonate immediately following collection.	Specimen that has not been pH-neutralised
Lymph node	Node or portion in sterile container without fixative or preservative	Collect aseptically. Select caseous portion if available. Do not immerse in saline or other fluid and do not wrap in gauze	Specimen submitted in formalin

Skin lesion material	Submit biopsy specimen in sterile container without fixative or preservative. Submit aspirate in sterile container.	Swabs in transport medium (Amies or Stuarts) are acceptable only if biopsy sample or aspirate is not obtainable. For cutaneous ulcer, collect biopsy sample from periphery of lesion, or aspirate material from under margin of lesion.	Dry swab
Sputum	5-10ml in sterile, wax-free, disposable container. Collect an early morning specimen from deep, productive cough on at least 2 consecutive days. Do not pool specimens.	For expectorated sputum, instruct patient on how to produce sputum specimen as distinct from saliva or nasopharyngeal discharge. Have patient rinse mouth with water before collecting specimen to minimise contaminating specimen with food particles, mouthwash, or oral drugs, which may inhibit the growth of mycobacteria. For induced sputum, use sterile hypertonic saline. Avoid sputum contamination with nebulizer reservoir water.	24 hour specimens

		Saprophytic mycobacteria in tap water may produce false-positive culture or smear results. Indicate on request if specimen is induced sputum, as these watery specimens resemble saliva and risk rejection as inadequate.	
Stool	1 tablespoon-sized specimen in a sterile, wax-free, disposable container	Collect specimen directly into container, or transfer from bedpan or plastic wrap stretched over toilet bowl. Wax from container may produce false-positive smear.	Frozen specimen. Utility of culturing stool for acid-fast bacilli remains controversial.
Tissue biopsy sample	1g of tissue, if possible, in sterile container without fixative or preservative.	Collect aseptically Select caseous portion if available. Do not immerse in saline or other fluid and do not wrap in gauze. Freezing decreases yield.	Specimen submitted in formalin.
Trans-tracheal aspirate	As much as possible in sterile container		
Urine	As much as possible (minimum – 40ml) of first morning specimen obtained by catheterisation	Collect first morning specimen on 3 consecutive days. Only one specimen per day is acceptable Organisms	24 hour pooled specimens, urine from catheter bag. Specimens of <40ml unless larger volume is not obtainable.

	or of midstream clean catch in sterile container. For suprapubic tap, as much as possible in sterile container.	accumulate in bladder overnight, so first morning void provides best yield. Specimens collected at other times are dilute and are not optimal.	
Wound material	See biopsy or aspirate	Swabs are acceptable only if biopsy or aspirate is not obtainable. If used they must be places in transport medium (Amies or Stuarts). Negative results are not reliable.	Dry swab

IMMUNOLOGY

(Nephelometry/Syphilis laboratory: 021-9384001
Immunoflourescence..laboratory : 021-9386238
Elisa Laboratory 021-9384018
Flow Cytometry laboratory 021-9385278
Laboratory Manager 021-9385564

Test	Comments	Sample	Schedule
1.Nephelometry			
C3		Clotted blood	Daily
C4		Clotted blood	Daily
Anti-Streptolysin O	ASOT & DNASB are always done together.	Clotted blood	Daily
Anti-Dnase B		Clotted blood	Daily
Rheumatoid factor		Clotted blood	Daily
HsCRP	research use-ongoing studies	Clotted blood	batched samples, tested when required.

Syphilis			
TPAB test	Automated screening test for Syphilis	Clotted and EDTA blood	Daily
RPR	Confirming positive TPAB results+RPR positive=active Syphilis	Clotted blood/ EDTA	Daily
VDRL	Only on CSF's	CSF	weekdays- test will be discontinued in 2020 due to reagent supply problems.
2. Fluorescence			
FTA		CSF	weekdays
Bilharzia		Clotted blood	Weekdays(can be batched)
Coxiella		Clotted blood	weekdays
Legionella IFA		Clotted blood	referred to JHB
Mycoplasma IFA		Clotted blood	referred to JHB
Rickettsia IgG/ IgM IFA		Clotted blood	weekdays
Pneumocystis carinii IFA		Tracheal aspirates, sputa, etc	weekdays
Anti-nuclear factor IFA	Lupus screening test	Clotted blood	weekdays
Liver/Kidney Microsomal Ab's		Clotted blood	weekdays
Mitochondrial Ab's		Clotted blood	weekdays
Smooth muscle Ab's		Clotted blood	weekdays
Parietal cell Ab's		Clotted blood	weekdays

Glomerular basement membrane Ab's		Clotted blood	weekdays
Aquaporin 4 & MOG		Clotted blood	weekdays
3. Elisa:			
Anti-Double Stranded DNA Ab's		Clotted blood	weekdays
Anti-Neutrophil Cytoplasmic Ab's		Clotted blood	weekdays
Anti-Cardiolipin Ab's		Clotted blood	weekdays
GAD/IA2- Ab test	Type 1 diabetes mellitus autoimmune disease	Clotted blood	weekdays
Anti-Cyclic-Citrullinated Peptide	Confirmatory test for RA	Clotted blood	weekdays
Entamoeba IgG		Clotted blood	weekdays
Jo-1 Ab's		Clotted blood	weekdays
Brucella IgM/ IgG		Clotted blood	weekdays
Intrinsic Factor antibody			weekdays
Tissue trans-glutaminase Ab's	Replacement for endomesium	Clotted blood	weekdays
Thyroid Hormone Receptor Antibody		Clotted blood	weekdays
Cysticercosis		Clotted blood	weekdays
Echinococcus		Clotted blood	weekdays

Extractable nuclear Ab's-Ab's-RNP/SM Ab's	Done on Positive ANA Samples	Clotted blood	weekdays
Anti-Ro (SSA) Ab's		Clotted blood	weekdays
Anti-La (SSB) Ab's		Clotted blood	weekdays
Leptospira		Clotted blood	weekdays
Scl 70 Ab's		Clotted blood	weekdays
Toxocara	Refer to JHB Immunology	Clotted blood	
Toxoplasma IgG/IgM/Avidity		Clotted blood	weekdays
Vaccination studies	Haemophilus influenza Ab's	Clotted blood	weekdays
Vaccination studies	Streptococcus pneumoniae Ab's	Clotted blood	weekdays
Vaccination studies	Clostridium tetanus Ab's	Clotted blood	weekdays
Vaccination studies	Coryne-bacterium diphtheriae Ab's	Clotted blood	weekdays
Vaccination studies	Bordetella pertussis Ab's	Clotted blood	weekdays
Agglutination tests:			
Total haemolytic Complement (RID)	Must arrive on ice	Clotted blood	refer to GSH
Widal		Clotted blood	Daily
Yersinia		Clotted blood	Daily
Anti-Thyroid Ab's		Clotted blood	weekdays
4.Cellular/Flow Cytometry :samples to be kept at room temperature			
T, B & NK cell counts on BAL specimens	Done on Bronchio-alveolar lavage	BAL	Prior arrangement with laboratory

CD3 / CD4 / CD8 counts	Done on all non-ARV samples	EDTA blood	Daily
T, B & NK cell counts	Done on samples when requested-specialized markers for Immune monitoring	EDTA blood	Daily
PLG-CD4	Done on all ARV classified patients as well as non-ARV patients-CD4 count only!	EDTA blood	Daily
HLA B27		EDTA blood	refer to GSH
Ki67 test(lymphocyte proliferation)	refer to Ampath Pretoria	Citrate blood	Prior arrangement with laboratory
Respiratory burst/NBT		Heparin blood	Prior arrangement with the laboratory
NB! • **Lymphocyte proliferation tests, Neutrophil function tests and BAL** • **must be pre-arranged and booked for a specific day.** • **The blood must be freshly taken (not older than 6hrs after blood taking) and immediately transported to the laboratory.**			
Referred tests:			
Acetyl Choline Receptor Ab's		Clotted blood	referred to Lancet
C1 esterase inhibitor	Antigen screen referred to JHB Immunology	Clotted blood	Screening test done at JHB NHLS.
C' fractions	Only C6 screen available	Clotted blood	Referred to JHB NHLS.
IgG subclasses		Clotted blood	referred to referral laboratory

Avian precipitins		Clotted blood	referred to referral laboratory
Fungal precipitins		Clotted blood	referred to referral laboratory
Glaidin Test		Clotted blood	referred to referral laboratory

VIROLOGY LABORATORY SERVICES

(KINDLY SUBMIT A SEPARATE SAMPLE FOR ALL VIROLOGY TESTS)

CONTACT DETAILS:

Results and reception	Tel no: 021 938 9557/4330/5358
Pathologist	Tel no: 021 938 9691/9057
Registrars	Tel no: 021 938 9347
Tygerberg Hospital switchboard	Tel no: 021 938 4911

MOLECULAR LABORATORY

Please refer to the table for a list of nucleic acid detection tests offered by the Virology laboratory. If you require any tests that are not listed, please phone the laboratory for discussion. Unless otherwise indicated, all tests listed are performed and results sent out daily.

TEST	SAMPLE TYPE	SPECIAL INFORMATION / TAT	CODES
HIV-1 DNA (+RNA) PCR	EDTA blood, dried blood spot	Daily / 72 hours	HIVPCR
HIV-1 Viral Load	EDTA blood (PPT tube)	Daily / 72 hours	HIVVL
HIV-1 resistance genotyping	EDTA blood (2 tubes)	Weekly	HIVDR
HIV-2 PCR	EDTA blood	Referred	-
SARS-CoV-2 PCR	Nasopharyngeal swab/aspirate and throat swab	Daily / 48 hrs	COV2PCR
HTLV-1 DNA PCR	EDTA blood	Referred	

Influenza A/ H1N1 (Novel) 2009	Respiratory samples and swabs	Daily / 72 hours	RVPCR
HSV PCR	CSF	Daily / 48 hours	MVPCR
VZV PCR	CSF	Daily / 48 hours	MVPCR
HHV6 PCR	CSF/ Clotted blood/ EDTA Blood	Daily / 48 hours	MVPCR
HHV6 (semi-quantitative)	CSF/ Clotted blood/ EDTA Blood	Daily / 48 hours	HH6PCR
EBV PCR (qualitative)	EDTA blood, CSF	Daily / 48 hours	MVPCR
EBV PCR (semi-quantitative)	EDTA blood	Daily / 48 hours	EBVVL
CMV PCR (qualitative)	CSF, EDTA blood, urine, amniotic fluid	Daily / 48 hours	CMVPCR
CMV PCR (semi-quantitative)	CSF, EDTA blood, urine, amniotic fluid	Daily / 72 hours	CMVVL
HBV PCR (qualitative)	EDTA blood/Clotted blood	Weekly	HBPCR
HBV Viral Load	EDTA blood/Clotted blood	Weekly	HBVL
HBV Genotyping/DRT	EDTA blood/Clotted blood	Weekly	HBDRT
HCV PCR (qualitative)	EDTA blood/Clotted blood	Weekly	HCPCR
HCV PCR (semi-quantitative)	EDTA blood/Clotted blood	Weekly	HCVL
HCV Genotyping	EDTA blood/Clotted blood	Weekly	HCGEN
HEV PCR	EDTA blood/Clotted blood and stool samples	Weekly	HEPCR
JC polyomavirus PCR	CSF	Daily	JCPCR
BK polyomavirus PCR	Urine	Referred	BKPCR
Rubella PCR	Urine, amniotic fluid	Twice a week	MRPCR
Measles PCR	Urine, amniotic fluid	Twice a week	MRPCR

Parvovirus PCR	EDTA blood/Clotted blood	Daily	PARVPCR
Parvovirus (semi-quantitative)	EDTA blood/Clotted blood	Daily	PARVPCR
Enterovirus PCR	EDTA blood, CSF	Daily / 72 hours	EVPCR
Respiratory Panel PCR	Respiratory sample	Daily / 72 hours	RVPCR
Meningitis Panel PCR (Herpes virus, Mumps virus and Enterovirus)	CSF (other samples by consultation)	Daily / 72 hours	MVPCR
Mumps virus PCR	CSF and urine	Daily / 72 hours	MUMPPCR
HPV Genotyping (High risk only)	Vaginal washings/ Vaginal swabs/ Anal swabs	Daily/ 72 hours	HPVGEN
Enterovirus genotyping	Stool and respiratory samples and swabs	As required	-
Adenovirus genotyping	Stool and respiratory samples and swabs	As required	-

SEROLOGY LABORATORY

Please refer to the table for a list of serological tests offered by the Virology laboratory. If you require any tests that are not listed, please phone the laboratory for discussion. Unless otherwise indicated, all tests listed are performed and results sent out daily.

Ideally 5ml clotted blood (yellow top) should be sent for serological tests. The actually required minimum volume depends on the number of tests requested.

Generally, the presence of IgM antibodies indicates recent or active infection and of IgG antibodies past or ongoing infection (depending on virus) and/or immunity (following immunisation or infection).

TEST	SPECIAL INSTRUCTIONS / TAT	CODES
HIV ELISA (4th generation)	Daily / 24 hours	HIVCOS (V001)

Rapid HIV (screening)	Done on request / 1 hour (Do not register this test unless telephonically organised with laboratory)	HIVRS (V005)
Hepatitis A total antibodies (immunity)	Daily / 48 hours	HATA (V110)
Hepatitis A IgM (Clinical Hepatitis A)	Daily / 48 hours	HAM (V105)
Hepatitis B immunity (HBsAb)	Specify "for immune status only". Daily / 48 hours	HBSAB (V135)
Hepatitis B active infection (Clinical Hepatitis B)	Extended markers done if indicated. Daily / 48 hours For Tygerberg patients only	HBCTA (V145) HBSAB (V135) HBSAG (V125)
Hepatitis screen / studies	Daily / 48 hours	Register all tests under clinical Hepatitis A, B and C
Hepatitis Bs Antigen	Daily / 48 hours	HBSAG
Hepatitis B extended markers	Daily / 48 hours (HBEAG (V155); HBEAB(V160) an HBCM (V150))	HEPBX
Hepatitis B Core-M	Daily / 48 hours	HBIGM
Hepatitis B anti-HBe	Daily / 48 hours	HBEAB
Hepatitis B HBeAg	Daily / 48 hours	HBEAG
Hepatitis C (clinical Hepatitis C)	Daily / 48 hours	HCAB (V185)
Hepatitis E IgG	Weekly	HEPE
Hepatitis E IgM	Weekly	HEPE
CMV IgG	Daily / 48 hours	CMVG (V275)
CMV IgM	Daily / 48 hours	CMVM (V280)
Herpes Simplex IgG	Weekly	HSVG (V215)
Herpes Simplex IgM	Weekly	HSVM (V220)
Varicella IgG	**Do not send to Virology. Send directly to NHLS Braamfontein**	VZVG
Varicella IgM		VZVM
EBV VCA/EBNA IgG	Daily / 48 hours	EBVNAG (305)

EBV VCA IgM	Daily / 48 hours	EBVCAM (V315)
Measles IgG	Referred	MEASG
Acute Measles (not SSPE or immunity)	5ml clotted blood (must be accompanied by a urine sample or throat swab – see under ISOLATION). This is a disease for which a suspected case is notifiable. Please send with completed EPID form. The specimen is referred to the reference laboratory. **Do not send to Virology TBH, but send directly to NICD.**	
Mumps IgG	**Do not send to Virology. Send directly to NHLS Braamfontein**	MUMPG
Mumps IgM		MUMPM
Rubella IgG	Daily / 48 hours	RUBG (V460)
Rubella IgM	Daily / 48 hours	RUBM (V465)
HTLV total antibody	Send directly to Lancet	HTLV1
Parvovirus IgG	**Do not send to Virology. Send directly to NHLS Braamfontein**	PARVO
Parvovirus IgM		
Injury on duty (IOD) protocol	Only specimens sent via E8 Occupational Health (and F1 after hours) will be treated as IOD specimens. HIV and Hepatitis C status is tested on the contact, and Hepatitis B immunity is tested on the staff member. Further testing is done as indicated by the results, or at the request of Occupational Health. Post-exposure prophylaxis (using the antiretroviral starter pack) should be started immediately if and when indicated. Daily / 24 hours	HIVCA HEPC HBSAB

ISOLATION LABORATORY

TEST	SAMPLE TYPE	SPECIAL INFORMATION / TAT	CODES
Rotavirus / Adenovirus 40/41	Stool	Rapid test. Daily / 24 hours	ROTA ADENO
Acute Measles. **Do not send to Virology TBH, but send directly to NICD.**	Urine sample or throat swab (Must be accompanied by 5ml clotted blood – see SEROLOGY)	Please send with completed EPID form. This is a disease for which a suspected case is notifiable, and is referred to the reference laboratory.	-
Acute flaccid paralysis. **Do not send to Virology TBH, but send directly to NICD.**	2x stool samples taken 24 hours apart	Please send with completed EPID form. This is a disease for which a suspected case is notifiable, and is referred to the reference laboratory.	-

Please refer to the table for a list of virus isolation and detection tests offered by the Virology laboratory. If you require any tests that are not listed, please phone the laboratory for discussion. Unless otherwise indicated, all tests listed are performed and results sent out daily.

SPECIAL PATHOGENS

ACUTE MEASELS PROTOCOL

Case definition:

- Fever
- Maculopapular rash
- Cough or runny nose or conjunctivitis

Suspected Measles notification and testing protocol in brief:

- Clotted blood and urine (or throat swab) must be sent to the laboratory.
- Contact the infection control unit/nursing sister for the relevant forms:
  - A case investigation form must be filled in and sent with the specimens.
  - A notification form GW17/5 must be filled in.
- An EPID number must be obtained when the case is telephonically reported to EPI-WCP at 021 483 5691 / 3156.

ACUTE FLACCID PARALYSIS (AFP) PROTOCOL

Case definition:

- Acute flaccid paralysis (including Guillian-Barrè Syndrome)
- Under 15 years of age, no apparent cause
- Any age, polio has been diagnosed by a medical officer

Acute Flaccid Paralysis notification and testing protocol in brief:

- Stool must be sent to the laboratory, followed by another specimen 24 hours later.
- Contact the infection control unit/nursing sister for the relevant forms:
  - A case investigation form must be filled in and sent with the specimens.
  - A notification form GW17/5 must be filled in.
- An EPID number must be obtained when the case is telephonically reported to EPI-WCP at 021 483 5691 / 3156.

OTHER SPECIAL PATHOGENS

For special pathogens, please contact Virologist at lab or via the pager system to discuss the case before sending specimens. In some cases, the reference laboratory will need to be notified in advance. Most cases of suspected viral haemorrhagic fever are due to other causes, and a clinical consultation may provide better information for both clinician and pathologist.

VIRUS	SAMPLE TYPE	SPECIAL INFORMATION
Rabies	Saliva, brain biopsy, CSF, clotted blood	Consult with pathologist
Viral haemorrhagic fevers	5ml EDTA blood and 5ml clotted blood	Consult with pathologist
Arboviruses	Clotted blood, various	Consult with pathologist

National Institute for Communicable Diseases (NICD), Special Pathogens Unit, Johannesburg.

Tel: 011 386 6400
Rabies hotline for medical advice: 011 882 9910
Viral Haemorrhagic Fever hotline: 082 883 9920

GUIDE TO APPROPRIATE SPECIMENS

GENERAL INSTRUCTIONS:

- All diagnostic information from the virology laboratory is contingent on the quality of specimen received. A poorly collected and/or poorly transported specimen can result in:
  - Failure to isolate the causative virus, and
  - Contamination with bacteria or fungi.
  - Haemolysis of blood samples
- Safety considerations with regard to the handling of specimens:
  - Treat all specimens as potentially hazardous
  - Do not contaminate the external surface of the collection container and/or its accompanying paperwork
  - Minimize direct handling of specimens in transit from the patient to the laboratory. Ideally, specimens should be placed in plastic sealable bags with a separate pouch for the specimen request form.
- Please ensure that samples are correctly labelled and that the request form is filled in with all the relevant data.
- The points listed below each specimen type are to enable clinicians, nursing staff and patients to be able to take a good quality specimen.
- Clinicians, nursing staff and patients are responsible for ensuring that these guidelines are followed.
- Please contact the laboratory if in any doubt as to the collection or transport of a specimen.

FAECAL SPECIMENS

COLLECTION AND TRANSPORT

- **Acceptable specimens**: Specimens should be submitted to the laboratory in a sterile screw- cap jar as soon after collection as possible (i.e. within 1 to 2 hours). Care should be taken to ensure that the specimen is not contaminated with urine. The stool should be a freshly passed stool specimen.
- A 1- 2g quantity is sufficient for virological processing.
- Submit rectal biopsy specimens in a sterile screw-cap jar with a small amount of sterile water to prevent desiccation. **Specimens for virological processing must not be submitted in formalin.**
- Specimens for Acute Flaccid Paralysis (enteroviruses) should be sent on ice.

URINE SPECIMENS

COLLECTION AND TRANSPORT

Urine is normally a sterile body fluid. However, unless it is collected properly, it can become contaminated with microorganisms from the perineum, urethra or vagina. The following guidelines are provided to ensure proper specimen collection and subsequent, prompt delivery of urine samples to the laboratory.

A. SPECIMEN COLLECTION

- **Midstream urine specimens (MSU):**
  - The person obtaining the urine specimen should wash their hands with soap and water, rinse, and dry. If the patient is collecting the specimen, he/she should be given detailed instructions, including diagrams or a pictorial display.
  - ***Females***: Cleanse the urethral opening and the vaginal vestibule area with clean gauze pads soaked with sterile saline. Hold labia apart during voiding.
  - ***Males***: Cleanse the penis, retract the foreskin (if not circumcised), and wash with sterile saline. Keep foreskin retracted during voiding (to minimise contamination with skin flora).
  - ***Both females and males***: Allow a few millilitres of urine to pass (DO NOT STOP THE FLOW OF URINE) and collect the midstream portion of urine in a sterile container. In circumcised men, cleansing of the peri-urethral area does not improve the detection of bacteriuria and is therefore not necessary

    Collect voided urine directly into a sterile container; do not use a urinal or bedpan for collection.
- **Catheter urine**
  - A straight (non-indwelling) catheter is used by a physician to obtain urine directly from the bladder.
  - Avoid contamination during urine collection from indwelling catheters.
  - This procedure is not routinely recommended because there is a risk of introducing microorganisms into the bladder.
- **Urine from an ileal conduit** must be collected after removal of the external device and insertion of a catheter into the cleansed stoma.
- **Urine collected by suprapubic needle** aspiration of the bladder avoids contamination associated with the collection of voided urine. This is the preferred method for infants and for patients for whom the interpretation of results of voided urine is difficult.

B. SPECIMEN TRANSPORT

- Transport urine to the laboratory as soon as possible after collection.
- Urine specimens must be submitted for culture within 2 hours after collection, or refrigerated and cultured within 24 hours whenever possible.
- **All specimen containers must be closed tightly to prevent leaking. If sample has grossly leaked from the container, the specimen will be rejected and not processed. If the specimen has leaked slightly, decontaminate the outside of the container with 70% alcohol prior to transport.**

STERILE BODY FLUIDS INCLUDING CSF

COLLECTION AND TRANSPORT

CEREBROSPINAL FLUID (CSF)

Please note: CSF MUST BE COLLECTED PRIOR TO ANTIMICROBIAL THERAPY!

Collection considerations for Central Nervous System (CNS) specimens:

Assay	Optimal volume	Comments
Culture	1-2ml	
PCR	1-2ml	
Serology	1-2ml	NOT ideal specimen for serology.

Volumes are guidelines. Greater volumes increase the chance of organism recovery.

- The laboratory, irrespective of the volume received, must process all CSF specimens.
- CSF specimens should be transported to the laboratory promptly. Failure to do this may result in the non-viability of some viruses.
    - In addition to routine information, it is essential that the patients' specimen label accurately reflects:
        - The specific body site from which the specimen was taken
        - Provisional diagnosis
- The ideal tubes for CSF specimens are tubes with no additives or clotting activators.
- If prompt delivery is not possible CSF specimens should be kept at 4-8°C for viral culture.
- CSF should not be added to viral transport medium.
- The ideal tube for CSF specimens is a red-topped tube with no additives or clotting activators.

OTHER STERILE FLUIDS

Vesicle fluid

- Vesicle fluid should be aspirated using a sterile technique, and inoculated into viral transport medium. Transport medium can be drawn up into the syringe and then expelled to flush the syringe and ensure that a maximum amount of vesicle fluid is obtained.
- In the past, it has been permissible to use the aspirating syringe as the transport container provided the needle was capped. This practice is no longer acceptable because of the increased possibility of needle-stick injuries.

Other: Contact the virologist to discuss the clinical case and possible tests.

SPECIMEN COLLECTION

- Specimens should be collected with as little contamination from indigenous microbial flora as possible to ensure that the sample will be representative of the infected site.
- Sterile equipment and aseptic technique must be used to collect specimens to prevent introduction of microorganisms during invasive procedures.
- In addition to routine information, it is essential that the patients' specimen label accurately reflects:
  - The specific body site from which the specimen was taken
  - Provisional diagnosis
- Collect specimens in sturdy, sterile, screw cap, leak-proof containers with lids that do not create an aerosol when opened.

TRANSPORT

- **Syringes:**
  Specimens obtained by a doctor using needle aspiration should be transferred to viral transport medium prior to transport to the laboratory. Transport medium can be drawn up into the syringe and then expelled to flush the syringe and ensure that a maximum amount of fluid is obtained.
- **Swabs**
  If a swab is taken it is essential that it be placed in viral transport medium. The swab should be placed into the bottle, and the shaft broken off. This will allow the bottle to close. Swabs for virological testing must not be put into the gel medium used for bacterial culture. Viral transport medium should be used instead.
- **RESPIRATORY SWABS** Swabs for viral culture can be taken from the nasopharynx or oropharynx.

- Multiple swabs taken from the same patient can be pooled in a single container of viral transport medium.

d. SWABS OF ULCER BASES:

- Specimens should preferably be collected prior to the administration of antiviral therapy.
- Remove overlying debris.
- Vigorously swab or curette the base of the ulcer. Ulcer scrapings can be sent for culture.
- If exudate is present from the ulcer, collect it with a syringe or a sterile swab.

e. TISSUE SPECIMENS

Biopsies and tissue specimens:

Tissue should be sent in viral transport medium. If this is not available, use sterile water or saline. Do NOT use formalin. Brain tissue for rabies investigation should be sent in sterile glycerol-saline (50%/50%) – consult the pathologist.

Fine needle aspiration:

Specimens obtained by a doctor using needle aspiration should he transferred to viral transport medium prior to transport to the laboratory. Alternatively, and only if transferring it from the syringe will compromise the specimen, **the doctor should remove the needle**, using a protective device to avoid injury, and cap the syringe with a sterile cap prior to transporting it to the laboratory. If the latter procedure is followed it is essential that the specimen be submitted to the laboratory immediately after collection.

GENERAL RECOMMENDATIONS FOR SPECIMEN COLLECTION FOR SEXUALLY TRANSMITTED DISEASES:

Cervical swabs: The cervix should be visualized via speculum examination and normal or inflammatory discharges should be removed with swabs. Swabs for Herpes Simplex Virus (HSV) should be collected from the ectocervix.

Genital Ulcer: Swabs should be used to obtain specimens from the ulcer base and placed into appropriate transport medium. If vesicles are also present in the same area, vesicle fluid may be collected after lancing the vesicle.

Vesicles: Vesicle fluid may be collected after lancing the vesicle, or aspirated from the vesicles.

TRANSPORT

- All specimens should be transported to the laboratory promptly. Failure to do this may result in overgrowth of bacteria.
- If prompt delivery is not possible specimens should be refrigerated at 4-8°C
- Syringes:
- Specimens obtained by a doctor using needle aspiration should he transferred to viral transport medium prior to transport to the laboratory. Alternatively, and only if transferring it from the syringe will compromise the specimen, the **doctor should remove the needle**, using a protective device to avoid injury, and cap the syringe with a sterile cap prior to transporting it to the laboratory. If the latter procedure is followed it is essential that the specimen be submitted to the laboratory immediately after collection.

f. SPUTUM AND RESPIRATORY TRACT SPECIMENS

INTRODUCTION:

Infections of the lower respiratory tract are a major cause of morbidity and mortality. Diagnosis of these infections frequently is complicated by the contamination of specimens with upper respiratory tract secretions during collection.

SPECIMEN COLLECTION:

Specimens include sputum, tracheal aspirates, bronchial washings, bronchial brushes, bronchial biopsy specimens, broncheoalveolar lavage fluid, trans-tracheal aspirate, lung aspirate and lung biopsy specimens.

- **Throat (Pharyngeal specimens):**
  - Do not obtain throat samples if epiglottis is inflamed, as sampling may cause serious respiratory obstruction.
  - Depress tongue gently with tongue depressor.
  - Extend sterile swab between the tonsillar pillars and behind the uvula. (Avoid touching the cheeks, tongue, uvula, or lips).
  - Sweep the swab back and forth across the posterior pharynx, tonsillar areas, and any inflamed or ulcerated areas to obtain sample.
- **Nasopharyngeal swabs:**
  - Carefully insert a swab through the nose into the posterior nasopharynx, and rotate the swab.
- **Nasopharyngeal aspirates**
  - Attach syringe to tube and fill 5ml syringe with saline or viral transport medium. Instill saline into nostril and aspirate the recoverable nasal

specimen immediately. Inject aspirated specimen into container containing virus transport medium

- **Tracheal aspirates**
  - Broncheoalveolar lavages

GUIDELINES FOR PROPER SPECIMEN TRANSPORT:

- All specimen containers must be tightly closed. **Leaking specimens will compromise the quality of results.**
- Specimens must be transported to the laboratory promptly. Failure to do this may result in the death of fastidious organisms and in overgrowth by more hardy bacteria.
- If prompt delivery is not possible, specimens should be refrigerated at 4 – 8°C.
- The longer the delay in reaching the laboratory, the lower the yield of virus, and the less sensitive the culture.

GUIDELINES FOR BLOOD SPECIMENS:

- Please consult the list of tests to see which type of blood specimen is required.
- In general, only two types of blood specimens are used – clotted blood for serology, and EDTA blood for other assays.
- Serology – clotted blood (yellow or red-topped tube)
- CMV pp65 antigenaemia – EDTA blood needs to arrive at the laboratory before 15:00. Samples older than 48 hours cannot be processed.
- PCRs and viral loads done on blood samples – EDTA blood
- Post-mortem blood samples are often haemolysed. Moderately haemolysed specimens might still be testable, but severely haemolysed specimens are often untestable.

FORENSIC MEDICINE

No tests are performed in the Department of Forensic Medicine and Pathology. Most blood specimens are sent to the Woodstock Police testing facility to maintain the chain of evidence.

It is of the utmost importance that clinicians always strive to maintain the chain of evidence in all cases where medico-legal intervention is anticipated, for example where blood is taken from a patient for ethanol concentration determination, or projectiles are collected during surgery in gunshot cases.

For practical pointers regarding maintenance of chain of evidence during evidence collection, please contact the department or doctor on call at the following numbers:

CONTACT DETAILS:

Head of Discipline, all personnel: Tel no: 021 938 9325 / 931 8043
On call registrar: Tel no: pager number 444
Tygerberg Hospital

HUMAN GENETICS LABORATORY

Telephone number: 938 4217, 938 9089 or 938 4760
List of tubes used for Phlebotomy

Collection Tube	Additive	Mode of Action	Uses
Purple 	EDTA liquid	Forms calcium salts to remove calcium	DNA extraction - invert 8 times to prevent clotting and platelet clumping
Dark Green 	Sodium heparin or lithium heparin	Inactivates thrombin and thromboplastin	Blood culturing for chromosome analysis - invert 8 times to prevent clotting and platelet clumping
Sterile (Greiner or Falcon)	10 – 15 ml of amniotic fluid		Amnion fluid culturing for chromosome analysis
Sterile	5 – 8 ml HBSS or Transport medium	Preserves solid tissue	Solid tissue culturing for chromosome analysis or solid tissue for DNA extraction
Sterile	5-8 ml HBSS with heparin		Chorionic Villus for chromosome analysis or for DNA extraction

General Instructions:

- Please ensure prompt, adequate mixing of blood samples taken into anticoagulant. These samples should be mixed adequately by gently inverting at least 8 times – **do not shake!** Failure to mix adequately may result in the sample clotting rendering it unsuitable for analyses. Vigorous shaking will cause haemolysis of sample.
- Coagulation samples:
  - **Full draw is critical** – the correct anticoagulant/blood ratio is essential for accurate results.

- Please ensure that coagulation specimens reach laboratory within 24 hours.
- Paediatric/neonate tubes are available from the lab – please phone lab stores (ext. 2207/2238) to place your order. These tubes are commercially available if you are outside the laboratory' service area.
- Haemolysis must be avoided.
- Send coagulation specimens at room temperature unless otherwise advised by the laboratory.

- Safety considerations with regard to the handling of specimens:
  - Treat all specimens as potentially hazardous
  - Do not contaminate the external surface of the collection container and/or its accompanying paperwork
  - Minimize direct handling of specimens in transit from the patient to the laboratory. Ideally, specimens should be placed in plastic seal able bags with a separate pouch for the specimen request form.
- Please ensure that samples are correctly labelled and that the request form is filled in with all the relevant data.
- The points listed below each specimen type are to enable clinicians, nursing staff and patients to be able to take a good quality specimen.
- Clinicians, nursing staff and patients are responsible for ensuring that these guidelines are followed.
- Please contact the laboratory if in any doubt as to the collection or transport a specimen.

All specimen containers must be closed tightly to prevent leaking. If sample has grossly leaked from the container, the specimen will be rejected for processing. If specimen has leaked slightly, decontaminate the outside of the container with 70% alcohol prior to processing.

If any of the tests that you require are not listed in the table below, please phone the laboratory for special instructions. Tests listed below are the common human genetic diagnostic tests available.

TEST	SAMPLE TYPE	SPECIAL INSTRUCTIONS
Chromosome Analysis (Karyotype):		
Blood (Peripheral & Umbilical)	2ml heparinised blood (green top)	
Amniotic fluid	10 - 15ml amniotic fluid in sterile Falcon or Greiner tube	

Chorionic villus	Sterile tube with heparin and HBSS or transport media	Obtain tube with specific heparin concentration from laboratory
Solid tissue (eg. Product of conception, skin biopsy, etC.)	1sq cm solid tissue in sterile tube with 5 ml HBSS or transport media	Obtain tube from laboratory
Fanconi Anaemia	5ml heparinised blood (green top)	
Fluorescent in sito hybridisation (FISH) with:		
Down syndrome probe	5ml heparinised blood (green top)	
Edward syndrome probe	5ml heparinised blood (green top)	
Patau syndrome probe	5ml heparinised blood (green top)	
Sexing probe	5ml heparinised blood (green top)	
Williams syndrome probe	5ml heparinised blood (green top)	
Di George syndrome probe	5ml heparinised blood (green top)	
Angelman syndrome probe	5ml heparinised blood (green top)	
Smith Magenis syndrome probe	5ml heparinised blood (green top)	
Prader-Willi syndrome probe	5ml heparinised blood (green top)	
Molecular Genetics (DNA test):		
Spino-cerebellar Ataxia (SCA)	5ml EDTA blood (purple top)	
Friedreich's Ataxia	5ml EDTA blood (purple top)	
Huntington Disease	5ml EDTA blood (purple top)	
Retinal Degenerative Disorder	5ml EDTA blood (purple top)	
Becker Muscular Dystrophy	5ml EDTA blood (purple top)	

Duchenne Muscular Dystrophy	5ml EDTA blood (purple top)	
Myotonic Dystrophy	5ml EDTA blood (purple top)	
Mytochondrial Disease	5ml EDTA blood (purple top)	
Charcot-Marie-Tooth	5ml EDTA blood (purple top)	
Dentatorubral Pallidoluisan Atrophy	5ml EDTA blood (purple top)	
Cystic Fibrosis	5ml EDTA blood (purple top)	
Galactosaemia	5ml EDTA blood (purple top)	
Familial Adenomatous Poliposis (FAP)	5ml EDTA blood (purple top)	
Hereditary Non Polypotic Colon Cancer (HNPCC)	5ml EDTA blood (purple top)	
Familial Breast Cancer (BRACA1/2)	5ml EDTA blood (purple top)	
Haemophila A	5ml EDTA blood (purple top)	
Fragile X Syndrome	5ml EDTA blood (purple top)	
Spinal Muscular Atrophy (SMA)	5ml EDTA blood (purple top)	
Polycystic Kidney Disease	5ml EDTA blood (purple top)	
Diagnostic test for rare genetic diseases:		http://www.doh.gov.za.docs/index.html or consult the laboratory

STERILE AMNION FLUID, SOLID TISSUE AND CHORIONIC VILLUS - COLLECTION AND TRANSPORT

Collection considerations for Amnion Fluid specimens:

Culture/ Test	Optimal volume (ml)a	Comments
Amniotic fluid / Chromosome analysis or DNA extraction	10 - 15 ml	Send specimen to human genetics laboratory immediately.
Amniotic fluid / FISH analysis	10- 15 ml	Send specimen to human genetics immediately
Solid Tissue / Chromosome analysis or DNA extraction	0.5 sq meter in 5-8 ml transport medium	Send specimen to human genetics immediately
Chrionic Villus / Chromosome analysis or DNA extraction	In 5-8 ml transport medium with heparin	Send specimen to human genetics immediately

- If prompt delivery is not possible specimens should be refrigerated at 4-8C.

SPECIMEN COLLECTION

- Specimens should be collected with as little contamination from indigenous microbial flora as possible to ensure culture growth.
- Sterile equipment and aseptic technique must be used to collect specimens to prevent introduction of microorganisms during invasive procedures.
- If a specimen is to be collected through intact skin, cleanse the skin first. For example, use 70% alcohol followed by iodine solution (1-2% tincture of iodine or 10% solution of povidone-iodine). **Prevent burn by tincture of iodine by removing excess after the specimen has been collected.**
- In addition to routine information it is essential that the patients' specimen label accurately reflects:
  - The specific body fluid the specimen contain
  - Provisional diagnosis and reason for referral
- Collect specimens in sturdy, sterile, screw-cap, leak-proof containers with lids that do not create an aerosol when opened.
- Although occasionally small clots will form in some fluids, addition of anticoagulant is not recommended; citrate or EDTA inhibits growth. If anticoagulant must be used, heparin should be the choice.

TRANSPORT

Sterile tubes

Fluid specimens can also be transferred into a sterile tube without preservative. The specimen should be submitted to the laboratory without delay so as not to compromise the recovery of anaerobic organisms.

BLOOD CULTURES - COLLECTION AND TRANSPORT

1. PROCEDURE

Site selection

The phlebotomist should:

- Select a different site for each blood sample.
- Avoid drawing blood through indwelling intravenous or intra-arterial catheters.

Site preparation

- Vigorously cleanse the venipuncture site with 70% isopropyl or ethyl alcohol.
- Do not touch the venipuncture site after preparation and prior to phlebotomy.

Collection of blood

- Using syringe and needle insert the needle into the vein, and withdraw blood. Do not change needles before injecting the blood into the tube.
- After the blood is inserted into the tube mix well to avoid clotting.
- Use a new needle if vein is missed initially.
- After phlebotomy, cleanse the site with 70% alcohol and cover puncture wound appropriately.

2. SPECIMEN VOLUME

Recommended volume:

Babies (<6 months): Ideally, 1 to 2 ml of blood should be drawn per venipuncture. However, a minimum of 0.25ml x 2 is required per test.

Children (>6 months – 12 years):Ideally, 1 to 3 ml of blood should be drawn per venipuncture. However, a minimum of 0.3ml x 2 is required per test.

Adults (>12 years): Ideally 5 ml blood per tube. However, a minimum of 0.35ml x 2 is required per test.

QUALITY CONTROL:

Tube

- Check expiry dates of tubes used.
- Tubes should be stored in a cool dark place
- Discard any tubes showing abnormal characteristics.

Labelling and transport

Please ensure that all tubes are labelled correctly and that the request form is completed with all the relevant required data. All specimens should be transported to the laboratory promptly. Failure to do this may result no growth in culture with no results.

UPDATED TBH TELEPHONE DIRECTORY 2021

Wards	Ext 1	Ext 2	Clerk
A1W Surgical	6040	6047	6037
A1East Burns	4751	5169	5068
A2 East Thoracic	5879	Sr 4199	5950
A2 West Thoracic	5951		5950
A3W Orthopaedics	5970		5971
A3 East	5854	Sr 5678	5855
A4W Neuro Surgery	6302	5669	5175
A4W Neuro Surgery	Sr 5176	Dr 5075	HC 6676
A4 East	5078		5077
A5 West Lung	HC Sr 4616		ICU 5773
A5	5792	5793	
A5 West High Care	5775		5773
A5 Technologist	5753	Bron-choscopy	5777
A6 West Heart High Care	5778	5768	5781
A6 West ICU	4844	6050	Sr 6380
A7 West Nephro	5889		5559
A7 West Nephro	5556	Sr 5371	
A7 Transplant Clinic	5179	Unit 5666	
A7 Peritoneal Dialysis	4491	Dr 5245	
A7 Haemodialysis East	4641		
A8 West Neurology	6061	6021	6060
A8 East Derma	Sr 6063		6062
A9 West Peadiatrics NICU	6057/ 6058	HC 6295	Dr 6480
A9 West Peadiatrics	6052	6058	5787
A9 East Paediatrics PICU	Sr 5772		
A9 East PICU	5347	5771	HC 6277
A10 Wes Endocrine	Sr 4583		5432
A10 Cath Lab	4074	Sr 4339	
Cardiac Arrest	4844		
Cardio Theatre (Cath Lab)	4339	4074	
C1AW Trauma	5132/5133	Sr 5490	5911

Triage	5496		
F1 Surgical	5941	Sr 4578	6286
C1DW Int Medicine	Treatment room 5247		5614
C1DW Int Medicine	Observations 1 & 2	5959	
C2A Labour Ward	4707	5965	4728
C2 High Care	Sr 4741	5968	
C2 High Risk	4423/4424	Special care	4657
C3A Wes Paeds Reception	6290	4539	5061
C3A Wes Paeds Neuro Clerk	6549	Clinic 4995	Sr 5353
C5 Plastics, Vascular	5221		
C5 Abdomen	5215		
Day Surgery	6610/6618	Sr 6619	6611
B1 Thoracic Theatre East	6346	6018	6384
B1 Thoracic Technologist	6386		
Burns Unit Theatre	4841	6429	
C2A Theatre	4713	Elective 4700	Emerg 5323
C3B Theatre	6442	6443	
DLG Psychiatry	5870		
DG Surgical	5907		4869
D1 Vascular	4864		4866
D2 Surgery	Sr 4465		4764
D3 Plastic Surgery	4777	Dr 4693	4766/7/4681
D4 Private	5073		4566
D5 Head, Neck & Breast	5838		4064
D6 Urology	4364		4367
D7 Eye	4463		4466
D8 Int Medicine	5387	Dr 5386	5388
D9 Int Medicine	5383	Sr 5872	5385
D10 Int Medicine	5980		5975
FLG Children	Sr 4571	Dr 4572/4652	4573
FLG Children Psychiatrists	4650		4574

FLG Children Psychiatrists	5260	4270	4271
FLG Children Social Worker	5969	Dr 4861	OT 4654
FG Gynae	4414	Sr 4648	6078
F1 West	5941		6286
F1 West	Sr 4578	Drs room 6086	
F2 Obstetrics M	Sr 4649	6484	4642
F2 Obstetrics M	Dr 4645		
F3 COVID- 19	4946	6482	
F4 Orthopaedics	4155		4639
GLG Psychiatry	Sr 5583	Dr 5103	5474
GG Paediatrics	6378/4536	OPM 6641	6639
GG Paediatrics	Dr 6440	Tea room 6640	6722
G1 Paediatrics	6574	6268/6573	6570
G2 Paediatrics	4552	4513	4556
G2 Paediatrics	OPM 4453	Dr 4516	
G3 Paediatrics	4564	Dr 5886	4565
G3 Paediatrics Doctors Room		4570	4575
G4 Paediatric Surgical	4660		4658
G4 Paediatric Surgical	Sr 5534	Drs room 6179	
G5 Paediatrics	4131	Tube station 5881	4154
G5 Paediatrics	Dr 6021	Dr 4173	
G6 Paediatrics	Sr 4472		4474
G7 Paediatrics	4664	OPM 4667	5769
G8 Paediatrics	KMC 4709	4723	
G8 Paediatrics	OPM 6638	Dr 4710/26	4732
G9 Paediatrics	Sr 5635	Dr 5633	5634
G10 Paediatrics	Sr 5007		
G10 Paediatrics	OPM 4326		
JLG Psychiatry	5411	Typist 4629	5120

JLG Psychiatry	Sr 5121	Dr 5413	5498
JLG Psychiatry Doctors	5116/7/8/9	5124/6287	4273/5672
JGround	OPM 5754	4407	5761/6583
J1	OPM 4876	4532	4794
J2 Obstetrics B	OPM 4717	5115	5113
J3	OPM 5107	6147	5108
J4 Obstetrics	OPM 4745	5105	5104
J4 Drs room	5101		
J5 Obstetrics B	OPM 5138	5026/5029	5028
J6 Orthopaedics	Sr 5017	Dr 4659	5021
J7 Surgical	5011	Sr 4534	5015
J8 Peadiatrics	4302		4157
Resuscitation	4072	4333	6125
Resuscitation OPM	6140		
Trauma	5132	5133	5911
X-Block Wards	H1-4439	H2-5689/5939	
X-Block Recep	5325	Porters 5475	
X-Block Chemo	GIT 6014	CHEMO 4187	
X-Block X Rays	5894		
Departments			
Bed Manager	6584	4871	
C.S.S.D.	Head 6180	5884	5282
C.S.S.D.	4754	5882	
C1A Lodox/ X- RAYS	6623		
C4B Theatre	5924	B-Block	5279
CATLAB	4074	4339	
Carel Du Toit Principal	5312	Chat Centre	6066
Carel Du Toit Reception	5303		
Carel Du Toit Residence	West 5362	East 5361	
CHOC House	5270	021 9329427	
Crèche	5143		
CT Scan	5599/5798	5892	5905
Entrance 1 Security	5000		

Entrance 2 Security	5836		
Entrance 5	4277		
Feedem Cafeteria	6310		
Fluoroscopy	5928	5934	
FPS Mortuary	021 931 4232		
Ground Floor Registration	5271	4775	4779
H4 Reception	5900	PACS Admin	5945/5239
Healthnet	6091	4770	
Home Affairs Birth Registration	4468		
Hospital Patient Fees - Enquiries	5853	5852	
Laundry	021 933 0836	021 933 0837	
Main Kitchen	Head 4135	4759	4939
Main Kitchen	5291	4852	4028
Mammograms	4547		
Mammograms C6B	5329	5452	6329
Medical Records	Head 4512	4220	6155
Medical Records	4518	4519	4521/4524
Medical reporting/Medico Legal	5200	4376/5866	5826
Medical School Fax	021 938 9159		
Milk Kitchen	5161	5162	
Mortuary	5469		
MRI Reception	5933	5415	
Night Matron	4056		
PA Transport	4243	5471	
Pastoral Care Services	4924		
Patient Enquiries 1st floor	6595	6596	4758
Patient Enquiries West	4785	4786	
Patient Hospital School	5261	Principal 5262	5252
Patient Transport East	5492		
PET Centre	6552		

Pharmacy	Head 5225	Dep Head 4917	Stores 4507
Pharmacy OPD	4915	Inpatients	4916
Pharmacy Reception	4500		
Poison Centre	0861 555 777		
Porters - Trauma Deck	4921	6117	
Radiology	Prof Pitcher 5622	Ms B Dreyer 5918	4558
Radiology	5495	5863	
Reporting Room	4674		
SAPS	4982		
Security - Control Room	5165		
Security - Emergency Phone	4282		
Security - Threats	5088		
Security Main Gate	4993		
Social Work Department	4164	5684	
Sonar Reception	5641	5095	
T.B.H. Fax	021 931 1451		
Tube System	5072	5136	
TygerBear	021 931 6702		5231
X-Rays C1A	5233	5378	5868/4371

Clinics	Ext 1	Ext 2	Ext 3
Abdominal Surgery	5215	6218	
Allergies		Sr 4995	4539
Allergies children up to 12 years	4539		
Andrology Lab	5487	4883	
Angiogram	5924		
Antenatal High risk	4424	4423	
Arthritis	5527		
Asthma	5524		
Barium Meal/Fluoroscopy	5913		5900
Breast	5203	5210	5205
Burns	5221		
Cardiology	4111	4332	
Cervix	4428	4942	
Collateral Surgery	5531	5213	5215
Day Surgery	6618	6619	
Dermatology	4670	4671	4068
Diabetic Training		5543	5423
Diabetic	5536	5423	
Dietician	4477		
EEG	5500		
ECG	4402		
Ear, Nose & Throat	4828	4830	4827
Echo Cardiology	4332		
Endocrinology	5536		
Epilepsy Neurology	5541		
FNA	5406		
C3A Pediatrics	4539	5061	4995
Eye surgery	5509	5518	
Family Planning	4447	Dr 4388	5964
Gastro	5531	4079	5344
Geriatric Internal Medicine	5443		
Gynaecology	4437	4438	5156
Gynaecology Oncology	4428	4942	4682

Hand Clinic	West 5333	East 5317	Sr 5319
Hematology	5888		
Hearing & Speech	4825		
Head, Neck & Breast	5203		
High Risk	4424		
Human Nutrition	4351	4477	
Infectious Diseases 8th floor	5229	4592	
Infectious Diseases 9th floor	5576		
Infection Control	5054	5576/4582	6083/5056
Infertility	4437	4883	5487
Internal Meds	4404	Sr 5445	5441/5443
Internal Meds	5441		Dr 4406
Liver Clinic	5531		
Lung Functions	5659	5789	5776
Lung Functions Tech	5753	5085	6071
Mammograms	4547		
Nephrology (Kidneys)	5524		
Nuclear Medicine	4268	Results 4265	4907/4356
Neurosurgery and Children		5264	5075/5176 West
Neurosurgery and Children	West 5175	East 5077	East Sr 5078
Neurophysiology Tech	5500	5147	5448
Neurophysiology	Prof 5449	Dr 4755	Dr 5994
Neurology	5541		
Obstetrics	4424	4423	
Obstetrics - Special Care	4877		
Occupational Therapy	5062	5962	
Occupational Health/Staff Clinic	Appt 6181	5171	
Ophthalmology	5517 /5518	5509/5533	Sr 5505
Orthopedics West	5333	5319	
Orthopedics East	5317	6224	5041
Pediatric Neurosurgery	4539		

Paeds High Risk	5874		
Paediatric Surgery	5215		
Paediatric- Audiology	4825		
Phlebotomy room	5967		
Physiotherapy	5152	6150	
Plastic Surgery	5221		
Psychiatry (Children)	4573		
Psychiatry (Adults)	5120	5411	
Radio-isotope Nuclear Meds	4268		
Radiotherapy	5899	5850/5128	5665
Registration	East 4775	4779	
Respiratory Nephrology	5524		
Rumatology	5527		
Sonar – Stomach	5641	Reception	4673
Sonar - Obstetrics	5572	4702	
Staff Clinic	5171	6181	
Stress Tests	4402		
Special Clinics West	5541	5527/5522	5577
Stoma	5976	4763	
Surgical	5221		
Test results	4330		
TOP Clinic	6443	4437	6442
Thoracic Surgery	5215		
Tube feeding	4075		
Urology West	5310	6221	
Urology East	5305	6223	
Urology Gynaecology	4437		
Vascular	5221		
X-Rays	5233 (1st floor)		5329 (6th floor)
X-Rays	5045 (4th floor)	5913 (4th floor)	
LABORATORIUMS	**Ext 1**	**Ext 2**	**Ext 3**
Anathpath -FNA Clinic	5249		

Anatomy's	4040		
Blood Grouping	6081	6082	
Bone marrow	4122		
Chemical Pathology	6616	4936	4934
Chemistry Lab	6616		
Chemistry Lab Manager	5606		
Cytology	4202		
Cytology - library	5351		
Cytology - results	4040		
Cytology Lab	6112		
Cytology Lab Manager	4948		
Haematology - Bone marrow	4122		
Haematology - Coagulation	4615	5750	5687
Haematology Lab Manager	5751		
Histology	4040		
Histology - Results	5226		
Histology lab	4036		
Histology Lab Manager	6161		
Immunology Lab Manager	5564		
Immunology	4001	5278	4018
Lab support - Lab manager	4937		
Lab support - Results	4330		
Lab support - Results	4934		
Lab support - Results	4931		
Microbiology	Reception 4012	4007	4026
Microbiology Lab	4006		
Microbiology Lab Manager	4003		
NHLS	4904	4931	4330
Virology	021 9389557	719557	71-9354
Virology Lab Manager	021 938 9355		

NOTES

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