

# DEPARTMENT OF MEDICINE

## Research Report 2006

(Including the UCT Bioethics Centre, MRC/UCT Ischaemic Heart Research Unit, MRC/UCT Liver Research Centre, MRC/UCT/UWC Research Unit for Traditional Medicines and the World Health Organisation Collaborating Centre for Drug Policy, and The Albertina and Walter Sisulu Institute for Aging in Africa)

**Head of Department:** Professor B Mayosi

### Departmental Profile

Department incorporates 7 major Research Units: the UCT Bioethics Centre, the MRC/UCT Liver Research Centre, MRC/UCT/UWC Research Unit for Traditional Medicines, UCT/UCL Hatter Institute for Cardiology Research, the Albertina and Walter Sisulu Institute for Aging in Africa, the UCT Lung Institute and the Desmond Tutu HIV Research Centre.

The Department consists of 16 clinical divisions: Acute General Medicine, Cardiology, Dermatology, Endocrinology and Diabetology, Gastroenterology, Geriatric Medicine, Haematology, Hepatology, Infectious Diseases, Immunology and Allergology, Lipidology, Pharmacology, Nephrology and Hypertension, Neurology, Pulmonology, and Rheumatology. The

### Departmental Statistics

#### Permanent and Long-term Contract Staff

Professors	11
Associate Professors	18
Senior Lecturers/lecturers Full-time	26
Administrative and clerical staff	34
<b>Total</b>	<b>89</b>

#### Honorary Staff

Honorary Professors	5
Emeritus Professors	3
Honorary Associate Professors	2
Honorary Senior Lecturers	39
Honorary Research Associates	3
<b>Total</b>	<b>54</b>

## Students

Doctoral	35
Masters	134
Undergraduates	1071
<b>Total</b>	<b>1240</b>

## Research Fields and Staff

*See Units and Divisions within the Department*

## Departmental Contact Details

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# DEPARTMENT OF MEDICINE UCT BIOETHICS CENTRE

**Director:** Professor S.R. Benatar

## Centre Profile

### Diploma in International Research Ethics

We have completed four years of our IRENSA Programme sponsored by the Fogarty International Center of the US National Institutes of Health. Twenty seven of our students have successfully completed their practicums, and have graduated from the University of Cape Town with Diplomas in International Research Ethics. Three students of the 2005 class graduated with distinctions.

We hosted our Fourth Annual International Research Ethics Seminar on 21 and 22 August this year.

The UCT Bioethics Centre in conjunction with the University of Toronto and the Department of Health in the Western Cape hosted a Workshop on Resource Allocation on 29 March 2006. Thirty nine people registered and thirty four people were in attendance. The purpose of this Workshop was to plan and implement improvements to priority setting decision making in the Western Cape.

Our application to the US National Institutes of Health's Fogarty International Center for a renewal of our grant has been successful. We have been awarded almost US\$ 1 million for over the next four years. We have selected our students for 2007 and the IRENSA programme will continue until 2010.

### Other activities

Our undergraduate and general postgraduate activities, clinical consultation service and research work (see publications) continue on a satisfactory trajectory. Prof Benatar has been invited to serve as the international member of the Standing Committee on Ethics for the Canadian Institutes of Health Research for three years. He recently attended the first meeting in Ottawa.

## Centre Statistics

### Permanent and Long-term Contract Staff

Professor	1
Admin/secretarial	1
<b>Total</b>	<b>2</b>

Honorary staff	22
<b>Total</b>	<b>22</b>

## **Research Fields and Staff**

Professor Solly Benatar

Research ethics (including International Research Ethics); global bioethics

Professor David Benatar

Moral philosophy; applied ethics

Dr Lesley Henley

End of life decisions – with special reference to a children’s hospital

Dr Paul Roux

The impact of informed consent with regard to HIV/AIDS in a children’s hospital

Dr Terry Fleischer

Resource allocation / priority setting within the context of shrinking resources

## **Centre Contact Details**

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**DEPARTMENT OF MEDICINE  
DIVISION OF CARDIOLOGY  
(Cardiac Clinic)**

**Head of Division:** Professor P.J. Commerford

### **Divisional Profile**

The Cardiac Clinic provides an in- and outpatient clinical service in cardiology and training for registrars in the subspecialty. Research activities are predominantly clinical including evaluation of new pharmaceutical agents and adaptations of practice to suit local conditions. Professor Bongani Mayosi's group, in co-operation with the Division of Human Genetics and Directorate of Primary Health Care, is actively investigating aspects of the genetics and epidemiology of heart disease.

### **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Professor	1
Associate Professor	1
Senior Lecturers	1
Part-time Senior Lecturer	2
Registrars-in-training	4
Secretarial Staff and Research staff	5
Technologists	2
ECG Technicians	8
Honorary staff	1
Nursing staff	17
Radiographers	5
GSH Administrative	6
<b>Total</b>	<b>53</b>

#### **Students**

Learner Technologists	4
Clinical Research Fellows	2
PhD	2
Masters	2
Honours	1
<b>Total</b>	<b>11</b>

### **Research Fields and Staff**

Professor P.J. Commerford  
heart failure; acute coronary syndromes; epidemiology; treatment

Professor R.N. Scott Millar  
arrhythmias; pacemakers; electrophysiology

Dr A.M. Okreglicki  
arrhythmias; pacemakers; electrophysiology

Dr M. Ntsekhe  
pericarditis and infectious diseases

## **Divisional Contact Details**

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# DEPARTMENT OF MEDICINE

## DIVISION OF CLINICAL IMMUNOLOGY

**Head of Division:** Associate Professor S.R. Ress

### Divisional Profile

Division of Clinical immunology is involved in evaluation of immune function in patients with suspected immune deficiency, TB immunology research, and under-graduate and post-graduate immunology teaching. We are commencing year 5 of a NIH subcontract study evaluating the efficacy of rIFN- $\gamma$  1b in a RCT in moderate pulmonary tuberculosis (TB) patients, together with collaborators in New York and UCT lung institute. Other TB research involves the comparison immune response in neonates following BCG vaccination.

Professor Ress attended the American Thoracic Society (ATS) meeting held 19-24th May 2006 in San Diego, USA and presented a talk on immune function in patients receiving adjunctive IFN-gamma therapy in addition to DOTS, in a randomized clinical trial. We welcomed Dr. Keertan Dheda to our staff; he is a respiratory physician with immunological and molecular biology expertise.

### Divisional Statistics

#### Permanent and Long-term Contract Staff

Associate Professors	1
Senior Lecturer	1
Research Staff	2
Technical Support Staff	1
<b>Total</b>	<b>5</b>

#### Students

Doctoral	2
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### Research Fields and Staff

Professor Stanley Ress  
Immunology of tuberculosis; BCG vaccination;

Dr K. Dheda  
TB immunology, IL-4, T-regs, TB diagnostics,

### Divisional Contact Details

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# DEPARTMENT OF MEDICINE

## DIVISION OF DERMATOLOGY

**Head of Division:** Professor Gail Todd

### Divisional Profile

#### Teaching

The Division's training programme includes undergraduate teaching of 2nd to 6th year MBChB students, nurses and students in professions allied to medicine. Postgraduate students include 6 registrars, 3 of whom studying part-time. Dr Sue Jessop convened the Research Modules of the 2nd year of study (semesters 3 and 4) and our division supervised 30 students in 9 research projects in 2006. She simultaneously convened the 5th year (semesters 9 and 10) undergraduate programme for 2006.

The core undergraduate dermatology module was successfully introduced in 2006 as part of the mixed specialities block of the 5th year of the new curriculum. Students benefited from intense small group, facilitated, problem orientated, patient-based, self-directed learning and tutorials. Students received in course assessments for case presentations and an OSCE was held at the end of each block. Professor Gail Todd convened this innovative adult, surgical and medical speciality block. The block had its own course code and students needed to pass all of the 7 specialities in order to pass the year, highlighting the importance of these specialities to medical practice. A student favourite of this block was the monthly two-day field trip to outlying clinics. Here students saw and managed dermatology and ENT cases under the supervision of consultants and registrars from both divisions, giving them their first taste of clinical practise. Approximately 200 patients with skin diseases were seen by per trip. These clinics are a perfect example of how service can be linked with teaching at all levels of health care.

The division contributes significantly to occupational health curricula. Occupational Health registrars spend part of a 6 month rotation in our Division. We designed and teach the section on occupation skin disease for the Diploma in Occupational Health of the Department of Public Health, a distance-based learning program. Our own distance-based teaching platform was initiated by Professor Roy Colven, a joint project with CHED which is still in its development phase. It is hoped this will relieve the pressure on us for out reach teaching both locally and nationally.

Our division remains active in facilitating a unified national dermatology examination platform as 3 of our consultants are on the committee of the College of Dermatology. Major changes to the basic science curriculum for this programme are in the planning stages, in line with the current integrated education policy of the new MBChB curriculum. A portfolio of in-course training, including clinical competency in procedures essential to the practice of dermatology, is also being developed.

Interns rotate through the division every two-weeks. The teaching is greatly appreciated by and helps to address the lack of undergraduate exposure identified by the HPCSA. Sessions at dermatology nurse-lead clinics in Hout Bay are routine and are especially appreciated by the interns and nurses alike.

Twelve nurses successfully completed the Dermatology Nurse Course run in collaboration with the Division of Nursing. PN Nora Christians and PN Patricia Kelly are the course convenors. Dermatology nurse run services are offered throughout southern Africa and local clinics are being incorporated into our teaching platform as primary health care teaching nodes. The course and nurses continue to be supported by Rotary with the awarding of annual Rotary bursaries and prizes. The International Federation of Anti-Leprosy Associations lists the course as approved for leprosy field worker training internationally.

#### Service and outreach

Skin disease accounts for 25% of referrals to paediatric primary care facilities and increases to 36% with the added burden of HIV infection. The Division of Dermatology historically

provided for the bulk of the increasing paediatric dermatology service until the appointment of Dr Gavin Gottschalk as a full time senior paediatric dermatology consultant in 2005. He has consolidated the services into tertiary clinics for patients with specific, complicated skin diseases such as disorders of keratinisation, epidermolysis bullosa, and vascular anomalies and general dermatology.

The 5th year MBChB undergraduates attend the 2 weekly general dermatology clinics for paediatric dermatology teaching. The full time dermatology nurse educator, PN Anthea Magagula, is supported in the Oasis Crescent Trust day-care unit by SEN Lucia Volkwyn. They educate and treat 100 to 200 children with severe skin diseases and their families monthly. Although still in its infancy dermatology awareness has improved with daily active contribution to and involvement in the School of Adolescent and Child Health. The future of this essential, highly successful, dedicated service is in jeopardy as there are administrative moves to downgrade the post to a part time position following the resignation of Dr Gottschalk. The approximately 5000 patients managed during the past year would not have been possible if a single consultant ran the service part time. The output of the service represents the combined effort of the Division of Dermatology as a functional unit.

Sister du Toit and a junior nurse handle a steady patient load of 400 to 500 patient visits per month in the dermatology day-care centre. As a holistic approach to patient management remains the cornerstone of this service. It remains the only training and referral centre of its kind in South Africa drawing patients from all over southern Africa for management of difficult skin conditions. Current collaboration with Dundee University will compare and contrast differences in skin reactions to ultraviolet radiation in northern and southern hemispheres populations.

Professor Roy Colven took a year's unpaid leave from the University of Washington School of Medicine, Seattle, USA, to spend a further 12 months in our division consolidating the teledermatology service and distance-based teaching platform he established as a Fulbright Fellow (<http://faculty.washington.edu/rcolven/teledermatology.shtml>). This has been a great success with 7 sites functional throughout South Africa. Teledermatology clinics are now regular features of both registrar and consultant rotations ([dermatol@uctgsh1.uct.ac.za](mailto:dermatol@uctgsh1.uct.ac.za)). A national initiative involving the MRC, DOH and Universities of Cape Town, Western Cape, Stellenbosch and KwaZulu Natal has been established to explore the expansion of telemedicine in southern Africa. The acceptability of the programme to provider and patient forms the basis of a research project for Dr Samantha Eisman. She is also investigating a cell phone based network approach with Adcock Ingraham and MTN. She was awarded the Dermatology Society of South Africa research award for their project.

Southern African outreach is an increasingly significant part of divisional service and teaching. Professor Gail Todd was part of a lecture and clinical service programme to Lesotho and Botswana as a guest of the Leprosy Mission, Africa and local Governments. Outreach to the Walter Sisulu University continues every six weeks. A regular outpatient clinic incorporating two dermatology-trained nurses at the Nelson Mandela Hospital remains the mainstay of regular dermatology care in the region. The inclusion of registrars in this programme offers them a community based learning platform.

In line with the 2010 health plan for the Western Cape we continue to try and improve community based dermatology patient care. Pilot nurse lead day-care centres at key community health care centres supported by direct telemedicine backup from our Division form the backbone of the plan. Dr Laduma Ngwanya, Dr Sean Christians and Dr Gavin Gottschalk provided popular monthly teaching sessions for health care providers at local community centres.

Dr Cecile Keyzer, a part-time consultant in the division, continues to organize annual beach clinics to publicize the cancer risk of sun exposure in collaboration with the Cancer Association of South Africa. Eleven weekend or public holiday clinics were scheduled to run on various beaches of the Western Cape over December 2005 and January 2006. Due to unseasonable weather, 4 clinics were cancelled and only 221 beachgoers were seen, of whom 29 were referred for further management of a whole range of skin conditions, including 21 potential cutaneous malignancies.

PN Judy Wallace remains a committee member of The Psoriasis Association, a patient-based organisation. Professor Gail Todd is the African councillor on the International Psoriasis Council. She was an invited speaker at the first international congress. Patients, researchers, the pharmaceutical industry and clinicians (dermatologists and rheumatologists) were delegates at this innovative congress allowing for interchange of ideas at all levels, hopefully to benefit of all concerned.

The private and public service delivery divide of recent years continues to deprive our registrars of exposure to a sector of health care that the University of Cape Town, Skin & Hair Centre at the UCT Lung Institute provides. This complementary service for colleagues in private practice continues to grow as a specialist referral facility for outpatient management of private patients with skin diseases. It is an essential postgraduate teaching resource. Dermatology registrars participate in specialist clinics, phototherapy and research conducted at the centre.

Divisional teamwork has made the substantial contributions of 2006 possible, as, in addition to teaching, our Division staff of 14 doctors and 14 nurses, is responsible for 80,000 patient contacts per annum. The selfless efforts of the supernumerary staff and many visitors to South Africa are acknowledged. Visitors and unpaid staff who deserve special mention include Professor Roy Colven, Dr Abe Collison and our willing supernumerary registrars Dr Didi Motsepe, Dr Ilsphe Browne and Dr Ulrike Raabe.

### **Academic activities**

Divisional research has received increased attention this year and much of our work could have significant impact on future South African health policy.

The Division is emerging as the research centre for African skin and hair. Dr Khumalo, a graduate of our division, joined the staff as a doctoral research fellow reading for her PhD thesis on aspects of African hair, hair loss and scalp disorders and has several innovative publications in this field. She was invited to present aspects of her work on African hair at the Ethnic Hair and Skin Symposium in Senegal. A specialised clinic for problems of the hair and scalp, run by herself and Dr Ngwanya is a service in demand.

We have shown in a prospective study, that the United Kingdom working criteria for atopic eczema are not applicable in a randomly selected population of 3 to 11 year old Xhosa children. This is probably best explained by the fact that these children represent a low endemic population with numerous other causes for itchy skin and that many of the terms used in the original questionnaire have no direct translation into Xhosa. This data was presented at the plenary session of the British Association of Dermatologists Meeting in Manchester by Dr Debra Chalmers who analysed the data for her MPH in Public Health. The study of more than 1000 children from each of the rural, peri-urban and urban areas studied confirmed an increasing prevalence of atopic eczema in urban populations. Professor Todd was invited to present this work at the Swiss Society for Allergology and Immunology congress in Zurich. The health burden of skin disease in these children, the cost burden of skin disease and the evaluation of possible etiologic factors that could account for the urban association are to be reported. This is a Wellcome sponsored, collaborative study with Nottingham University.

Our work in atopic eczema has brought further collaboration with overseas researchers and the role of filaggrin gene mutations in local black populations is the basis of new research for 2007, a joint project with the University of Dundee Scotland.

A CANSA sponsored epidemiological study of melanoma incidence in Cape Town has revealed a worrying increase in this highly malignant tumour compared to a similar study reported 10 years earlier. This collaborative study with the School of Public Health and the University of Stellenbosch has been accepted for publication.

Dr Sandra Pather presented her prospective randomised double-blind study showing that pulsed, high dose griseofulvin are as effective as the standard 6 weeks of continuous therapy for treating childhood tinea capitis caused by *Trichophyton violaceum* at the British Association of Dermatologists Meeting in Manchester in 2006

Ongoing clinical research includes the following: A randomised double blind trial of chloroquine compared to topical steroid for chronic discoid lupus erythematosus treatment in collaboration with the University of Stellenbosch and the University of Nottingham now in its third year of recruitment. A study on contact hypersensitivity reactions in atopic eczema children and a comparative study of allergic reactions in atopic compared to normal people. Dr Omar continues to follow a group of first year trainer hairdressers prospectively to document the development of skin disease of the hands and factors associated with these reactions in this vulnerable population. He received a Department of Medicine research grant to complete this study for his MMed.

The molecular basis of vitiligo, the role of khellin in repigmentation, and the low incidence of cancers in vitiligo patients remain an important focus of our collaborative research work together with Professor Sue Kidson and Dr Lester Davids of the Department of Human Biology.

## Divisional Statistics

### Permanent and Long-term Contract Staff

Associate Professors	1
Senior Lecturers (full-time)	3
Senior Lecturers (part-time, 5/8)	1
(part-time, sessional)	3 ½
Research Staff	7
Administrative and Clerical Staff	3
Honorary Lecturers	5
<b>TOTAL</b>	<b>22 ½</b>

### Students

Doctoral	1
Masters	7
Undergraduate	523
<b>TOTAL</b>	<b>531</b>

## Research Fields

Associate Professor Gail Todd

Head of Division; Prevalence and cost of childhood atopic eczema in rural, urban and peri-urban settlements around Cape Town, South Africa, collaborative project with the University of Nottingham; Patch testing and atopic eczema, collaborative study Dermatology Departments in UK, Tanzania and South Africa; Genetic basis for atopic eczema, collaborative project with University of Dundee; Occupational skin disease; All aspects of vitiligo especially national epidemiology and cancer risk; Community dermatology; Convenor of 5th year MBChB Mixed Specialities programme.

Dr Susan Jessop

Treatments for discoid lupus erythematosus in collaboration with the Departments of Dermatology and Rheumatic Diseases Unit, University of Stellenbosch; Melanoma epidemiology in collaboration with the Division of Oncology and CANSA; Evidenced-based

dermatology in collaboration with the Cochrane Skin Group as a lead editor, Nottingham UK; Medical education, Convenor of 2nd year research modules and 5th year MBChB programme.

Dr Laduma Ngwanya  
Dermatopathology; Diseases of the hair and nails. North American Hair Research Society African representative.

Dr Gavin Gottschalk  
Paediatric dermatology. Molecular basis of vitiligo.

Professor Roy Colven (supernumerary senior consultant paid by Division of Dermatology from Research Funds), On unpaid leave from the University of Washington School of Medicine, Seattle, USA.  
Teledermatology service in South Africa. Skin diseases in systemic medicine. HIV and dermatology.

## **Registrars**

Dr Hanif Omar  
Incidence of skin disease amongst trainee hairdressers.

Dr Rannokoe Lehloenya  
Drug reactions and hypersensitivity testing. Immune reconstitution syndrome in HIV.

Dr Sean Christians  
Epidemiology of itchy skin diseases in informal settlements in the Western Cape.

Dr Didi Motsepe (supernumerary registrar)  
Teledermatology. Papular pruritic eruption of HIV.

Dr Samantha Eisman (5/8 supernumerary post)  
Teledermatology. Papular pruritic eruption of HIV.

Dr IIsphi Browne (5/8 supernumerary post)

Dr Ulrike Raabe (supernumerary registrar)

## **RESEARCHERS**

Dr Nonhlanhla Khumalo (post doctoral PhD fellow)  
African hair and hair disorders. Blistering dermatoses. Vulval disorders. Evidenced-based dermatology.

PN Elizabeth du Toit (part-time)  
Comparative study of phototherapy responses in the Northern and Southern hemispheres, collaborative project with the University of Dundee, Scotland, UK. Qualitative research in dermatology.

PN Patricia Kelly (part-time)  
Lecturer and nurse convenor for the 5th year MBChB dermatology student block. Course convenor and lecturer for the UCT Dermatology Nurse Course. Follow-up study on post-graduate dermatology nurses. International Skin Care Nursing Group South African representative.

PN Judy Wallace (Sister - Ward G23)  
Nursing care of severe drug reactions. Management of leg ulcers.

PN Nora Christians  
Course convenor and lecturer for the UCT Dermatology Nurse Course. Applied research.

PN Anthea Magagula  
Community and paediatric dermatology

EN L Volkwyn (Paediatric nurse educator – Oasis day-care centre, Red Cross Hospital)  
Allergic response in atopic eczema. Applied research.

S. Woods (IT consultant – part-time)  
Development and maintenance of dermatology databases and teaching slides.

## **HONORARY STAFF**

Honorary Lecturers: Emeritus Associate Professor Norma Saxe (dermatopathology, epidemiology of melanoma), Dr Ian Webster (laser therapy), PN Nora Christians (convenor of the UCT Dermatology Nurse Course), Mr Ockie Kruger, African Director, Leprosy Mission (leprosy module convenor and lecturer for the UCT Dermatology Nurse Course); PN Harry Basdeo, Smith and Nephew, Health-care Division (leg ulcer module convenor and lecturer for the UCT Dermatology Nurse Course).

## **VISITORS**

Professor Roy Colven, Harborview Medical Centre, University of Washington School of Medicine, Dermatology Section, Seattle; Dr Robert Dawes, Ninewells Hospital, Dundee Scotland; Professor James M Grichnik, Duke University, North Carolina; Professor Neil Prose, Duke University, North Carolina; Dr Amy Geng, Harvard University, Boston; Dr Meredith Sheedy, Duke University, North Carolina; Dr Tereza Gabrysova, Prague, Czech Republic; Mr. Ockie Kruger, African Director, Leprosy Mission; Mr Gerard Botha, Johnson and Johnson.

## **DERMATOLOGY NURSE GRADUATES 2006**

PN Mina Bujan (Western Cape); PN Roseline Sheila Frolik (Western Cape); PN Shumani Martha Makhamedzha (Limpopo); PN Nokuloza Maninjwa (Eastern Cape); PN Thembisile Lucy Maphanga (Kwazulu Natal); PN Ntakuseni W Faith Mashau (Venda); PN Elsie Thokozile Mazuka (Mpumalanga); PN Kebawetse Petunia Molefi (Mafikeng); PN Khangela Cynthia Saliso (Eastern Cape) PN Johanna Stevens (Western Cape); PN Tozama Tshandu (Eastern Cape); PN Bhulukazi Margaret Tyumre (Eastern Cape)

## **ELECTIVE STUDENTS**

Spencer Quick, UK; Eric Bernon, USA; Mark Uranga, USA; Becky Uranga, USA; Shoma Bannerjee UK; Gijs Teklenburg, The Netherlands.

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# DEPARTMENT OF MEDICINE

## DIVISION OF ENDOCRINOLOGY AND DIABETIC MEDICINE

**Head of Division:** Associate Professor N.S. Levitt

### Divisional Profile

The Division provides an inpatient and outpatient clinical service and sub-speciality training in adult endocrinology and diabetes. Two recipients of International Diabetes Training Fellowships for sub-Saharan Africa have undergone training in Endocrinology and Diabetes during the past year.

### Research

The Division is involved in a wide range of research activities and interacts with a number of international and local collaborators. The primary areas are:

*Health Systems Research:* Major projects include: i) an investigation of staff knowledge, practices and perceived barriers to the provision of lifestyle education for chronic diseases of lifestyle at the primary care level in the Western Cape and ii) development of indicators of care for diabetes at the primary care level

*Obesity* A number of studies are in progress examining the mechanisms underlying the aetiology of obesity and the metabolic sequelae thereof in black and white African women.

*Early Antecedents of Adult Onset Chronic Diseases:* We are engaged in examining whether low birth weight is associated with programming of the neuro-hormonal axes in particular responses to exercise and psychological stimuli as well as microvascular responsiveness in two cohorts in Cape Town. We are also involved in the Birth to Ten and related Bone Health Study in Johannesburg and Soweto. This study provides an opportunity to evaluate the interrelationship between birth weight and subsequent growth on the development of the various components of the metabolic syndrome in up to 2000 black African subjects.

*Burden of disease:* The contribution of diabetes to the overall burden of disease pattern in the South African context is being studied in collaboration with Dr Debbie Bradshaw, BOD Group, MRC.

*Addison's Disease:* The pathogenesis of Addison's disease in South Africa is being investigated in collaboration with the Universities of Florida, USA and Uppsala, Sweden. Additionally a genetic component is being undertaken with Prof She, Augusta, USA.

*Diabetes in Pregnancy:* an audit has been conducted examining maternal and foetal outcomes in women with pregestational and gestational diabetes during pregnancy.

*Metabolic consequences of antiretroviral therapy in HIV+ patients:* The Division has received funding from the World Diabetes Foundation and Department of Health to investigate the metabolic consequences of HAART. This will be a 4-year study and will provide employment for five people from previously disadvantaged backgrounds.

### Divisional Statistics

#### Permanent and Long-term Contract Staff

Professor	1
Professor (Hon)	1
Senior Lecturer	1
Senior Registrar in Training	1
Medical Officer (sessional)	1
Diabetes Specialist Nurse	1
Administrative and Clerical Staff	1
<b>Total</b>	<b>7</b>

## Research Fields and Staff

Professor N S Levitt

Diabetes and hypertension health systems research, the foetal origins of chronic diseases, the glycaemic index of foods, mechanisms underlying the metabolic sequelae of obesity and antecedent hypoglycaemia.

Dr I L Ross

National registry for Study of Addison's Disease and polyglandular autoimmune syndrome  
Cortisone replacement therapy and impact on multiple organ syndromes in Addison's Disease

Assessment of quality of care in the Diabetic Clinic at Groote Schuur Hospital.

Dr J Dave

Prevalence of undiagnosed hyperglycaemia in patients presenting with acute strokes

Incidence of osteoporosis and vertebral fractures in patients with inflammatory bowel disease

Metabolic consequences of antiretroviral therapy

Dr C Ekpebegh

Audit of Maternal and Foetal Outcome for pregestational and gestational Diabetes

Dr A R Isiavwe

Carotid intima media thickness measurement in subjects with type 2 diabetes.

## Divisional Contact Details

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**DEPARTMENT OF MEDICINE  
DIVISION OF GASTROENTEROLOGY  
(Gastrointestinal Clinic)**

**Acting Head of GI Clinic:** Professor P.C. Bornman

### **Divisional Profile**

The Gastrointestinal Clinic is a multi-disciplinary clinical unit consisting of Medical and Surgical components. This report primarily reflects the Medical component. The Clinic carries a large clinical load and offers a number of specialised services, with clinical and applied research interests in: Hepatobiliary disease; Colorectal disease; Oesophageal disease; Inflammatory bowel disease; *H.pylori* related disease; and Nutrition. The Clinic is involved in a number of collaborative research projects.

### **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Lecturers	3
Research Staff	2
Administrative and Clerical Staff	1
<b>Total</b>	<b>6</b>

#### **Students**

Masters	3
<b>Total</b>	<b>3</b>

### **Research Fields and Staff**

Mrs T. Marks

Research Assistant: inflammatory bowel disease and nutrition; genetic studies in IBD (collaborative work with Oxford University, Christian Albrechts University in Kiel, Germany, and the Division of Digestive Diseases and Nutrition, University of Kentucky, USA)

Dr G.A. Watermeyer

Specialist: probiotic in the maintenance of ulcerative colitis (AstraZeneca research fellowship); risk of malignancy in inflammatory bowel disease treated with Azathioprine or 6-Mercaptopurine; the pathobiology of Barrett's oesophagus (with C. van Rensburg [TBH]); TB versus Crohn's disease; genetics of gastric cancer; ; evaluation of mucins in IBD; NOD2 mutations in TB; drug trials – various

Dr DP Epstein

GIT diseases in HIV; Osteoporosis in IBD; creation of a national IBD registry; Azathioprine in Ulcerative Colitis; differentiating intestinal TB from Crohn's Disease; endoscopy database design

Dr DA Levin

Dyspepsia.

## **Divisional Contact Details**

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**DEPARTMENT OF MEDICINE  
THE ALBERTINA AND WALTER SISULU INSTITUTE OF  
AGEING IN AFRICA/ DIVISION OF GERIATRIC MEDICINE**

**Head of Institute of Ageing in Africa:** Professor Monica Ferreira  
**Head of Division of Geriatric Medicine:** Dr Sebastiana Kalula

### **Institute Profile**

The Albertina and Walter Sisulu Institute of Ageing in Africa (IAA) is a Cross-Disciplinary Group which incorporates the divisions of Geriatric Medicine, Psychogeriatrics and Gerontology. The vision of the IAA is to be an academic, clinical and research centre of excellence and relevance in Africa. It's mission is to facilitate the delivery of the highest standard of inter-disciplinary, in-context training for health and allied professionals, and evidence-based clinical and social care for older persons, whilst undertaking appropriate research and audit upon which policy and planning for older persons may be based. The mission is achieved through inter-disciplinary partnerships and teamwork; human resource development; and continuous risk assessment within current legal, ethical and financial constraints. The IAA is a leader in the area of research on ageing in sub-Saharan Africa, and enjoys international recognition and acclaim. Research projects comprise a substantial element of training as well as a high degree of implementability, and draw in visiting researchers, graduate students, policy makers, planners and community agencies alike. The IAA was admitted to the International Longevity Center Global Alliance in June 2005.

### **Institute Statistics**

#### **Permanent and Long-term Contract Staff**

Director	1
Senior Consultant	1
Consultant	1
Registrar	1
Medical Officer	1
Technical Assistant	1
Administrative and Clerical Staff	1
<b>Total</b>	<b>7</b>

#### **Honorary Staff**

Visiting Professor	2
Visiting Researcher	1
Senior Lecturer	1
Lecturer	1
<b>Total</b>	<b>5</b>

#### **Students**

Doctoral	2
Masters	1
<b>Total</b>	<b>3</b>

## **Research Fields and Staff**

Professor Monica Ferreira

Director; social gerontology; population ageing; health sociology; economics of ageing; social impact of HIV/AIDS; physical and cognitive functioning; ageing in Africa

Dr Sebastiana Kalula

Senior Specialist; Head, Division of Geriatric Medicine; epidemiology of dementia; falls; quality of care.

Dr Linda de Villiers

Specialist, Division of Geriatric Medicine; stroke risk factors and rehabilitation; post-discharge stroke community care

## **Institute Contact Details**

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# DEPARTMENT OF MEDICINE

## DIVISION OF HAEMATOLOGY

**Head of Division:** Professor N. Novitzky

### Divisional Profile

The Division of Haematology at Groote Schuur Hospital is a complex unit with multi disciplinary activities that include outpatient clinics, admission beds as well as diagnostic and research laboratories. The clinical services are organised under the umbrella of the Department of Internal Medicine, while the laboratory diagnostic sections are under the broader organisation of the Department of Clinical & Laboratory Sciences and National Health Laboratory Service (NHLS). In addition a University of Cape Town Leukaemia Unit established within the division, has now been reviewed by the University Research Committee and will continue focusing its research work in the area of haemopoietic stem cell biology and transplant immunology. A second scientist has now been appointed to head molecular and cellular research in the Leukaemia Unit laboratory. The task of this scientist will be to pursue further research into the area haematopoiesis, cellular therapies and stem cell transplantation. Additionally Medical Research Council funded projects continue to improve our understanding of haematological malignancies.

Patients with elaborate clinical problems, bone marrow failure or requiring stem cell transplantation are referred from all provinces; particularly the Northern and Eastern Cape and occasionally we receive referrals from foreign institutions in Sub-Saharan Africa. In addition, individuals with multiple myeloma and other lymphoproliferative disorders are treated together with the Department of Radiation Oncology in combined clinics.

Among the other multiple activities, a busy Haemophilia Centre provides total care to patients with congenital bleeding disorders. The apheresis section provides a service to the hospital and is central to the haematopoietic stem cell transplantation programme. Plasmapheresis continues to be provided for the emergency treatment of patients with myasthenia gravis and the Guillain-Barré syndrome. An ongoing Professional Development programme has been established and run to improve the training of medical staff. A “streamed” program for the training of the recently established sub-speciality of Clinical Haematology has become popular with steady applications. Faculty members from the division also regularly contribute to the teaching programmes of the basic sciences as well as Departments of Internal and Laboratory Medicine and registrars from these disciplines rotate for periods of 3 -12 months.

### Divisional Statistics

#### Permanent and Long-term Contract Staff

Professors	1
Senior Specialists	1
Specialist	1
Specialist part-time	1
Chief Professional Nurse	2
Laboratory Manager	1
Clinical Registrars	3

Senior House Officers	2
Medical Technologists	18
Technicians	3
Pathologists	3
Pathology Registrars	6
Scientist	1
Administrative and clerical staff	4
Laboratory assistants (medical school)	2
<b>Total</b>	<b>49</b>

### **Students:**

Doctoral	1
Masters	2
Honours	1
<b>Total</b>	<b>4</b>

## **Research Fields and Staff**

Professor N. Novitzky

haematopoietic stem cell biology; clonogenic assays; haematopoietic stem cell transplantation; immune reconstitution; haematological malignancies

Dr Maureen Stein

haematopoietic stem cell biology

Dr Cecile du Toit

haematopoietic stem cell transplantation; haematological malignancies; haemophilia

Dr Jessica Opie

molecular biology of neoplasia: chronic myelogenous leukaemia; coagulation abnormalities

Dr Karen Shires

Molecular biology and diagnostics

Ms Rygana Mohamed

cellular biology of neoplasia; clonogenic assays

Dr Andrew McDonald

haemophilia; thrombophilia; stem cell transplantation

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# DEPARTMENT OF MEDICINE HATTER INSTITUTE FOR CARDIOLOGY RESEARCH

**Director:** Emeritus Professor Lionel H. Opie

**Financial and Administrative Director:** Dr M. Faadiel Essop

## Institute Profile

The focus of the Hatter Institute is to study: 1) ways of protecting the heart against insults such as lack of blood flow (ischaemia), and 2) the molecular regulatory mechanisms underlying the development of diabetic cardiomyopathy. The highlight of the year was the presidential award (Order of Mapungubwe) by President Thabo Mbeki to Professor Lionel Opie for his major contributions to advancing research in cardiology. This year has also been a particularly productive one with publications in leading journals (such as the highly cited Lancet) and several of our postgraduate students being awarded their degrees.

To achieve research excellence, we aim at producing work that achieves publication in the best internationally recognised journals and work that is of relevance to the society in which we live.

We also have an important teaching role, not only within the Medical School, but particularly by virtue of conferences and courses organised with our sister Hatter Institute at University College London, directed by Professor Derek Yellon. The annual Cardiology at the Limits meeting promotes high level postgraduate education. It brings together cardiologists from the United Kingdom and all over South Africa to listen to an intense updating on crucial cardiological issues “at the limits” of modern knowledge. Our courses for the cardiology registrars from South Africa and from the United Kingdom continue as the Hatter Institute Cardiac Horizons Series.

Additional Research Collaborative initiatives:

Department of Medical Physiology at the University of Tromso, Norway (Professor Terje Larsen, Professor Ole Mjos). Department of Physiology at the University of Stellenbosch (Professor Kathy Myburgh); University of Texas Health Science Center, Houston TX, USA (Dr Martin Young – Baylor College of Medicine); University of Texas Health Science Center, Houston TX, USA (Dr Heinrich Taegtmeyer, Division of Cardiology); University of California, San Diego, San Diego, CA, USA. (Dr Ken Chien); Department of Medical Physiology, Oxford (Professor Kieran Clarke); National Institute of Health, USA (Professor Michael Sack); University of Osaka, Japan (Professor S. Akiro); Case Western Reserve University, USA (Professor William C. Stanley);

## Institute Statistics

### Permanent and Long-term Contract Staff

Emeritus Professors	1
Clinical Staff	1
Senior Lecturers	2
Research Staff	4
Laboratory Assistants	3
Administrative and Clerical Staff	1
<b>Total</b>	<b>11</b>

## Honorary Staff

Honorary Professor	1
<b>Total</b>	<b>1</b>

## Students

Post-Doctoral	1
Doctoral	4
Masters	4
	<b>9</b>

## Research Fields and Staff

Professor Lionel Opie  
delineation of cellular and molecular mechanisms promoting cardiac protection

Professor Derek Yellon  
delineation of cellular and molecular mechanisms promoting cardiac protection

Dr Faadiel Essop  
molecular regulation of cardiac energy metabolism and its contribution to heart disease

Dr Sandrine Lecour  
delineation of cellular and molecular mechanisms promoting cardiac protection

Dr Roisin Kelly  
delineation of cellular and molecular mechanisms promoting cardiac protection

Dr Deon Pretorius  
delineation of cellular and molecular mechanisms promoting cardiac protection

Mr. Naushaad Suleman  
delineation of cellular and molecular mechanisms promoting cardiac protection

Ms Lydia Lacerda  
delineation of cellular and molecular mechanisms promoting cardiac protection

Dr Joy McCarthy  
molecular regulation of cardiac energy metabolism and its contribution to heart disease

Mr. Siyanda Makaula  
molecular regulation of cardiac energy metabolism and its contribution to heart disease

Mr. Sarin Somers  
molecular regulation of cardiac energy metabolism and its contribution to heart disease

Ms Tasneem Adam  
molecular regulation of cardiac energy metabolism and its contribution to heart disease

Ms Anna Chan  
molecular regulation of cardiac energy metabolism and its contribution to heart disease

Mr Jamie Imbriolo  
molecular regulation of cardiac energy metabolism and its contribution to heart disease

Mr Jonathan King

delineation of cellular and molecular mechanisms promoting cardiac protection

Ms Makhosazane Zungu

molecular regulation of cardiac energy metabolism and its contribution to heart disease

## **Institute Contact Details**

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**DEPARTMENT OF MEDICINE**  
**MRC/UCT LIVER RESEARCH CENTRE**  
**(incorporating DIVISION OF HEPATOLOGY)**

**Directors:** Professor D. Kahn (Surgery) and Professor P.N. Meissner (Medicine)

**Head (Liver Clinic):** Professor Wendy Spearman

## **Divisional Profile**

The Centre is multidisciplinary and its members consist of physicians, surgeons, biochemists, immunologists and pathologists. Apart from its laboratories in the Departments of Medicine and Surgery, the Centre runs the only multidisciplinary, comprehensive, liver and porphyria clinics, including a liver transplantation program, in Africa . Major areas of research include: porphyria, viral hepatitis, chronic hepatitis, immune abnormalities in liver disease, immunosuppressive factors in the venom of *Bitis arietans*, liver transplantation, the role of portal systemic shunting in abnormal energy metabolism of liver disease, laparoscopic cholecystectomy, the treatment of bile duct calculi, the management of portal hypertension, and new methods of liver resection.

## **Divisional Statistics**

### **Permanent and Long-term Contract Staff**

Professors	3
Associate Professors	4
Senior Lecturers / Research Officers	9
Technical Support Staff	10
<b>Total</b>	<b>26</b>

### **Honorary Staff**

Honorary staff	3
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### **Students**

PhD students	5
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## Research Fields and Staff

P.C. Bornman

management of portal hypertension; new methods of liver resection laparoscopic cholecystectomy; treatment of bile duct calculi

H.N. Hairwadzi

Autoimmune liver disease

D. Kahn

liver transplantation; liver regeneration

J.E.J. Krige

management of portal hypertension; new methods of liver resection laparoscopic cholecystectomy; treatment of bile duct calculi

E.G. Shephard

Development of HIV vaccines; immunology of liver disease

R.J. Hift

porphyria; iron overload

C.W.N. Spearman

liver transplantation; viral hepatitis; non-alcoholic fatty liver disease

A.V. Corrigall

porphyria

A. Mall

the role of mucus in the pathogenesis of gallstones

P.N. Meissner

porphyria

## Divisional Contact Details

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# DEPARTMENT OF MEDICINE

## HYPERTENSION CLINIC

**Head of Division:** Associate Professor Brian Rayner

### Divisional Profile

The Hypertension Clinic is a consultant clinic, which provides a specialist, in- and out-patient service for patients with severe and/or secondary hypertension. It also provides specialist health care service to various Community Health Care Centres and a 24 hour Ambulatory Blood Pressure service to the entire community. The clinic takes place on a Monday morning from 08:00 - 13:00, and Thursday morning from 09:00 to 11.00 hours.

The hypertension clinic has been very active in the last year. Active research projects are continuing and a community outreach programme has continued to operate. Visits to the clinic have been reduced in line with the hospital's cost containment policy allowing us to see more new patients, and through careful pre-screening of referrals our waiting list for new patients has been dramatically reduced. The major problem is the waiting list for follow appointment as it has been increasingly difficult to down-refer due to the 5 drug policy. The December closure and numerous public holidays in April-May compound this problem. Despite the cut backs the hypertension clinic has continued to offer a quality service to patients but areas of concern have been highlighted. The 24 blood pressure monitoring service has expanded to fulfill a very important and growing need for patients with difficult hypertension. Research activity has improved and the extension of facilities has been a great boost.

### New developments

The Hypertension clinic has established new rooms on the J Floor of the Old Main Building, and this has allowed us greater opportunity to undertake basic and contract research. This has enabled Dr Yvonne Trinder to join the Hypertension clinic on a full time basis. Prof Mayosi's efforts in this regard are greatly appreciated.

### Education

The pharmacology registrar attends the clinic on Monday mornings and mainly sees new cases in conjunction with Prof. Rayner and Opie as a teaching and academic exercise. There remains an urgent need for doctors from the Day Hospital to rotate through the clinic to improve hypertension management in the community. However space and staff constraints make this impossible and this should be goal for the future as it will ultimately lead to better use of our tertiary services.

### Outreach Programme

Since March 1999 Sister Barrett, Staff Nurse Makaleni and Dr Buchanan-Lee visit the Khayelitsha Community Health Centre every 4 weeks. This is in line with the hospital policy to provide outreach support to the community health centres. This has resulted in a greater understanding of the causes and results of blood pressure amongst these patients, resulting in better compliance and control of hypertension in patients who were previously uncontrolled. These visits also enable us to screen patients who require specialist referral to Groote Schuur Hospital. Once controlled

the patients are discharged back to Khayelitsha. A total of 15 - 20 patients are seen during these visits.

### **Important priorities**

1. There is still an urgent need to establish a combined cardiovascular clinic with the lipid and diabetic clinic. This will pool resources and improve efficiency to the benefit of patients. The clinic also needs to operate more frequently as it is extremely difficult to manage severe hypertension under our present constraints.
2. A medical officer is needed in the clinic on a daily basis to handle immediate problems. It is very difficult for the head of division to do this type of work.

### **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Emeritus Professor	1
Professor	1
Consultant	1
Registrar	1
Medical Officers	4
Chief Prof. Nurse	1
Research staff	2
<b>Total</b>	<b>11</b>

### **Research Fields and Staff**

Professor Brian Rayner  
clinical research; genetics of hypertension; ENaC mutations; hypertensive retinopathy;  
contract research

Professor Lionel Opie  
clinical research; genetics of hypertension

Dr Yvonne Trinder  
clinical research; contract research

Sister Ivy Nteyi  
genetics of hypertension; ACE genotype study

Sister Donette Baines  
contract research co-ordinator

### **Divisional Contact Details**

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# DEPARTMENT OF MEDICINE

## DIVISION OF LIPIDOLOGY

**Head of Division:** Associate Professor A.D. Marais

### Divisional Profile

Lipidology is a division of the Department of Medicine that performs the following functions: expert clinical consultation, special diagnostic laboratory, clinical research including drug development studies with the pharmaceutical industry, and laboratory research with students and on contract with industry. The service as well as the research, is funded chiefly by contract research but does receive support from the Medical Research Council. The clinical research describes the severe dyslipidaemias occurring in public health sector of the province but includes some referrals from the private sector and academic institutions in the country. The laboratory research involves the setting up of cost-effective special assays for diagnosis. The pharmaceutical studies have involved the development lipid modifying agents in severe dyslipidaemia and their effects on the carotid artery.

### Divisional Statistics

#### Permanent and Long-term Contract Staff

Professor	1
Consultants	1
Medical Officers	2
Nursing sisters	3
Contract Dietitian	1
Postdoctoral scientist	1
Technical Support Staff	5
Administrative Staff	2
<b>Total</b>	<b>16</b>

#### Students

Doctoral	1
Masters	1
<b>Total</b>	<b>2</b>

### Research Fields and Staff

A.D. Marais, S. Jones, D J Blom, J C Firth, K H Wolmarans, R J Jooste

Severe dyslipidaemias including Familial Hypercholesterolaemia, Dysbetalipoproteinaemia, chylomicronaemia.

K. H. Wolmarans, J.E. Freislich, Z. Behardien, A. D. Marais

Carotid intima-media thickness in dyslipidaemic patients

D.J. Blom, S. Jones, P. Byrnes, A. D. Marais

Dysbetalipoproteinaemia. Lipodystrophy.

J.C. Firth, S. Jones, R.J. Jooste, S.J. Delport, P.L.E. Cowie C.A. Fuller

Familial hypercholesterolaemia responses to colestevlam, atorvastatin and torcetrapib, and ezetimibe and simvastatin.

F.H. O'Neill, A. D. Marais

Phyosterolaemia; Fatty acid profiles and changes during peroxidation

D.M.Blackhurst, A. D. Marais

Anti-oxidant effects of wine.

M. Le Riche, B.D. Ratanjee, A.D. Marais

Lipoprotein X

N. Purdie, L.M. Reilly, A.D. Marais

Application of a Friedl-Crafts acylation reaction to determine plasma cholesterol, polyunsaturated fatty acids and dyslipidaemia.

## **Divisional Contact Details**

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## DEPARTMENT OF MEDICINE DIVISION OF NEPHROLOGY

**Head of Division:** Dr M.D. Pascoe

### Divisional Profile

The Division remains actively involved in contract research in the fields of transplantation immunosuppression the anaemia of chronic kidney disease and in SLE. Further studies in the field of immunosuppression have been initiated in the area of transplantation, and further studies are scheduled to commence in the area of iron metabolism in chronic renal disease. A major community project has been initiated investigating genetic and other factors in hypertensive patients attending community hospitals. A further project is designed to address HIV/AIDS related kidney diseases.

### Divisional Statistics

#### Permanent and Long-term Contract Staff

Associate Professors	2
Senior Lecturers	2
<b>Total</b>	<b>4</b>

#### Students

Medical Registrars (1 senior)	3
PhD student	2

### Research Fields and Staff

Associate Professor B.L. Rayner  
Research activities are based in the hypertension clinic; Nil renal

Dr M.D. Pascoe  
renal pathology with HIV disease; factors influencing long-term renal graft survival; cost effective drug strategies in transplantation; new immunosuppression protocols for renal transplantation

Associate Professor C.R. Swanepoel; new immunosuppressive drugs in systemic lupus erythematosus; renal anaemia

Dr Z Barday. HIV related renal disorders. New agents in transplantation and in SLE.

### Divisional Contact Details

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## **DEPARTMENT OF MEDICINE DIVISION OF NEUROLOGY**

**Head of Division:** Associate Professor R.W. Eastman

### **Divisional Profile**

A general neurological clinical service is operated at Groote Schuur Hospital including inpatients, outpatients, an acute stroke unit, a clinical neurophysiology laboratory, and a referral and emergency service. In addition, there are specialised clinics for stroke, myasthenia gravis, epilepsy and neuro-genetics. Areas of research include:-

**Stroke:** The division runs a 6-bed acute stroke unit and maintains a database on all stroke patients. In collaboration with the Swedish International Development Agency, and the Department of Geriatrics, stroke outcomes and rehabilitation are being studied at tertiary and district level.

**Myasthenia gravis:** A large cohort of patients is being prospectively followed. Studies on this group include the molecular mechanisms of complement regulation (with the Department of Human Genetics and Cell Biology) and the pharmacokinetics of azathioprine in the various ethnic groups of patients (with the Department of Pharmacology).

**Neuro-genetics:** A clinical and counselling service, seeing a wide variety of disorders and especially spino-cerebellar ataxia and Huntington's disease.

**Inflammation in the nervous system:** Cytokines and other inflammatory mediators are studied in Alzheimer's disease and HIV encephalopathy.

**Epilepsy surgery:** A video-EEG longterm monitoring unit studies and selects patients with chronic intractable epilepsy for surgical treatment.

**Multi-media teaching:** The use of this modality is being explored for local teaching.

**Drug trials:** The division is active in phase 3 drug trials, especially in Parkinson's disease and epilepsy.

### **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Associate Professors	3
Senior Lecturers (Full-time)	1
Junior Lecturers (Full-time)	2
Lecturers (Part-time)	3
<b>Total</b>	<b>9</b>

#### **Students**

MMed students	3
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## **Research Fields and Staff**

Associate Professor R.W. Eastman  
epilepsy; epilepsy surgery; EMG

Associate Professor B. Kies  
parkinson's disease; epilepsy; neurotherapeutics; primary care management of common neurological conditions

Associate Professor A. Bryer  
stroke; neuro-genetics; spinocerebellar ataxias

Dr E. Lee Pan  
health systems information technology; computer-based medical education

Dr J. Heckmann  
Myasthenia gravis; neuro-immunology; neuro-genetics; HIV-related neurological disorders

Dr M. Combrinck  
Neuroinflammation; cytokines in the cerebrospinal fluid; HIV mechanisms, HIV encephalopathy

## **Divisional Contact Details**

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## **DEPARTMENT OF MEDICINE DIVISION OF PHARMACOLOGY**

(Including the MRC/UCT/UWC Research Unit for Traditional Medicines and the World Health Organisation Collaborating Centre for Drug Policy Research)

**Head of Division:** Professor Gary Maartens

### **Divisional Profile**

The major research thrusts of the division are in malaria, tuberculosis and HIV. The research in these fields is very broad, encompassing basic science, pharmacokinetics, clinical trials and pharmacoeconomic evaluation. The malaria cell biology programme is lead by the senior Wellcome Trust fellow, Heinrich Hoppe. A large multicentre malaria clinical research group has secured substantial funding from the Global Fund – this programme is at the forefront of malaria treatment research and policy in Africa. The MRC South African Traditional Medicines Research Group (joint UCT and UWC) was extended for a further 5 years in 2004. Compounds with antimalarial, antibacterial (including anti-tubercular) and antifungal activity are identified from plants used in traditional medicine. A series of studies evaluating the interaction between rifampicin and antiretroviral drugs in adults and children has commenced with funding from the Department of Health and the EDCTP. Our collaboration on population pharmacokinetics with Uppsala University is ongoing, funded by NRF. A study on the pharmacokinetic-pharmacodynamic interaction of antitubercular drugs has been funded by the MRC. An NIH-funded study of an intervention to improve antiretroviral adherence has commenced. Pharmacoeconomics is an emerging interest, with several studies on antimalarial and antiretroviral drugs. A study funded by MRC and the Wellcome Trust has commenced to evaluate the role of corticosteroids in paradoxical reactions in tuberculosis patients induced by antiretroviral therapy (in collaboration with Robert Wilkinson, IIDMM).

### **Divisional Statistics 2006**

#### **PERMANENT AND LONG TERM CONTRACT STAFF**

	UCT
Professor	1
Associate professors	3
Senior Lecturers	1
Lecturers	3
Registrars	3
Senior Wellcome Fellow	1
Technical Support Staff	7
Information pharmacists	4
Administrative and Clerical Staff	6
Laboratory Assistants	2
<b>TOTAL</b>	<b>31</b>

## HONORARY STAFF

Honorary Lecturers	2
Honorary Research Associates	1
<b>TOTAL</b>	<b>3</b>

## POSTGRADUATE STUDENTS

Post Doctoral	4
Doctoral	12
Masters	8
Honours	3
<b>TOTAL</b>	<b>27</b>

## Research Fields and Staff

Barnes, KI

Malaria, combination antimalarial therapy – operational and policy research

Blockman, M

Rational and cost-effective prescribing of medicines; drug utilisation review; adverse drug reaction monitoring; drug policy and regulation

Campbell, WE

Phytochemical studies on indigenous Amaryllidaceae species; structural studies on active compounds isolated from traditional medicinal plants

Evans, A

Drug assay development

Gabriels, G

Analytical Chemistry, Pharmacokinetics, Traditional Medicines, Drug Discovery and Development, Drugs and Sport Performance

Hoppe, HC

Malaria parasite cell biology

Maartens, G

Adherence to antiretroviral therapy, immunopathology & diagnosis of HIV-associated tuberculosis, pharmacokinetics of antiretrovirals in tuberculosis; pharmaco-economic evaluation of antiretroviral therapy

McIlleron, H

Pharmacokinetics and pharmacodynamics of anti-tuberculosis drugs, population pharmacokinetics, drug interactions between antiretrovirals and rifampicin.

Mehta, U

Adverse drug reaction monitoring; pharmacovigilance; vaccines safety, drug regulation

Smith, PJ

Mechanisms of antimalarial drug resistance; pharmacokinetics of anti-tuberculosis drugs; isolation of novel drugs from traditional medicines; development of new drug assays

## **Divisional Contact Details**

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## **DEPARTMENT OF MEDICINE DIVISION OF RESPIRATORY MEDICINE**

(Including the Lung Clinical Research Unit in the UCT Lung Institute)

**Acting Head of Division:** Associate Professor G.M. Ainslie

### **Divisional Profile**

The Division provides an inpatient and outpatient clinical service and sub-speciality training in pulmonology. In addition, it runs specialised clinics in interstitial lung disease, cystic fibrosis, work health (together with the Dept of Occupational Medicine) and lung cancer (together with the Dept of Radiotherapy & Oncology). Prof Ainslie is the current President of the South African Thoracic Society (SATS). She is a long-standing council member. Prof Bateman is Executive Director of the UCT Lung Institute and is currently chair of the Science Committee of the Global Initiative against Asthma (GINA), and serves on the Steering Committee of the Global Alliance against Respiratory Diseases (GARD) of the World Health Organisation.

Research projects currently in progress are the following:

- 1. Respiratory epidemiology:** (Prof E D Bateman and Dr A Jithoo in collaboration with the Stellenbosch University, Imperial College, London and the Burden of Obstructive Lung Disease (BOLD) Executive Committee). Two major community surveys, the first the Lung Health Study involving questionnaires, chest radiography and sputum testing, and the second the BOLD project which employs internationally standardized questionnaires and spirometry, have been performed in the suburbs of Ravensmead and Uitsig in Cape Town. These confirm alarmingly high levels of cigarette and cannabis smoking, and record levels of COPD. These findings are being reported and strategies for addressing these issues are being considered. Dr Jithoo was recipient of the South African Pulmonology Society GlaxoSmithKline Respiratory Research Fellowship, and spent 6 months in London in the Respiratory Epidemiology Unit of Professor P Burney at the Imperial College.
- 2. Lung Drug Research Unit:** (Professor E D Bateman and Dr M Bateman). This unit has performed a further 12 studies over the past year, and maintains its international reputation for research into drugs for use in asthma and COPD. A new laboratory in the Lung Institute has been equipped and a project involving sputum induction, impedance plethysmography, inhaled breath condensate and other non-invasive methods for assessing airway inflammation has been performed.
- 3. Research into new treatments and drugs for tuberculosis:** (Dr R Dawson and Professor E D Bateman). A Centre for Tuberculosis Research Innovation has been formed at the Lung Institute. Projects include an NIH-funded project on host defences in tuberculosis, and the role of inhaled and subcutaneous interferon-gamma on active pulmonary tuberculosis, and, two studies on new drugs for the treatment of tuberculosis. The latter has become an urgent need in view of the development of multidrug and extreme drug resistant strains of mycobacteria.
- 4. Use of the Chest Radiography Recording and Reporting System (CRRS) for use by non-radiologists for field studies:** (Dr R Dawson and Professor E D Bateman in collaboration with Professor N Beyers of Stellenbosch University and the International Union Against Tuberculosis and Lung Disease). The CRRS system was developed at the Lung Institute and is being promoted for epidemiological field studies of tuberculosis

and lung diseases. A curriculum and course materials for training non-radiologists has been developed and the first 3-day course held. The performance of non-radiologists trained in this way is being examined.

5. **Practical Approach to Lung Health in South Africa (PALSA):** Dr R English led a validation study of the guideline's diagnostic accuracy, and Dr L Fairall a pragmatic randomized controlled trial of its effectiveness, cost and cost-effectiveness. Both studies have been completed, analysed and initial findings have been published. Four doctoral degrees have been produced of which two (Dr B Majara, University of the Free State and Dr R English) have been awarded.
6. **Practical Approach to Lung Health and HIV/AIDS in South Africa (PALSA PLUS):** (Dr L Fairall and Professor E D Bateman). Fieldwork for a pragmatic randomized controlled trial of its effectiveness was completed in the Free State in 2004/5 and analysis and write-up are currently underway. A second trial involving 46 facilities is running parallel to the province-wide implementation of the programme in the Western Cape and a meta-analysis of both trials is planned. Qualitative research alongside the Free State trial has been completed and submitted for publication.
7. **Cohort analysis of patients enrolled in the Free State Comprehensive Care, Treatment and Care of HIV/AIDS Programme:** Data routinely collected by the clinical programme is being subjected to in-depth longitudinal cohort analysis of outcomes including survival, blood (CD4, viral load) and clinical (weight) parameters.
8. **The STRETCH trial (Streamlining Tasks and Roles to Expand Treatment and Care for HIV):** An intervention to broaden the role of nurses in the anti-retroviral roll-out, will be subjected to a rigorous evaluation in 31 Free State facilities during 2007/8. Outcomes include survival of HIV positive patients at high risk of death ( $CD4 \leq 350$ ) and viral load suppression among those established on antiretroviral treatment.

## Visitors

Professor Peter J Barnes, Imperial College, London, England; Professor Soren Pedersen, University of Southern Denmark, Denmark; Professor Henk Hoogsteden, Erasmus University, Rotterdam, Netherlands; Professor Richard Chaisson and Drs Michael Klag, Thomas DeRosa and Sally O'Brien, John's Hopkins University, USA, Dr Don Enarson, International Union Against Tuberculosis and Lung Disease, Paris; Dr Saskia den Boon, University of Rotterdam; Dr Max Bachmann, University of East Anglia, UK; Dr Merrick Zwarenstein, University of Toronto; Dr Janine Davies, University of Calgary.

## Divisional Statistics

### Permanent and Long-term Contract Staff

Professors	2
Associate Professors	2
Senior Lecturer	1
<b>Research Staff</b>	
Medical Officers	7
Nursing study co-ordinators	4
Scientists	2
Clinical Technologists in Pulmonology	6
Administrative and clerical staff	4
<b>Total</b>	<b>28</b>

### Students

PhD	4
MPhil	3
<b>Total</b>	<b>7</b>

## Research Fields and Staff

Professor Eric Bateman

epidemiology of lung disease; asthma management; chronic obstructive airways disease; tuberculosis immunology and host defences, and management; respiratory disease management and knowledge translation

Associate Professor Gillian Ainslie

high resolution CT scanning in idiopathic pulmonary fibrosis; asthma education

Associate Professor Paul Willcox

multi-drug-resistant tuberculosis; lung cancer; cystic fibrosis; community-acquired pneumonia

Dr Richard Raine

epidemiology of sleep-disordered breathing; effects of cortisol on dreaming and sleep; novel therapies for treatment of severe sepsis

Dr Rodney Dawson

immunology of tuberculosis; new drugs in tuberculosis

Dr Keertan Dheda

immunology of tuberculosis and lung disease

Dr Rene English

guideline development and integrated management in primary health care; asthma and COPD management

Dr Lara Fairall

guideline development and integrated management in primary health care; asthma, COPD tuberculosis and HIV treatment, knowledge translation

Dr Anamika Jithoo

epidemiology of lung disease

Dr Mary Bateman

smoking cessation; pharmacology of asthma and COPD

## **Divisional Contact Details**

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## **DEPARTMENT OF MEDICINE DIVISION OF RHEUMATOLOGY**

**Head of Division:** Professor Asgar Ali Kalla

### **Divisional Profile**

The Division of Rheumatology has several research interests relating to different aspects of the rheumatic diseases. Osteoporosis is an area of interest for many years and there is ongoing collection of longitudinal bone mineral density data in patients with rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE). Age-related bone loss at different skeletal sites is being prospectively studied in collaboration with the Department of Nuclear Medicine and the Endocrine Unit. Clinical drug trials are in progress to study the safety and efficacy of the newer non steroidal anti inflammatory drugs (NSAIDS), in collaboration with the GIT Unit. These newer COXIBS are being evaluated in patients with RA and osteoarthritis (OA). All of these include collaborative participation with the GIT Unit, where gastropathy is an outcome variable, measured by gastroscopy. We have also looked at psoriatic arthropathy in collaboration with Leeds University in the UK. The unit provides in- and outpatient rheumatology services for the entire Western Cape region. Sessions are carried out at the Heideveld and Khayelitsha Community Health Centres 6 times a year. Training is provided on a continuous basis for medical students, allied health professionals, a senior house officer, and two registrars. Research is largely clinically orientated, but a laboratory-based approach is being used to study the genetics of SLE and the pathogenesis of reactive arthritis. In addition, there is very significant involvement in clinical drug trials in both rheumatoid arthritis and osteoarthritis. Collaborative research is being carried out with the liver unit to study bone density.

### **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Professor	1
Lecturer	2
Research Staff	2
Nurse practitioner	1
Administrative and Clerical staff	1
<b>Total</b>	<b>7</b>

#### **Honorary Staff**

Honorary Lecturers	3
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#### **Students**

Rotating Medical Registrar	1
Medical Officers (SHO)	1
<b>Total</b>	<b>2</b>

## **Divisional Contact Details**

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