

The Department of Surgery: Stellenbosch University

BRIAN L. WARREN, M.MED. (CHIR.), F.C.S. (S.A.), F.R.C.S. (EDIN.)

Department of Surgery, Stellenbosch University and Tygerberg Hospital, Tygerberg, W Cape

Founding and early years

The Department of Surgery and the then Faculty of Medicine of the University of Stellenbosch came into being simultaneously on 1 July 1956. Karl Bremer Hospital, today still a well-known landmark adjacent to the N1 highway as it sweeps over the foot of the Tygerberg, was made available by the Province of the Cape of Good Hope as a teaching facility. The Department — together with its parent Faculty — was the fifth to be established in South Africa, and the second to have the Afrikaans language as primary medium of instruction.

The leading light in the establishment of both the Department and the Faculty was Professor Francois Daniel du Toit van Zijl, who became not only the first department head, but also Dean. Generally and affectionately known as 'Francie', Professor Van Zijl had already established a formidable reputation as surgeon, administrator and businessman. Having qualified in medicine at the University of Cape Town in 1925, he went on, after a short period in general practice, to study Surgery in Edinburgh, Vienna and Prague and was awarded the fellowship of the Royal College of Surgeons of Edinburgh in 1931. He was also the first South African recipient of the degree Ch.M. of the University of Cape Town in 1933. During the next 20 years he built an enormous private practice in Cape Town, but still had time to spend weekends operating in centres as far afield as Oudtshoorn and Calvinia, as well as being active in part-time teaching at Groote Schuur Hospital (where he was acting Professor of Surgery for the year 1949). By all accounts, establishment of an Afrikaans language Department of Surgery and Medical Faculty was the fulfilment of a lifelong dream for Professor Van Zijl. He was Head of Surgery until his retirement in 1967,¹ by which time seven of his charges had qualified as surgeons, and he remained on as Dean of the Faculty until his death in 1971. It is perhaps fitting that the busy dual carriageway skirting the current home of the Department and Faculty is Francie Van Zijl Drive.

Karl Bremer Hospital was — and still is — a spacious and elegant, albeit rather small, facility. The abode of the new faculty was, however, rather primitive, consisting of an irregular cluster of prefabricated buildings in the hospital grounds. The fledgling Department had no problem fitting in. Apart from the Professor/Dean, there was initially only one other full-time staff member;² this at a time when all the other surgical disciplines were also accommodated within this single Department. The priority in those early years was necessarily not one of high-powered academic or research output. Time was devoted mainly to service delivery and to the training of a corps of specialists to form the nucleus of the Department — and of the Division of Surgery — for the future. During the 1960s the various surgical specialties,

such as Orthopaedics, Urology, Neurosurgery and Cardiothoracic Surgery, became independent departments with their own full-time heads. The residual 'purified' Department of (general) Surgery also expanded somewhat and had five full-time members of staff at the time of Professor Van Zijl's retirement in 1967.

The middle years

Professor Van Zijl was succeeded by the youngest of his five brothers, Professor J. J. W. (Kobus) van Zyl, as Head of Department in 1968. The second Professor Van Zyl was a passionate, albeit somewhat eccentric, surgical teacher and also had the vision to encourage research. His own research interest was the use of hyperbaric oxygen in the treatment of gas gangrene³ and his work on the subject culminated in the first doctorate to be awarded within this Department in 1966. He was also instrumental in establishing the primate colony on the premises of Karl Bremer Hospital in 1967, which was a centre from which a fair volume of research in transplantation and other fields emanated in the 1970s and 1980s.

An important innovation occurred in 1971, in that the traditional internal organisation within a surgical department of a number of 'general' firms was replaced by a structure consisting of 'service units' broadly equating to the subspecialties recognised within the field of Surgery today. Units of abdominal/gastro-intestinal surgery, head, neck and breast surgery, vascular surgery, paediatric surgery, surgical intensive care, trauma surgery and burn care were thus created. This system, which remains in place to date, and which was, to varying extents, later adopted by other surgical departments in this country, greatly facilitated service delivery, as well as undergraduate and postgraduate teaching.

The other major event occurring at about this time was the move, in stages, to the newly built Tygerberg Hospital and adjacent Tygerberg Campus of the University of Stellenbosch, a process which was finally completed in 1975. Tygerberg was large and impersonal in comparison to the cozy surrounds of Karl Bremer, but there was compensation. Many more patients could be treated and much of the equipment was new and (then) state-of-the-art. Opportunities for clinical research and innovation were created. Probably the unit to seize the moment to best effect was the head, neck and breast clinic under the leadership of Dr J. A. van Zyl. Dr Van Zyl, known as Kobus junior, is the nephew of the two Professors Van Zyl and was himself destined to become the third Professor appointed in the Department in 1980 (Fig. 1), completing a remarkable family achievement. One of the areas in which the breast clinic, in particular, played a leading role was to pioneer fine-needle aspiration cytology as diagnostic modality for the diagnosis of breast cancer.⁴ Early



Fig. 1. Professorial appointees in the Department of Surgery, University of Stellenbosch, to date. Above (left to right): F. D. du T. van Zijl, J. J. W. van Zyl, J. A. van Zyl. Below (left to right): L. C. J. Van Rensburg, J. A. L. van Wyk, S. W. Moore, B. L. Warren.

results achieved in the unit were greeted with some scepticism at congresses of the Association of Surgeons in 1980/1982, but within a few short years fine-needle aspiration cytology became widely accepted. The breast clinic was also the first in this country to examine the role of breast-conserving therapy in early breast carcinoma. The clinic became at the time the only affiliate outside Europe of the European Organization for Research and Treatment of Cancer (EORTC) and was a major contributor to the EORTC's randomised comparative studies in the 1980s.^{5,6}

Professor J. J. W. van Zyl was succeeded as Head of Department at the beginning of 1982 by Professor L. C. J. (Boet) van Rensburg. Professor Van Rensburg was the quintessential clinical surgeon and an ensuing generation of registrars (the author included) learnt a great deal from his example. His love of surgery led him to practise, both in the private sector and as consultant at Paarl Hospital, long after retiring from his University appointment at the end of 1990.

Recent years, the present and future

Professor J. A. van Zyl was acting head of Department for 1991, during which year Professor S. W. Moore (promoted to full Professor in 1995) also joined the department as the new Head of Paediatric Surgery. In 1992 Professor J. A. L. van Wyk, previously head of Surgery and Dean at the Medical University of Southern Africa (MEDUNSA), assumed office as Head of Department. Professor Van Wyk was an excellent administrator and had the capacity to make people believe in themselves. Under his leadership the Department progressed with renewed vigour, despite the general decline in quality of facilities and infrastructure in state health care, which paradoxically coincided with the democratisation of this country.

The author, with some difficulty, was able to establish a laparoscopic surgical service within the unit for abdominal and gastro-intestinal surgery. This has taught the practice of safe endoscopic surgery to the past generation of trainees and has expanded over the years, despite severe budgetary constraints, to include most procedures in the realm of endoscopic general surgery. Acute acalculous cholecystitis has

been a further field of interest of the author for many years and led to publications on the pathogenesis⁷ and clinical-pathological spectrum⁸ of this disease.

Since 1995, the University of Stellenbosch has required submission of a research assignment as prerequisite for the awarding of the degree M.Med. (Chir.). Shortly thereafter, Professor Van Wyk negotiated exemption from the examination component of qualifying for the degree in the case of candidates who had passed the final examination of the College of Surgeons of South Africa. The concept of a unitary exit examination, under debate at present, has thus essentially been in place in this department for nearly a decade.

Registrar assignments have generally been of a pleasing quality and a number have culminated in peer-reviewed publications on topics as diverse as breast cancer management in the elderly,⁹ a model for studying endothelial regeneration,¹⁰ Meckel's diverticulum,¹¹ duodenal injuries,¹² laparoscopic appendicectomy¹³ and extracranial arterial trauma.¹⁴ Assignments dealing with endovascular management of arterial trauma,^{15,16} under the promotorship of Dr D. F. (Danie) du Toit (Fig. 2), Head of Vascular Surgery and academic Head of Trauma Surgery, has led to rather wide recognition of his units in the field. The conduct and application of endovascu-



Fig. 2. Current unit heads in the Department. Above: J. P. Appfelstaedt (head, neck and breast surgery), D. F. du Toit (vascular and trauma surgery). Below: C. E. Fourie (surgical intensive care) and A. E. van der Merwe (burn surgery). Professor S. W. Moore and the author (Fig. 1) are Head of Paediatric Surgery and Abdominal and Gastro-intestinal Surgery, respectively.

lar management of degenerative arterial disease is currently the major focus of research in the vascular surgical unit.

By an agreement with Provincial Government (although this party has not kept its side of the bargain) the burns unit has been established as the regional tertiary referral centre for adult patients in the Western Cape. In addition to providing a really dedicated clinical service, Dr A. E. (Elbie) van der Merwe, Head of the unit, has conducted seminal research in the field, particularly in respect of the influence of HIV seropositivity on outcome in burn victims.¹⁷ She has also been a very persistent champion of burn wound prevention¹⁸ to the extent that her concerns with respect to the safety standards of paraffin stoves are receiving attention at the level of national government.

The first externally funded pharmaceutical trial in the Department was conducted in 1991¹⁹ and a large and productive clinical trial unit has been established. This has survived a random audit by the United States Food and Drug Administration (with no adverse findings) and generated considerable funding for teaching, research and even service-related expenditure. The unit was a major contributor in two multicentre studies searching for agents to modify the course of severe sepsis — antithrombin III²⁰ and another agent (not named as results are still to be published) — but unfortunately neither proved to be superior to placebo and maximal conventional therapy.

Since Dr J. S. (Oom Jan) Marais was awarded the first M.Med. (Chir.) degree within the Department in 1960, a further 92 trainees have followed suit. One of these has been Oom Jan's son, Dr André Marais, who is currently head of one of the department's satellite teaching units at Karl Bremer Hospital (the other being at Paarl Hospital). The list of graduates contains another father and son combination (Drs Theo and Jan Klompje) and will, we hope, also reflect a pair of brothers at the end of 2004. Since 1993, when additional or alternative sitting of the College examination was actively encouraged, 27 of 29 candidates have passed at the first attempt. Furthermore, there have only been 11 registrars completing their training in this period who have elected to exit with the M.Med. (Chir.) alone.

The author had the privilege of succeeding Professor Van Wyk upon his retirement at the end of 2001. The vision for the future of the Department remains quality patient care (regardless of the extreme constraints placed by an inept and

under-funded state/provincial health service), practically orientated undergraduate and postgraduate training, and clinically relevant research. Our philosophy is that the future is a challenge, not a problem.

REFERENCES

- Schulenburg CAR. Professor F.D. du Toit van Zijl — an appreciation. *S Afr J Surg* 1968; **6**: 49-51.
- Van Zyl JJW. Editorial. *S Afr J Surg* 1981; **19**: 7-8.
- Van Zyl JJW. Gas gangrene: the modern therapeutic approach. *S Afr J Surg* 1973; **11**: 181-185.
- Van Zyl JA, Van Zyl JJW, De Jager JF, Street B, McCarthy E. Aspiration cytology: the place of aspiration-cytology in the management of patients with operable breast cancer. *S Afr J Surg* 1981; **19**: 11-18.
- Van Zyl JA, Muller AG. Breast-conserving treatment for stage I and II cancer. Tumour excision, axillary dissection, peri-operative interstitial irradiation, with or without peri-operative chemotherapy, followed by breast irradiation — the Tygerberg Hospital experience. *S Afr Med J* 1989; **75**: 519-523.
- Van Zyl JA, Muller AG. Tumour excision plus continuous tamoxifen compared with modified radical mastectomy in patients older than 70 years of age with operable cancer. *J Surg Oncol* 1995; **59**: 151-154.
- Warren BL. Small vessel occlusion in acute acalculous cholecystitis. *Surgery* 1992; **111**: 163-168.
- Warren BL, Carstens CA, Falck VG. Acute acalculous cholecystitis: a clinical pathological disease spectrum. *S Afr J Surg* 1999; **37**: 99-104.
- Limited surgery and tamoxifen in the treatment of elderly breast cancer patients. *World J Surg* 2003; **27**: 125-129.
- Aavik E, du Toit D, Myburgh E, Froösen J, Hayry P. Estrogen receptor beta dominates in baboon carotid after endothelial denudation injury. *Mol Cell Endocrinol* 2001; **182**: 91-98.
- Edge JM, Schneider JW, Moore SW. Clinicopathological features of Meckel's diverticula in 32 patients, with emphasis on the presence of *Helicobacter pylori*. *S Afr J Surg* 2001; **39**: 80-82.
- Jansen M, Du Toit DF, Warren BL. Duodenal injuries: surgical management adapted to circumstances. *Injury* 2002; **33**: 611-615.
- Bruwer F, Coetzer M, Warren BL. Laparoscopic versus open surgical exploration in premenopausal women with suspected acute appendicitis. *S Afr J Surg* 2003; **41**: 82-85.
- Du Toit DF, van Schalkwyk GD, Wade SA, Warren BL. Neurological outcome after penetrating extracranial arterial trauma. *J Vasc Surg* 2003; **38**: 257-262.
- Du Toit DF, Strauss DC, Blaszczyk M, De Villiers R, Warren BL. Endovascular treatment of penetrating thoracic outlet injuries. *Eur J Endovasc Surg* 2000; **19**: 489-495.
- Du Toit DF, Leith JG, Strauss DC, Blaszczyk M, Odendaal JdeV, Warren BL. Endovascular management of traumatic cervicothoracic arteriovenous fistula. *Br J Surg* 2003; **90**: 1516-1521.
- Edge JM, van der Merwe AE, Pieper CH, Bouic P. Clinical outcome of HIV positive patients with moderate to severe burns. *Burns* 2001; **27**: 111-114.
- Steenkamp WC, van der Merwe AE, de Lange R. Burn injuries caused by paraffin stoves. *S Afr Med J* 2002; **92**: 445.
- Huizinga WK, Warren BL, Baker LW, Valleur P, Pezet DM, Hoogkamp-Konstanje JA, Karran SJ. Antibiotic monotherapy with meropenem in the surgical management of intra-abdominal infections. *J Antimicrob Chemother* 1995; **36**: suppl A, 179-189.
- Warren BL, Eid A, Singer P, Pillay SS, et al. Caring for the critically ill patient. High-dose antithrombin III in severe sepsis: a randomized controlled trial. *JAMA* 2001; **286**: 1869-1878.