

## Neurosurgery in South Africa



Deeply rooted in clinical neurology, neurosurgery emerged as a special branch of surgery early in the 20th century and evolved swiftly with developments in anaesthesia, critical care, imaging and a host of surgical innovations. Today, the treatment of patients with diseases of the nervous system is one of the most rapidly advancing areas of medical practice and neurosurgery remains at the forefront, with new insights and advances transforming the management of diseases such as subarachnoid haemorrhage, traumatic brain injury, degenerative disc disease and hydrocephalus. This is an exciting time to be a neurosurgeon.

The educational component of this issue of the *SAMJ* concludes a two-part series on the management of spina bifida, a neurosurgical condition that requires multidisciplinary management to ensure an optimal outcome. Given the sophistication of modern neurosurgery, it is easy to forget that we treat a wide range of common conditions ranging from congenital malformations through to trauma, stroke and meningitis, underscoring the relevance of teaching neurosurgical principles in the undergraduate curriculum. In a sense, the spectrum of cases presenting to the neurosurgeon reflects the adequacy of primary healthcare in a society as earlier diagnosis and treatment of conditions such as tuberculous meningitis and sinusitis would go a long way to preventing their neurosurgical complications.

Spina bifida is potentially one of the most preventable of all long-term health conditions. While the administration of folate prior to conception has significantly reduced the incidence (and our National Department of Health is to be commended on being among the first to introduce food fortification legislation more than a decade ago), we need to do more by ensuring people are aware of the need for folate, promoting antenatal diagnosis and delivering appropriate care to any baby born with the condition. Another example of a successful public health intervention has been the introduction of gun control legislation, which has seen a fall in the number of gunshot injuries treated by neurosurgeons across our country, but we still have a long way to go in combating the scourge of neurotrauma due to assault and motor vehicle accidents.

As neurosurgery has flourished, a number of new challenges have emerged, perhaps the greatest of which is the burgeoning number of subspecialties. The American Association of Neurological Surgeons now has seven major subspecialty sections, including spine and peripheral nerve, neurotrauma and critical care, stereotactic and functional, pain, cerebrovascular, tumour and paediatric neurosurgery. This is an issue for academic centres striving to ensure that they keep abreast of developments in all these areas so that the next generation can be properly prepared for a fast-paced and ever-changing practice environment. It is clear that we have to train more neurosurgeons, and train them for longer than 4 years, to meet the needs of our country. We need surgeons with a wide range of skills encompassing microsurgery, spinal instrumentation, stereotactic and endoscopic surgery among others, and who are flexible enough to be able to gain expertise in areas as yet undiscovered.

Although spinal surgery is the core business of private practice, a number of practitioners have gained world-class expertise in other fields, but it is just not possible to achieve mastery of all. We will need innovative and effective continuing education programmes to ensure practitioners stay abreast of the evolution of our specialty. Although industry has an important role to play, such education must be unbiased – the response to the recently initiated African paediatric neurosurgery course, supported by the European Society for Pediatric Neurosurgery, the International Society for Pediatric Neurosurgery (ISPN) and the Society of Neurosurgeons of South Africa (SNSA), shows how much interest there is in education of this kind.

An allied issue is the worsening medico-legal climate with dramatically rising malpractice insurance costs. We have to work with all stakeholders – government, insurers, professional groups and the public – to identify the reasons for this and bring it under control. This is a looming crisis that needs urgent attention.

Neurosurgery was established in South Africa by an impressive founder generation and we face the future with a number of strengths. For the first time ever, all training centres are actively represented in the College of Neurosurgeons, and the SNSA enjoys dynamic leadership, which is addressing many of the challenges already mentioned. Although research output has been inadequate over the past decade, the requirement that registrars embark on research offers an opportunity to reverse this decline. On the international front, South African neurosurgeons have long played a leadership role in the World Federation of Neurosurgical Societies and the ISPN and are now contributing to organisations ranging from the World Federation of Interventional and Therapeutic Neuroradiology to the International Neurotrauma Society. We have also played an important role in the emergence of the Continental Association of African Neurosurgical Societies, a broadly supported organisation representing neurosurgery in Africa. Through training neurosurgeons from elsewhere in Africa, we have a real opportunity to grow our specialty in a sustainable way across our continent.

As with all specialties in South Africa, we face challenges in the distribution of expertise and resources across some parts of our country. As a country, we are able to offer the most appropriate management to many patients, but not all. We need to find ways to meet the needs of those who don't always receive the care they need. We can and must do better.



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*S Afr Med J* 2014;104(4):254. DOI:10.7196/SAMJ.8213