

## GUEST EDITORIAL

## Functional neurosurgery (part 2)

This month's CME includes the final two articles that review functional neurosurgical topics, i.e. surgery for movement disorders,<sup>[1]</sup> where deep brain stimulation plays a major role, and surgical management of pain.<sup>[2]</sup> From these articles, which give an overview of the respective topics, it is clear that neurosurgery forms a central part of the management of patients with common disabilities, such as severe pain and movement disorders that are refractory to medical management. Patients need appropriate referral and a thorough work-up that involves a multidisciplinary team. These complex disorders should not be managed in isolation.

Owing to the invasive nature of surgery for functional neurosurgical pathology, care is needed to confirm that the medical management of the patient has been done thoroughly and that all medical options have been exhausted. Patients with conditions such as Parkinson's disease must, however, be referred to a unit where deep brain stimulation can be performed early on in the disease process, as some studies show that patients who are subjected to this technique early have a much better outcome than those who wait >10 years.

The biopsychosocial model in medicine is often seen to correspond to a general practitioner's approach. A holistic approach is especially important in managing complex pain syndromes. Treating the biological aspects of pain only, will lead to heartache for both physician and patient and to failure of therapy. Chronic pain leads to psychological problems and often to significant social impairment. All of these need to be taken into account for the successful management of the patient.

Pain management requires a stepwise increase in pharmacological interventions, starting with paracetamol and followed by cyclo-oxygenase-2 (COX-2) inhibitors. If there is still no improvement, opioids are added, followed by pain-modification agents such as tricyclic antidepressants and some selective anticonvulsants. Throughout the treatment process, adjuncts to medication should be employed, such

as psychotherapy, electrotherapy as used by physiotherapists, and play and music therapy. These contribute a great deal to modifying the patient's experience of pain. When pain is refractory to all these modalities, surgical management becomes an option. The neurosurgeon then uses modulating devices such as spinal cord stimulators, peripheral nerve stimulators, and lesioning techniques, which interrupt the afferent pathway. Spinal canal catheters effecting direct drug delivery to the spinal receptors are often beneficial in spine-related pain syndromes.

The take-home message from the four CME articles,<sup>[1-4]</sup> – a small window into the practice of the functional neurosurgeon – is that multidisciplinary units are needed to manage these complex pathologies of epilepsy, pain, spasticity and movement disorders. The general practitioner is an essential part of this team, and knowledge of the stepwise escalatory approach to care is vital to appropriate and early referrals.

**J M N Enslin**

*Division of Neurosurgery, Red Cross War Memorial Children's Hospital, and Constantiaberg Mediclinic, Cape Town, South Africa*  
enslin@functionalneurosurgery.co.za



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