

# Stroke management in South Africa – who is responsible?

The prevalence of disabling stroke in South Africa is already higher than in high income countries.<sup>1</sup> Exposure to stroke risk factors is already at alarming levels<sup>2</sup> and is likely to increase, adding further to the burden of stroke. The obvious solution from a health care perspective is to reduce risk at a population and high-risk individual level. However, for the individual presenting with an acute stroke the best possible care is needed to optimise their outcome and own personal long-term burden of disease.

The ideal setting for the management of stroke is a stroke unit, and the Cochrane Library meta-analysis found that stroke units significantly reduce death (3% absolute risk reduction), need for institutionalisation (2% absolute risk reduction) and long-term dependency (5% absolute risk reduction).<sup>3</sup> There is little agreement on the type of unit that is required – high tech, low tech or a hybrid.<sup>4</sup> However, key to a stroke unit is a protocol and outcome driven multidisciplinary team made up of a range of professionals including: nurses, clinicians, physiotherapists, occupational and speech therapists, social workers and psychologists. Not all of these are available to every unit though a core team of stroke nurses and a clinician, all interested in stroke, are essential.

The South African national Department of Health has endorsed the need for stroke units and recommended that every province establish at least one stroke unit.<sup>5</sup> Yet despite level 1a evidence showing that stroke units work, and government backing for the establishment of units, there are two state stroke units in South Africa. Both are in Cape Town, and a handful more are scattered around private hospitals across the rest of the country. Why do we not have more stroke units available? A cynic may wonder whether the lack of stroke units in the private sector is related to the fact that they are seldom big income generators; but that cannot explain the absence of units in the state sector.

Part of the explanation may lie with the current concept of who should manage stroke in South Africa. The following quotes highlight the recent international debate in the stroke literature between neurologists and physicians over who is best placed to manage the stroke patient.<sup>6</sup>

*“The brain is complex and is the domain of the neurologist. The brain is the Rolls Royce of the human body. Would you want your Rolls Royce to be serviced by any ordinary mechanic, who takes care of all kinds of automobiles?”*

Louis Caplan, Boston.

*“...few neurologists have enough breadth of knowledge to manage stroke comprehensively. Stroke specialists are needed, irrespective of their background.”*

Kennedy Lees, Glasgow.

As an editorial accompanying the above comments points out, stroke involves not only the brain but many other organ systems and while neurologists have a clear advantage in localising the lesion in the brain, there has been a shift in emphasis to treatment of stroke.<sup>6</sup> Thus the consensus in the international literature appears to be that stroke should be managed by ‘strokologists’ or specialists in stroke care, irrespective of their medical background. In South Africa, the enormous clinical service load prevents full time academic clinicians interested in stroke from exclusively dealing with stroke medicine, and ‘strokologists’ are frankly a pipedream.

So who should care for stroke patients and establish and run stroke units in South Africa? Well, assuming that there are around 100 neurologists in South Africa (there are likely to be fewer and there are certainly very few in the state sector caring for the bulk of the population), and in the absence of population based incidence figures for South Africa assuming a conservative estimate of stroke incidence to be somewhere in the range of 120 to 160 / 100 000 per year (worldwide incidence varies between 130 to 410 / 100 000 per year)<sup>7</sup>, each neurologist would have to see between 560 and 750 acute strokes per year. This is not feasible, particularly given that many neurologists have little interest in routine stroke management and are seldom intrinsically attracted to acute medicine with tight time lines.

If stroke units are to become a reality in South Africa, stroke management and all its recent advances must be embraced by physicians, geriatricians and family practitioners. Stroke needs to be viewed as the vascular disease it is and not as a brain disease in the domain of the neurologist. Indeed, perhaps in district hospitals and rural areas in South Africa we should be establishing the feasibility of protocol driven, nurse-specialist led stroke units. We are lagging far behind in pursuit of the odd Rolls Royce stroke unit, when what we really need are many efficient VW beetle stroke units to treat the commonest vascular disorder in our population!

## References

1. SASPI Project Team. Prevalence of stroke survivors in rural South Africa: results from the Southern Africa Stroke Prevention Initiative (SASPI) Agincourt field site. *Stroke* 2004;35: 627-632

2. Connor M, Rheeder P, Bryer A, et al. The South African stroke risk in general practice study. *S Afr Med J* 2005;95: 334-339
3. Cochrane Library - Stroke Unit Trialists' Collaboration. Organised inpatient (stroke unit) care for stroke. *Cochrane Database Syst Rev* 2005
4. Langhorne P, Dennis MS. Stroke units: the next 10 years. *The Lancet* 2004;363: 834-835
5. Connor M and Bryer A. Stroke. Ed: Steyn, K. and Fourie, J. 2005. *Chronic Diseases of Lifestyle Technical Report*. Medical Research Council of South Africa, Tygerberg.
6. Donnan GA, Davis SM. Neurologist, internist, or strokologist? *Stroke* 2003;34: 2765
7. Feigin VL, Lawes CMM, Bennett DA, et al. Stroke epidemiology: a review of population-based studies of incidence, prevalence, and case-fatality in the late 20th century. *Lancet Neurology* 2003;2: 43-53

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