

9th April 2020

Stroke Society of Australasia statement on Stroke Care during the COVID-19 crisis.

Key points:

- COVID-19 pandemic significantly impacts delivery of expert care for stroke patients.
- Rapid reperfusion treatment and stroke unit care with rehabilitation support reduce morbidity and mortality.
- We must strive to maintain stroke expertise and stroke systems of care during COVID19 pandemic.

The Stroke Society of Australasia (SSA) issues this statement to highlight the importance of stroke care during the COVID-19 crisis. To every extent possible we must maintain the excellent standard of care that Australian and New Zealand patients with stroke receive despite the need to accommodate COVID-19-related changes within the health system. In particular, admission of patients with stroke to geographically defined stroke units staffed by specialised medical, nursing and allied health professionals needs to be maintained as the cornerstone of best practice care, as does swift access to stroke reperfusion treatments.

Our members are extremely concerned about the impact of COVID-19 on medical care in stroke and ongoing services such as rehabilitation. From a national and international standpoint, increasing number of patients with COVID-19 have mandated urgent and widespread redesign of medical services and staffing. However, this should not adversely impact basic standards of care for stroke. Stroke is an emergency condition, with effective treatments that reduce mortality and disability if

provided as early as possible after symptom onset. Because of COVID-19, emergency departments have been physically divided into parallel streams (e.g. respiratory and non-respiratory) and emergency “code stroke” patients are placed in different streams based on their COVID-19 risk. This creates delays in diagnosis and treatment which impact on outcomes. Increasing number of specialised stroke units and rehabilitation units are being converted into COVID-19 wards or are being repurposed to accommodate system-wide changes in bed allocations. Staff are being redeployed from acute stroke specialty and rehabilitation units to other areas of the hospital. The duration of these significant changes is entirely uncertain, but the outcome is a fragmented and potentially detrimental experience for a patient with stroke.

Protection of staff from risk of infection by COVID-19 is prioritised. Staff attending emergency “code stroke” presentations now need to wear Personal Protective Equipment (PPE). The staff treating patients receiving Endovascular Clot Retrieval (ECR) who are at high risk of COVID-19 in many centres are required to electively intubate patients in negative pressure rooms, often in areas of the hospital not traditionally used for providing stroke care.

Each decision to redesign care implies that the relative value of redesign was considered greater than the value of maintaining the evidence-based status quo. In some centres the value of coordinated and co-located specialist stroke unit care has been judged lower than the value of those beds for COVID19 patients. The following three questions are critical: 1. Will the increased need for PPE and the system changes to minimize the spread of coronavirus lead to a reduction in the use of effective treatments for acute stroke? 2. Will the mandated transport of patients to different areas of the hospital for intubation result in the inability to provide time-critical treatments such as ECR? 3. Do the benefits of dismantling geographically co-located stroke units outweigh the clear harms to patients with stroke in terms of their long-term survival and levels of disability?

Acute reperfusion therapy for stroke and geographically co-located stroke units are buttressed by level 1 evidence and are of substantial benefit to patients, and consequently their families and the wider community. For every 20 patients treated in geographically co-located stroke unit, 1 patient is saved from death or disability. The numbers needed to treat to avoid bad outcome for reperfusion therapy

are 10 for thrombolysis and 5 for ECR. Swift reperfusion is imperative - every minute saved salvages one week for ECR (of one Quality Adjusted Life Year (QALY)) for one day for thrombolysis. Approximately 56,000 people experience a stroke each year in Australia (~1 every 9 minutes) and 9,000 in New Zealand. Around 1 in 5 patients die and half of survivors live with a substantial disability. Without reperfusion treatments and stroke unit care, these numbers would be substantially greater. The total financial costs of stroke in Australia and New Zealand were estimated to be greater than \$5 billion in 2012. These costs will rise if stroke outcomes worsen through restrictions to reperfusion treatments and stroke unit care. Early reports are that COVID-19 may directly and indirectly increase the incidence of stroke, further compounding this cost in future.

If stroke services are dismantled because of COVID-19, rebuilding these services post-COVID-19 will take substantial time. Organising these multidisciplinary teams has taken years to accomplish and required sustained effort to maintain. The co-localisation of stroke patients and stroke staff in stroke units has proven benefits above stroke care delivered by consultation service to dispersed stroke patients. This should be prioritised in system planning and dismantling of co-localised stroke unit care should be avoided if at all possible.

The COVID-19 pandemic represents a catalyst to optimise stroke patient care in many locations. Successful treatment of stroke requires timely specialist assessment that is not readily accessed at all times in many centres. The COVID-19 pandemic has necessitated novel approaches to patients presenting to Emergency Departments, including remote assessment and monitoring. Many of these systems of care changes, including the associated technology, can potentially be used to enhance stroke care and form a positive legacy of the COVID-19 pandemic. Post-acute services including rehabilitation can also be enabled by technology and our fraternity is already acting to ensure telehealth services for stroke are in place and resources shared amongst practitioners to safely and effectively delivery health care remotely during the COVID-19 crisis.

The SSA acknowledges that this unprecedented challenge to medical care mandates widespread changes in the way health care resources are allocated. The SSA calls upon

hospitals and health care administrators to join us in recognizing the immense
benefits of maintaining stroke expertise and systems of
care during and after the COVID-19 pandemic.

Professor Bernard Yan

President

On behalf of the Executive and General Committees of the Stroke Society of Australasia