

Recent developments in stroke therapy have dramatically changed the outcome of stroke dramatically.

The likelihood of surviving a stroke and live with no or minimal disability has increased multi-fold through access to hyper acute stroke therapy: time critical therapy in ischemic stroke, which includes currently thrombolysis and embolectomy.

Access to these complex and resource intensive therapies is highly time critical. Every second counts.

To enhance the overall management, coordination and treatment of hyper acute stroke consolidation of such service will be implemented at Royal North Shore Hospital (RNSH). This change to the model of care will include alterations to the Ambulance Matrix for patients with a suspected stroke. RNSH will be the sole Acute Thrombolysis Centre (ATC) within NSLHD. The service will operate 24 hours per day, 7days per week, commencing on **Monday 19 September 2016**.

This builds on existing strength in RNSH which has one of the highest thrombolysis rates in the country, and the most comprehensive interventional stroke service in NSW.

Experience overseas has shown centralised specialist stroke centres – where patients can receive clot-busting drugs or have clots removed by devices as quickly as possible – greatly improve outcomes.

That is why NSLHD and WSLHD are also currently implementing a trial of an integrated emergency interventional neuroradiology (INR) service for large vessel occlusive stroke between Westmead Hospital and Royal North Shore Hospital (RNSH).

Restrictions/Contraindications:

There is no limit on how often a patient can receive thrombolysis for ischaemic stroke. Thrombolysis is licensed for acute ischaemic stroke within 4 1/2 hours of stroke onset.

Contraindications:

- Previous haemorrhagic stroke at any time prior.
- Recent ischaemic stroke in the last 6 months (current TGA approval). The rationale for this restriction is the risk of haemorrhagic transformation of subacute ischaemic strokes that have been present for more than 4 1/2 hours. Usually the risk is particularly high in the first 3 months following an ischaemic stroke. This risk is true for all revascularisation measures including embolectomy.
- An intracerebral haemorrhage unless caused by an aneurysm that has been occluded is a contraindication to thrombolysis lifelong but not embolectomy.

Mechanism of Referral:

- Patient is identified as FAST+ (suspected Stroke)
- GP to request lights and sirens ambulance by calling 000
- Ambulance will activate code stroke system via RNSH bat phone

“FAST” - Face Arm Speech Test (Harbison et al., Stroke 2003)
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Facial Movements (look for a new lack of symmetry when asked to smile or show teeth)
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Arm weakness (Look for arm drift or arm falling when asked to hold them at 90degrees for 5 seconds)
Speech Impairment (new disturbances of speech, check with companion, slurre speech or word finding difficulties).



Key Points:

- The NSLHD is changing the way they provide treatment to stroke sufferers based on national and international evidence around centralised acute stroke care.
- RNSH will be the one centre within the NSLHD to provide thrombolysis and embolectomy for eligible ischaemic stroke patients.
- Thrombolysis and embolectomy are time critical therapies and can only be given in the first few hours of stroke symptoms starting (4.5 hours for thrombolysis, 6-9 hours for embolectomy).
- Stroke is a medical emergency - Think fast and Act fast - call 000.
- Once the acute treatment is finished consumers will be transferred to a stroke unit or rehab facility close to their place of residence.
- Stroke unit care is provided at RNSH, HKH and Manly Hospitals.

References:

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Moynihan B, et al; User experience of centralised hyperacute stroke services: Stroke 2013; 44:2743-2747

Svendsen et al; Hyperacute care volume is associated with improved care: Stroke 2012; 43:3041

Morris et al; Impact of centralising acute stroke services in English metropolitan areas on mortality and length of hospital stay: difference-in-differences analysis. BMJ 2014;349:g4757

Foley N, et al. Specialised stroke services: a meta-analysis comparing three models of care. Cerebrovasc Dis. 2007; 23(2-3):194-202

Saposnik G, et al; Stroke Outcome Research Canada (SORCan) Working Group. Hospital volume and stroke outcome: does it matter? Neurology 2007, 69(11):1142-51

Ganesh et al; The quality of treatment of hyperacute ischaemic stroke in Canada: a retrospective chart audit. CMAJ 2014;2:E233-239

Useful Links:

- Stroke society: <http://www.strokesociety.com.au/>
- National Stroke Foundation: <https://strokefoundation.com.au/> (incl. Clinical guidelines for stroke management)
- Stroke Recovery Association <http://www.strokensw.org.au/>

Brain Foundation <http://brainfoundation.org.au/>