

STROKE (ACUTE, ISCHAEMIC) BLOOD PRESSURE MANAGEMENT

<p>Cross references (including NSW Health/ SESAHS policy directives)</p>	<p>SESAHS PD 208 Patient with Acute Condition for Escalation (PACE): Management of the deteriorating inpatient (adult, child and infant)</p> <p>SESAHS PD 229 Alteplase (Recombinant Tissue Plasminogen Activator) in Adult Acute Ischaemic Stroke – Management of</p> <p>SGSHHS CLIN207 Stroke (Acute) DVT prophylaxis</p> <p>SGSHHS CLIN209 Stroke (Acute) Management of complications following Thrombolysis</p>
<p>1. What it is</p>	<p>A guideline on blood pressure management in acute stroke patients</p>
<p>2. Employees it applies to</p>	<p>All staff and treating teams who are caring for an acute stroke patients.</p>
<p>3. When to use it</p>	<p>When acute stroke patients are requiring blood pressure control and management, this document should be used in conjunction with the patient’s brain imaging results, and reviewed as required.</p>
<p>4. Why the rule is necessary</p>	<p>To ensure prompt and appropriate management of patients who have presented with acute stroke.</p>
<p>5. Who is responsible</p>	<p>Director Acute Stroke Unit; St George Hospital</p>
<p>6. Process</p> <ul style="list-style-type: none"> • Blood Pressure (BP) in the acute ischaemic stroke setting is typically labile and treatment within the first 48 hours remains controversial; with both high and low BP found to negatively affect patient outcomes. • Intravenous treatment is more likely to achieve smooth and sustained BP control than medication administered orally, as absorption and action are less predictable. • In a majority of patients, a decline in BP occurs within the first hours after stroke even without any specific medical intervention. • Patients who meet the PACE criteria should be actively managed in line with the policy SESAHS PD 208 Patient with Acute Condition for Escalation (PACE): Management of the deteriorating inpatient (adult, child and infant) 	

6.1 Patients NOT eligible for thrombolytic therapy:

In those patients NOT eligible for thrombolysis, treat hypertension if BP consistently:

SBP \geq 185 and/or DBP \geq 120 mm Hg

NB: only lower BP by 10-20 % in the first 24 hours after stroke onset

Target SBP – 185 mm Hg

Target DBP – 110 mm Hg

Blood Pressure (mm Hg)	Treatment
SBP < 185 or DBP < 120 mm Hg	<p>Observe unless evidence of other end-organ involvement: aortic dissection, AMI, hypertensive encephalopathy, pulmonary oedema.</p> <p>Treat other symptoms of stroke: headache, pain, nausea and agitation.</p> <p>Treat other acute complications of stroke: hypoxia, increased intracranial pressure, urinary retention and seizures.</p>
SBP \geq 185 or DBP \geq 120 mm Hg	<p>1. Metoprolol 5 mg bolus over 2-3 minutes. Repeat at 5 minute intervals up to a maximum dose of 20 mg (contraindicated in 2nd and 3rd degree AV block, asthma.</p> <p style="text-align: center;">OR</p> <p>2. Hydralazine 5 mg bolus over 1-2 minutes. Repeat every 20 minutes to a maximum dose of 20 mg.</p>
	Caution: Precipitous BP decline may worsen cerebral ischaemia.
	<p>ALERT: If BP not controlled by Metoprolol or Hydralazine use Sodium Nitroprusside infusion administered according to the 'Treatment of Hypertensive Emergency' guidelines</p> <p>http://seslnweb/SGSHHS/Business_Rules/Clinical/SGH/Emergency/General/documents/Hypertensive%20Emergency.pdf</p>

6.2 Patients ELIGIBLE for thrombolytic therapy:

Strict BP parameters must be maintained **prior** to and for at least 24 hours **following** rt-PA (thrombolysis) treatment.

Target SBP ≤ 185 mm Hg
Target DBP ≤ 110 mm Hg

Blood Pressure (mm Hg)	Treatment
Pre-Thrombolysis	
Measure BP every 15 minutes (manually). SBP > 185 mm ± DBP > 110 mm Hg	<p>1. Metoprolol 5 mg bolus over 2-3 minutes. Repeat at 5 minute intervals up to a maximum dose of 20 mg (contraindicated in 2nd and 3rd degree AV block, asthma.</p> <p>2. Hydralazine 5 mg bolus over 1-2 minutes. Repeat every 20 minutes to a maximum dose of 20 mg. NB: only use if Metoprolol contraindicated.</p> <p>ALERT: if target BP is NOT achieved DO NOT administer rt-PA.</p>
During/after thrombolysis	
SBP > 185 mm ± DBP > 110 mm Hg	<p>1. Metoprolol 5 mg bolus over 2-3 minutes. Repeat at 5 minute intervals up to a maximum dose of 20 mg (contraindicated in 2nd and 3rd degree AV block, asthma.</p> <p>2. Hydralazine 5 mg bolus over 1-2 minutes. Repeat every 20 minutes to a maximum dose of 20 mg.</p> <p>ALERT: If BP not controlled by Metoprolol or Hydralazine use Sodium Nitroprusside infusion administered according to the 'Treatment of Hypertensive Emergency' guidelines - http://seslnweb/SGSHHS/Business_Rules/Clinical/SGH/Emergency/General/documents/Hypertensive%20Emergency.pdf</p> <p>If rt-PA infusion is still running, then pause infusion until BP controlled. This must ONLY be undertaken in consultation with the treating Neurologist.</p>

Note: Cardiac monitoring within the Emergency Department or Acute Stroke Unit (ASU) is ESSENTIAL. Hypertension requiring a Sodium Nitroprusside infusion must be undertaken in Coronary Care, High Dependency or the Intensive Care Unit where available. In ALL stroke patients, it is generally agreed that antihypertensive medications should be restarted at ~ 24 hours for patients who have pre-existing hypertension.

7. Compliance evaluation

Q1: Which patients are not suitable for thrombolytic therapy?
A1: Refer to Section 6.1.

Q2. Describe the patients that are suitable for thrombolytic therapy?
A2. Refer to Section 6.2.



**St George/Sutherland Hospitals
And Health Services (SGSHHS)**

Clinical Business Rule SGSHHS CLIN208

8. Keywords	Blood Pressure, Stroke, Thrombolysis
9. External references	Adams et.al., <i>Stroke</i> 2007; 38 1655-1711 National Stroke Foundation: Clinical Guidelines for Stroke Management 2010

I, *Dawn Fowler, Clinical Group Manager, Medicine and Critical Care of St George / Sutherland Hospitals and Health Services* attest that this business rule is not in contravention of any legislation, industrial award or policy directive.

Revision and approval history

Date	Revision number	Contact Officer (Position)	Date for revision
Aug 2012	0	Melissa Tinsley, Stroke CNC, SGH	Aug 2015