Clinical Practice Guidelines:
Neurological/Stroke – Transient ischaemic attack

Disclaimer and copyright
©2016 Queensland Government

All rights reserved. Without limiting the reservation of copyright, no person shall reproduce, store in a retrieval system or transmit in any form, or by any means, part or the whole of the Queensland Ambulance Service (‘QAS’) Clinical practice manual (‘CPM’) without the prior written permission of the Commissioner.

The QAS accepts no responsibility for any modification, redistribution or use of the CPM or any part thereof. The CPM is expressly intended for use by QAS paramedics when performing duties and delivering ambulance services for, and on behalf of, the QAS.

Under no circumstances will the QAS, its employees or agents, be liable for any loss, injury, claim, liability or damages of any kind resulting from the unauthorised use of, or reliance upon the CPM or its contents.

While effort has been made to contact all copyright owners this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome, please forward to:
Clinical.Guidelines@ambulance.qld.gov.au

<table>
<thead>
<tr>
<th>Date</th>
<th>April, 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>To ensure consistent management of patients with Stroke/Transient ischaemic attack.</td>
</tr>
<tr>
<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
</tr>
<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>April, 2018</td>
</tr>
</tbody>
</table>

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.
**Stroke/Transient ischaemic attack**

**Stroke** can be broadly classified as *haemorrhagic* or *non-haemorrhagic*. Intracerebral haemorrhage occurs in 8% – 18% of all strokes[^1] and is associated with a higher risk of mortality when compared to cerebral infarction.[^2]

A **Transient Ischaemic Attack (TIA)** is defined as a brief episode of neurological dysfunction (traditionally < 24 hours) resulting from focal temporary cerebral ischaemia. Approximately 5% of TIA patients will progress to a stroke or a further TIA within twenty-eight days.[^3] TIA and stroke should be considered a continuum of the same disease process.

Stroke causes a significant disease burden in the community. One in five patients suffering their first stroke will die within a month; with one in three dying within the first year. 88% of survivors do return home, however most have some form of disability.[^4]

There is overwhelming evidence that managing patients in dedicated stroke units significantly reduces death and disability.[^5] It is preferred that patients with stroke are transported to hospitals with dedicated stroke units in the first instance if possible.[^6]

There is some evidence that early thrombolysis may benefit a specific cohort of patients presenting with acute stroke.[^7,^8] Lysis is a time critical intervention which should be administered within 4.5 hours following the onset of stroke symptoms. The Australian National Stroke Foundation promotes the use of thrombolysis in the hyperacute management of ischaemic stroke.[^4]

While 80% of patients suffering stroke present to hospital via ambulance, only 39% are within 4.5 hours of symptom onset. Not all hospitals have dedicated stroke units which are able to offer stroke lysis.

**Clinical features**

- The clinical presentation of a stroke depends upon which part of the brain is injured and the extent of damage.

**Stroke may cause:**
- Sudden weakness or loss of movement in part of the body (hemiparesis/hemiplegia)
- Dysphasia / aphasia
- Dysphagia
- Visual disturbances
- Sudden onset headache associated with neurological symptoms and/or ALOC
- Differentiating between *haemorrhagic* and *non-haemorrhagic* stroke cannot be achieved without a CT Scan.[^4]
Risk assessment

Consider conditions that mimic stroke:
- Hypoglycaemia
- Intracerebral mass lesions (e.g. tumour, abscess)
- Seizures and post-ictal states (Todd’s paralysis)
- Hemiplegic migraine
- Electrolyte abnormalities (e.g. hyponatraemia)
- Conversion disorder

Additional information

- For consideration of stroke lysis, the timing of the onset of symptoms needs to be very clearly defined. In particular if a patient wakes from sleep with stroke symptoms, the timing of onset must be assumed to be when they were last well – that is, the time when they went to sleep.
- Differentiating between haemorrhagic and non-haemorrhagic stroke cannot be achieved without a CT Scan.
- Position patient 45 degrees head-up to maximise the balance between cerebral perfusion and minimising cerebral oedema.
- Ensure the patient’s next of kin contact number is recorded on the eARF.

Note: Officers are only to perform procedures for which they have received specific training and authorisation by the QAS.

Consider:
- IV access
- Oxygen
- Antiemetic
- Analgesia
- IV fluid
- Stroke mimics

Assessment consistent with stroke/TIA with a clear onset of symptoms ≤ 3.5 hours?

Y
- Acute stroke referral

N
- Transport to hospital
- Pre-notify as appropriate

CPG: Paramedic Safety
CPG: Standard Cares