TIA (Transient Ischaemic Attack) Protocol

Use only if symptoms < 24 hrs and completely resolved.

If brain imaging shows haemorrhage, use Main Stroke Protocol.

For supporting information e.g. images & documents, refer to web site at: http://nbsvr73/medicine/StrokeService/StrokeProtocol.html

### STRATIFY RISK OF STROKE AFTER TIA

Use ABCD2 score (see box below & web site)

Risk is highest in the first 24 hours: Nearly half of strokes occurring ≤ 30 days from TIA occur within 24 hrs.

**High risk patients need to be seen within 24 hours of symptom onset**

If high risk patients cannot be seen in TIA clinic within 24 hours, admit to ward 106

High risk patients include:
- Crescendo TIAs or >1 TIA in 1 week
- ABCD2 score ≥ 4 (see Box).

### ABCD2 SCORE

| Age ≥ 65 | 1 |
| First BP ≥ 140/90 | 1 |
| Clinical: Speech | 1 |
| or Hemiparesis | 0-3 |
| or 60+ min. | 0-3 |
| Diabetes | 0-3 |

**Total score (0-7)**

**2-day stroke risk**

**90-day stroke risk**

| 0-3 | 1% | 3% |
| 4-5 | 4% | 10% |
| 6-7 | 8% | 18% |

### ANTI-PLATELETS and ANTICOAGULATION

**Atrial fibrillation**

Warfarin should generally be used to treat atrial fibrillation in all patients with TIA without contraindications to anticoagulation.

In patients on, or potentially eligible for warfarin:
- Rule out intracerebral haemorrhage (ICH) as soon as possible (e.g. by CT brain)
- Once ICH excluded, warfarin can be initiated without further delay
- Give aspirin 75 mg od and clopidogrel 75 mg od until INR therapeutic (and for at least 5 days)

In patients in whom warfarin is contraindicated:
- In patients presenting < 48 hours from symptom onset, give aspirin 300 mg + clopidogrel 300 mg single dose immediately, followed by aspirin 75 mg od and clopidogrel 75 mg od indefinitely.
- In patients presenting 48 hours or more from symptom onset omit loading doses of aspirin and clopidogrel, and give aspirin 75 mg daily and clopidogrel 75 mg od indefinitely.

**No atrial fibrillation**

**Patient presenting < 48 hours from symptom onset or high risk (e.g. ABCD2 ≥ 4, see above):**

Aspirin 300 mg + clopidogrel 300 mg single dose immediately, then aspirin 75 mg od + clopidogrel 75 mg od for 1 month, then Asasantin one tablet twice daily for 2 years, then aspirin 75 mg daily.

**If patient presents outside 48 hours and lower risk:**

Aspirin 300 mg for remainder of first 2 weeks from onset, then Asasantin as above for 2 years followed by aspirin 75 mg daily.

Use clopidogrel 75 mg od monotherapy in place of Asasantin if tablets need crushing e.g. dysphagia (in preference to immediate release dipyridamole).

Use clopidogrel 75 mg od in place of aspirin or Asasantin if either drug not tolerated.

### Atrial Fibrillation

**Annual risk of stroke without treatment (see web site)**

<table>
<thead>
<tr>
<th>CHADS2 Risk (%)</th>
<th>CHADS2 Risk (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>5.9</td>
</tr>
<tr>
<td>4</td>
<td>8.5</td>
</tr>
</tbody>
</table>

**Estimated average annual risk of recurrent stroke +/- treatment**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Warfarin</th>
<th>Aspirin + clopidogrel</th>
<th>Aspirin alone</th>
<th>No treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk (%)</td>
<td>3%</td>
<td>5%</td>
<td>10%</td>
<td>12%</td>
</tr>
</tbody>
</table>
INVESTIGATIONS

**Carotid imaging** (inpatient / urgent outpatient)
All carotid imaging investigations are specialised, and should be
- Carotid dopplers first line, but should be arranged only with the TIA service.
- CT angio, carotids. **Seek specialist advice.** Useful if dopplers non-diagnostic or suggest carotid occlusion or stenosis close to cut-off for surgery (50-70% stenosis).
  Note risk of contrast nephropathy.
- MR angiography. **Seek specialist advice.** Used for above indications if CT angio contraindicated, or for patients undergoing MRI for other reasons.

**Echocardiography** (usually outpatient) Consider if:
- Cardioembolic source possible & cardiac murmur / abnormal cardiac silhouette

**Carotid Dopplers** (outpatient)
- 24 hour tape (or 48 hour tape) if AF suspected.
- Consider event recorder if palpitations

**Cardiac rhythm monitoring** (inpatient / urgent outpatient)

**Neuroimaging** (inpatient / urgent outpatient)
- MRI with DWI is the primary brain imaging modality for the diagnosis of TIA.
  Also consider imaging if:
  - Warfarin being considered (plain CT)
  - Other cause for symptoms suspected (e.g. tumour)
  - Dissection suspected (MRA / CTA)

CHOLESTEROL LOWERING TREATMENT

**Cholesterol lowering drugs:** Simvastatin 40 mg od if chol. ≥ 3.6 and not on statin (or on pravastatin). **If on treatment & cholesterol ≥ 3.6,** increase according to cholesterol lowering effect: Simvastatin 40 mg → Atorvastatin 40 mg → Rosuvastatin 10 mg. Add other agents if required.

BLOOD PRESSURE LOWERING TREATMENT

Treat if BP ≥ 110 systolic and no symptoms of postural hypotension.
Start perindopril 2 mg od; 7 days later increase to 4 mg; 7 days later add indapamide MR 1.5 mg od. Subsequent increases if hypertensive. Monitor U&Es.

DRIVING, LIFESTYLE, AND OTHER ADVICE

- No driving for 1 month, or 3 months and contact DVLA if >1 event in 1 month. **(see [http://www.dft.gov.uk/dvla/medical/ataglance.aspx](http://www.dft.gov.uk/dvla/medical/ataglance.aspx))**
  Patients may resume driving after this time if clinical recovery is complete.
- Patients must notify DVLA if focal neurological deficit after 1 month (note these patients by definition have stroke not TIA).
- Vocational license / Group 2 (e.g. HGV) drivers should contact DVLA and not drive for 12 months.
- Other advice
  - Good diabetic control
  - Lifestyle advice: Smoking cessation, diet, exercise, alcohol

Useful telephone numbers:
- Acute stroke unit. Frenchay Ward 106, ext 03106 / 03934
- Stroke rehab unit. Southmead Ward 1, ext 35064
- Stroke co-ordinators: Frenchay: Jo Upton, Mon - Fri, 9am - 5pm, bleep 1464
  Southmead: Jane Wroath. Tue - Fri bleep 9325. Or message via ext 35064
- Stroke consultant: Dr Neil Baldwin, sec Frenchay ext 06636, sec Southmead ext 35368

Useful web sites:
- Stroke information and patient support: Stroke Association: [www.stroke.org.uk](http://www.stroke.org.uk)
- Bristol Area Stroke Foundation: [www.stroke-bristol.org/](http://www.stroke-bristol.org/)
- NICE acute stroke and TIA guidelines: [http://guidance.nice.org.uk/CG68](http://guidance.nice.org.uk/CG68)