EAST LANCASHIRE GUIDELINES FOR SECONDARY PREVENTION OF TRANSIENT ISCHAEMIC ATTACK

	Score
A Age > 60	1
B BP > 140/90	1
C Clinical	
Unilateral weakness	2
Speech disturbance (No Weakness)	1
Other	0
D Duration	
>60 minutes	2
10-59 minutes	1
<10 minutes	0
Total	

Transient ischaemic attack
A syndrome of the sudden onset of focal neurological loss of presumed vascular origin lasting less than 24 hours
Includes: retinal ischaemia/transient monocular blindness

Written by Dr N Roberts April 2006.
Review date August 2007.

Patients with scores of 4, 5 or 6 are at high risk of major Stroke within the subsequent two weeks.

Give lifestyle advice re: low salt, low cholesterol, weight reducing diet, alcohol limits, moderate exercise and smoking cessation. Issue supporting written material and contact numbers for the Stroke Family Support Workers 01254 699685 (Lynn Cox and Madeline Smith)

1. Lower Blood Pressure

- Treat with thiazide diuretic in first instance
- Add ACE inhibitor if target BP is not achieved
- Use a long-acting calcium blocker as third-line if target BP is not achieved
- Aim for target BP of 140 / 85 (130 / 80 in diabetes) OR a 10% reduction, whichever results in the lower BP

N.B. After stroke or TIA, normotensive patients benefit as much as hypertensive patients from BP reduction

See Box 3

2. Lower cholesterol

- Treat a random cholesterol of ≥3.5 with low-cholesterol diet plus statin. Aim to lower total cholesterol EITHER to less than 5 mmol/l OR by 25% (whichever results in the lower level)

See Box 4

3. Use antiplatelet or anticoagulant treatment

Is atrial fibrillation present?
Including paroxysmal AF

NO
Aspirin 300mg immediately then lower dose to 75mg daily plus Dipyridamole MR 200mg BD

- Give the combination for 2 years and then revert to dispersible Aspirin alone.
- If intolerant of aspirin, use Clopidogrel 75mg OD

See Box 1

YES
Anticoagulate with Warfarin Target INR 2.5, range 2.0-3.0
Also control rate with verapamil, diltiazem or beta-blocker

See Box 2

4. Consider Carotid endarterectomy

Refer for carotid duplex study if carotid distribution TIA (use referral form) Surgery recommended for an ipsilateral symptomatic internal carotid artery stenosis of >70%

Continue to monitor the patient at appropriate intervals
For the majority of patients this will be at least six-monthly, including BP, concordance, lifestyle and smoking advice

EAST LANCASHIRE GUIDELINES FOR SECONDARY PREVENTION FOLLOWING TRANSIENT ISCHAEMIC ATTACK GUIDANCE NOTES

This guidance is intended to be used as an aid to decision-making, to assist with the effective care of stroke patients and thus to achieve a uniformly high standard of stroke prevention in primary care. It is intended to provide guidance that both clinicians and patients may need at key decision points in the prevention of recurrent stroke or TIA. It is based on NICE Guidance where this is available, but is not intended to provide 'rules' for every possible eventuality in stroke management and should be used pragmatically. As the process of stroke care develops, it will be superseded by updated versions. For comments and feedback on these guidelines, or for clinical advice in individual cases, contact Dr Roberts/Prof Singh (Tel: 01254 263555) or Dr Goorah (Tel: 01282 425071).

Box 1: Antiplatelet Treatment

NICE Technology Appraisal Guidance TA90, May 2005

- For the prevention of recurrent ischaemic stroke or TIA, use the combination of dispersible Aspirin 75 mg OD plus Dipyridamole MR 200 mg BD for 2 years, and then revert to dispersible Aspirin alone. Up to 20% of patients will get headaches on dipyridamole, which should fade over two weeks if persisted with. If intolerant of dipyridamole, use dispersible Aspirin alone.
- For people with GI intolerance of dispersible Aspirin, consider adding Omeprazole 20 mg OD.
- For people allergic to Aspirin, use Clopidogrel 75 mg OD alone.
- Stroke/TIA patients should avoid the combination of Aspirin and Clopidogrel.

Box 2: Anticoagulant Treatment

- Warfarin is appropriate for the secondary prevention of stroke or TIA associated with atrial fibrillation (persistent or paroxysmal), but should not be introduced until two weeks after the event unless neurological signs have fully resolved before then. It is also appropriate where stroke or TIA is associated with a prosthetic heart valve, rheumatic mitral valve disease or within three months of a myocardial infarct (mural thrombus). Warfarin reduces the *annual* risk of recurrent stroke by approximately two thirds, from 12% to 4%. The target INR is 2.5, range 2.0-3.0.
- The AFFIRM study indicates that in patients over 65 years a policy of rate control (with digoxin, verapamil or diltiazem, or beta-blockers) combined with anticoagulation is superior to a policy of attempting to maintain sinus rhythm (with drugs or cardioversion) and avoid anticoagulation in preventing thrombo-embolic events.
- If Warfarin is contraindicated or otherwise inappropriate, consider antiplatelet treatment instead. Aspirin reduces the *annual* risk of recurrent cardioembolic stroke from 12% to 10%
- Anticoagulant treatment is not appropriate for the secondary prevention of stroke or TIA in sinus rhythm.

Contraindications (underlined) **and cautions:**

- **Major bleeding** (active, current or unexplained)
- **Uncorrected major bleeding disorder** e.g. thrombocytopenia, haemophilias, liver failure, renal failure
- **Severe hypertension** e.g. systolic greater than 200 mmHg or diastolic greater than 120 mmHg (control BP first)
- **Potential bleeding lesions** e.g. active **peptic ulcer**; oesophageal varices; aneurysm; proliferative retinopathy; recent organ biopsy; recent trauma or surgery to head, orbit, spine; recent stroke within 2 weeks; confirmed intracranial or intraspinal bleed
- **Bacterial endocarditis**
- **Pregnancy** Risk of teratogenicity
- **Uncooperative/unreliable person** Problems with concordance and follow-up
- **Repeated falls or unstable gait** Increased chance of injury and head trauma
- **Concomitant use of any drug that increases the risk of GI bleeding** (e.g. NSAIDs, COX-2 inhibitors etc.)
- **Protein C deficiency** Risk of skin necrosis on initiation of treatment, so caution needed

Box 3: Management of Blood Pressure

The main trial of BP lowering after a stroke or TIA (the PROGRESS trial) showed that with a 12/5 mmHg reduction in BP with an ACE inhibitor/ thiazide combination, there was, over an average of 4 years:

- A 43% reduction in risk of further stroke or TIA;
- A 42% reduction in risk of myocardial infarction;
- A NNT (number needed to treat) of 11 to prevent one further vascular event.

Similar risk reductions were seen among both the hypertensive and normotensive subjects in the trial, as all patients were at relatively high risk of vascular events, even if normotensive (20% risk of a major vascular event within 4 years).

Monitoring of ACE Inhibitor therapy

Monitor BP, renal function and serum potassium:

- 1 week prior to treatment
- 1 week after initiation
- 1 month after initiation
- 1 week after significant change in dosage or addition of an interacting drug e.g. diuretic
- When there is a significant change in the patient's condition or during severe concurrent illness

Box 4: Management of Cholesterol

- The beneficial effects of cholesterol lowering in prevention of stroke or TIA in vascular patients were shown in the MRC/BHF Heart Protection Study
- 'Vascular' patients aged up to 80 years with a random total cholesterol ≥ 3.5 mmol/L took 40 mg OD of simvastatin to reduce total cholesterol by an average of 1.5 mmol/L over 4 years
- Total stroke was reduced by over 25%, as was myocardial infarction and coronary revascularisation
- The NNT was 20 over 5 years to prevent one vascular event, and the beneficial effect was independent of age, sex and baseline cholesterol

Box 5: Further Advice

- The National Clinical Guidelines for Stroke: http://www.rcplondon.ac.uk/pubs/books/stroke/index.htm
- Scottish Intercollegiate Guidelines Network: http://www.sign.ac.uk/guidelines/fulltext/36/section7.html
- Prodigy: http://www.prodigy.nhs.uk/ . This site also contains patient information leaflets on topics like TIA and stroke, hypertension and atrial fibrillation
- For clinical advice contact Dr Roberts, Prof Singh or Dr Goorah (contact details in top paragraph).