CLINICAL GUIDELINE FOR SECONDARY PREVENTION AFTER STROKE OR TIA (PRIMARY AND SECONDARY CARE CORNWALL)

MANAGEMENT

1. Aim/Purpose of this Guideline

The aim of this document to inform clinicians on management of secondary prevention for patients after stroke or TIA in Cornwall.

2. The Guidance

SECONDARY PREVENTION AFTER STROKE OR TIA GUIDELINE 7th Ed

PRIMARY AND SECONDARY CARE CORNWALL

Stroke

A syndrome of the sudden onset of focal neurological loss of presumed vascular origin lasting more than 24 hours

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

Acute stroke is an emergency dial 999
Refer patients with TIA urgently to the TIA clinic per email TIA.ClinicReferrals@pch-cic.nhs.uk
For investigation and management of acute stroke & TIA please consult guidelines

Confirmed diagnosis of TIA or Stroke
Secondary Prevention

A. Lower Blood Pressure

Aim for target Blood Pressure of 130/80

- Age ≥55 or black patient of any age start calcium channel blocker (amlodipine, felodipine, diltiazem) or thiazide diuretic
- Age <55 start ACE Inhibitor (Lisinopril, Ramipril) or Angiotensin-(II) receptor antagonists if ACE inhibitor not tolerated
- Add ACE inhibitor, calcium channel antagonist, or thiazide diuretic if target not achieved with initial choice

See Box 1

B. Lower

Aim for 40% reduction in non-HDL cholesterol

- Commence Atorvastatin 80mg daily lifelong after TIA or ischaemic stroke
- If there's a background of CKD then offer 20mg Atorvastatin, caution in liver disease

See Box 2

C. Use antiplatelet or anticoagulant treatment in ischaemic stroke/TIA

Is atrial fibrillation present?

NO

Give Clopidogrel 75mg OD

If intolerant of Clopidogrel, give Aspirin 75 mg OD plus Dipyridamole MR 200 mg BD

See Box 3

YES

Anticoagulation Warfarin, Dabigatran, Rivaroxaban, Apixaban, Edoxaban

Warfarin Target INR 2.5, range 2.0-3.0

Also control rate with digoxin, verapamil, diltiazem or beta-blocker

D. Give Lifestyle Advice

Lifestyle Advice on low salt, low cholesterol, weight reducing diet, alcohol limits, moderate exercise and smoking cessation.
Refer to Local Stroke Care Co-ordinator via 01209318120

Consider Carotid endarterectomy in ischaemic stroke
Carotid duplex is done as part of work up at TIA clinic. Surgery is recommended for an ipsilateral symptomatic internal carotid artery stenosis of >50% (North America Symptomatic Carotid Endarterectomy Trial criteria) within 1 week of symptom onset.

Continue to monitor the patient at appropriate intervals

For the majority of patients this will be at six weeks and then at least six monthly including BP, concordance, lifestyle and smoking advice
Maintaining long-term concordance with secondary vascular prevention is particularly important in preventing recurrence. Review medications at appropriate intervals. If patient is nearing end of life consider stopping secondary prevention medication after discussion with patient and family.

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PRIMARY AND SECONDARY CARE CORNWALL

These guidelines are intended for use as an aid to decision-making, to assist with the effective care of stroke patients and thus to achieve a uniformly high standard of long-term stroke prevention in primary care. They are intended to provide guidance that both clinicians and patients may need at the key decision points in the prevention of recurrent stroke or TIA. They are based on NICE/RCP Guidance where this is available, but are not intended to provide 'rules' for every possible eventuality in stroke management and should be used pragmatically. As the process of stroke care develops, they will be superseded by updated versions. **For feedback on this protocol, or for clinical advice in individual cases, contact Dr Frances Harrington, Dr Abhijit Mate, Dr Katja Adie at the Royal Cornwall Hospital, Truro ext 01872 250000, e-mail Forename.Surname@rcht.cornwall.nhs.uk .**

Box 1: Management of Blood Pressure

- Optimal target blood pressure is 130/80 mmHg for patients with cerebrovascular disease
- In patients with known bilateral severe carotid stenosis (>50%) higher target of 150/80 may be appropriate

Monitoring of ACE Inhibitor or ARB therapy

Monitor BP, renal function and serum potassium:

- **1 week prior to treatment**
- **1 week and 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**
- The PROGRESS study showed a 5% absolute risk reduction and 43% relative risk reduction in stroke after treatment with ACE and thiazide diuretic at 5 years[1]. This equates to a number needed to treat (NNT) of 11 to prevent 1 stroke at 5 years. Consider discontinuation of cholesterol medication if risks outweigh benefits.[10]

Box 2: Management of Cholesterol

NICE Lipid Modification Guideline

- *Initiate all 'vascular' patients (such as those after stroke or TIA) on 80 mg OD of Atorvastatin, regardless of age and baseline total cholesterol (TC).*
- If there's a risk of drug interactions or adverse effects then consider lower dose of atorvastatin
- If unable to tolerate high-intensity statin aim to treat with the maximum tolerated dose.
- If adverse effects reported when taking high intensity statin then discuss following options:
  - Stop statin & try again when symptoms resolved
  - Reduce dose within same intensity group
  - Change statin to lower intensity group
- Seek specialist advice for people at high risk of vascular event who are intolerant to 3 different statins
- Consider discontinuation of cholesterol medication if risks outweigh benefits.[10]

Box 3: Antiplatelet Treatment

- For acute treatment of ischaemic stroke give 300mg of Aspirin for 2 weeks for TIA loading dose of 300mg Aspirin or Clopidogrel[3,4]
- For the long-term prevention of ischaemic events after stroke or TIA, use Clopidogrel monotherapy, 75 mg OD. If intolerant of clopidogrel, then use the combination of Aspirin 75 mg OD plus Dipyridamole MR 200 mg BD.
- Stroke/TIA patients should avoid the combination of Aspirin and Clopidogrel
- Patients with previous myocardial infarction may need combination antiplatelet therapy. Please discuss with cardiologist.
- Consider discontinuation of antiplatelet therapy if risks outweigh benefits.[10]

Box 4: Anticoagulant Treatment

- Anticoagulation 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 stroke 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%[5].
- Warfarin, Dabigatran, Rivaroxaban, Apixaban, Edoxaban should be offered to patient for anticoagulation as per NICE guidance for non valvular AF.
- An informed discussion and medication review should be undertaken.
- Dabigatran, Rivaroxaban, Apixaban, Edoxaban do not require INR monitoring.
- In event of bleeding patients should be instructed to omit therapy until medically assessed. There is no specific antidote is available, follow guidance as per Thrombosis Prevention Investigation And Management Of Anticoagulation Guidance and Peninsula Network Guidance on Novel anticoagulants for patients with TIA or stroke (see intranet).[7,8,9]

Contraindications** (underlined) **and cautions for warfarin:

- **Major bleeding** (active, current or unexplained)
- **Uncorrected major bleeding disorder**
- **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
- **Severe hypertension** e.g. systolic greater than 200 mmHg or diastolic greater than 120 mmHg (control BP first)
- **Bacterial endocarditis**
- **Pregnancy** Risk of teratogenicity
- **Uncooperative person** Problems with concordance and follow-up
- **Repeated falls or unstable gait** Increased risk of injury
- **Concomitant use of drug that increases risk of GI bleeding**
- Documented **coumarin instability** or **non-compliance**.
- Patients nearing the end of their life
- **Protein C deficiency** Risk of skin necrosis on initiation of treatment, so caution needed

References

1) Arima et al. Lower target blood pressures are safe and effective for the prevention of recurrent stroke: the PROGRESS trial *Journal of Hypertension. 2006;* 24**,** 1201-1208

2) Amarenco et al. Stroke Prevention by Aggressive Reduction in Cholesterol Levels (SPARCL). High-dose atorvastatin after stroke or transient ischaemic attack *N Engl J Med. 2006;* 355**,** 549-59.

3) ISWP. National Clinical Guidelines for Stroke. RCP/NICE. 2012

4) NICE Guidelines (CG 181). Lipid modification for primary and secondary prevention of cardiovascular disease. July 2014.

5) The Atrial Fibrillation Follow-up Investigation of Rhythm Management (AFFIRM) Investigators. A comparison of rate control and rhythm control in patients with atrial fibrillation. N Engl J Med. 2002;347,1825-1833.

6) Cornwall Joint Formulary https://www.eclipsesolutions.org/Cornwall/

7) NICE CG 180. The Management of Atrial Fibrillation. June 2014

8) Thrombosis Prevention Investigation And Management Of Anticoagulation Guidance. RCHT Trust Guidelines 2014

9) Peninsula Network Guidance on Novel Anticoagulants for prevention of stroke and systemic embolism in AF. RCHT Trust Guidelines 2014.

3. Monitoring compliance and effectiveness

Element to be monitored	Referral to TIA clinic appropriately Management of Secondary prevention appropriately
Lead	Stroke Team
Tool	SENTINEL STROKE NATIONAL AUDIT PROGRAMME, TIA clinic
Frequency	Daily
Reporting arrangements	Bimonthly review at Stroke Operational Group Meeting
Acting on recommendations and Lead(s)	Stroke Operational Group Meeting held weekly, led by manager Debra Shields
Change in practice and lessons to be shared	At Stroke Operational Group Meetings, led by manager Debra Shields

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the Equality and Diversity website.

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Document Title	SECONDARY PREVENTION AFTER STROKE OR TIA (PRIMARY AND SECONDARY CARE CORNWALL)				
Date Issued/Approved:	02/010/2015				
Date Valid From:	02/10/2015				
Date Valid To:	02/10/2018				
Directorate / Department responsible (author/owner):	Dr Katja Adie, Eldercare Department				
Contact details:	01872 253458				
Brief summary of contents	Management of secondary prevention including management of antiplatelet therapy, blood pressure, cholesterol, anticoagulation and lifestyle advice for patients following TIA or stroke				
Suggested Keywords:	Acute Stroke Management				
Target Audience	RCHT	CCG	CFT		
	✓	✓			
Executive Director responsible for Policy:	Rob Parry				
Date revised:	05/010/2015				
This document replaces (exact title of previous version):	Management of Acute Stroke				
Approval route (names of committees)/consultation:	Stroke Operational Group				
Divisional Manager confirming approval processes	Andrew Virr				
Name and Post Title of additional signatories	'Not Required'				
Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings					
	Name:				
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet & Intranet	✓	Intranet Only		
Document Library Folder/Sub Folder	Stroke Medicine				

Links to key external standards	Governance Team can advise
Related Documents:	Advanced Stroke Management Pathway, Stroke Thrombolysis, Stroke and TIA Care pathway, Peninsula Referral Guidelines for Early Decompressive Surgery in Acute Ischaemic Stroke, Peninsula Network Guidance on Novel Anticoagulants for Stroke and TIA
Training Need Identified?	No

Version Control Table

Date	Version No	Summary of Changes	Changes Made by (Name and Job Title)
2008	V1.0	Initial Issue	K Adie, consultant
2009	V2.0	Updated with new clinical evidence	K Adie, consultant
2010	V3.0	Updated with new clinical evidence	K Adie, consultant
2011	V4.0	Updated with new clinical evidence	K Adie, consultant
2012	V5.0	Updated with new clinical evidence	K Adie, consultant
2014	V6.0	Updated with new clinical evidence	K Adie, consultant D Nash, medical student
2015	V7.0	Updated with new clinical evidence and guidance	K Adie, consultant

All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.

This document is only valid on the day of printing

Controlled Document

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2.Initial Equality Impact Assessment Screening Form

Name of service, strategy, policy or project (hereafter referred to as policy) to be assessed: Clinical Guideline for Secondary Prevention after Stroke or TIA (Primary and Secondary Care Cornwall)	
Directorate and service area:	Existing
Name of individual completing assessment: K Adie	Telephone: 07717714009
1. Policy Aim*	The aim of this document to inform clinicians on management of secondary prevention following stroke or TIA in Cornwall.
2. Policy Objectives*	The guidance enables clinical staff to prevent further cerebrovascular events.
3. Policy – intended Outcomes*	Gold standard stroke care
5. How will you measure the outcome?	SENTINEL STROKE NATIONAL AUDIT PROGRAMME Monthly board report
5. Who is intended to benefit from the Policy?	Patients with new stroke or TIA in Cornwall
6a. Is consultation required with the workforce, equality groups, local interest groups etc. around this policy? b. If yes, have these groups been consulted? c. Please list any groups who have been consulted about this procedure.	This is existing policy and has been widely consulted Clinicians at RCHT, GPs, Managers, Stroke survivors This is not a procedure but a clinical guideline. It has been signed off by the stroke operational group.

*Please see Glossary

7. The Impact
Please complete the following table.

Are there concerns that the policy **could** have differential impact on:

Equality Strands:	Yes	No	Rationale for Assessment / Existing Evidence
Age		**X**	
Sex (male, female, trans-gender / gender reassignment)		**X**	

Race / Ethnic communities /groups		**X**	
Disability - learning disability, physical disability, sensory impairment and mental health problems		**X**	
Religion / other beliefs		**X**	
Marriage and civil partnership		**X**	
Pregnancy and maternity		**X**	
Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian		**X**	

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- You have ticked "Yes" in any column above and
- No consultation or evidence of there being consultation- this excludes any *policies* which have been identified as not requiring consultation**. or**
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended.	**Yes**	**No X**

9. If you are not recommending a Full Impact assessment please explain why.

Signature of policy developer / lead manager / director	Date of completion and submission

Names and signatures of members carrying out the Screening Assessment	1. 2.	

Please sign and date this form.

Keep one copy and send a copy to Matron, Equality, Diversity and Human Rights, c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Chyvean House, Penventinnie Lane, Truro, Cornwall, TR1 3LJ

A summary of the results will be published on the Trust's web site.

Signed _____

Date _____