



Royal Cornwall Hospitals
NHS Trust

Acute Stroke Management Clinical Guideline

V9.1

December 2023

1. Aim/Purpose of this Guideline

- 1.1. The aim of this document to inform clinicians in Cornwall on management of patients presenting with acute stroke.
- 1.2. This version supersedes any previous versions of this document.

Data Protection Act 2018 (UK General Data Protection Regulation – GDPR) Legislation.

The Trust has a duty under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out, it must be opt in.

Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

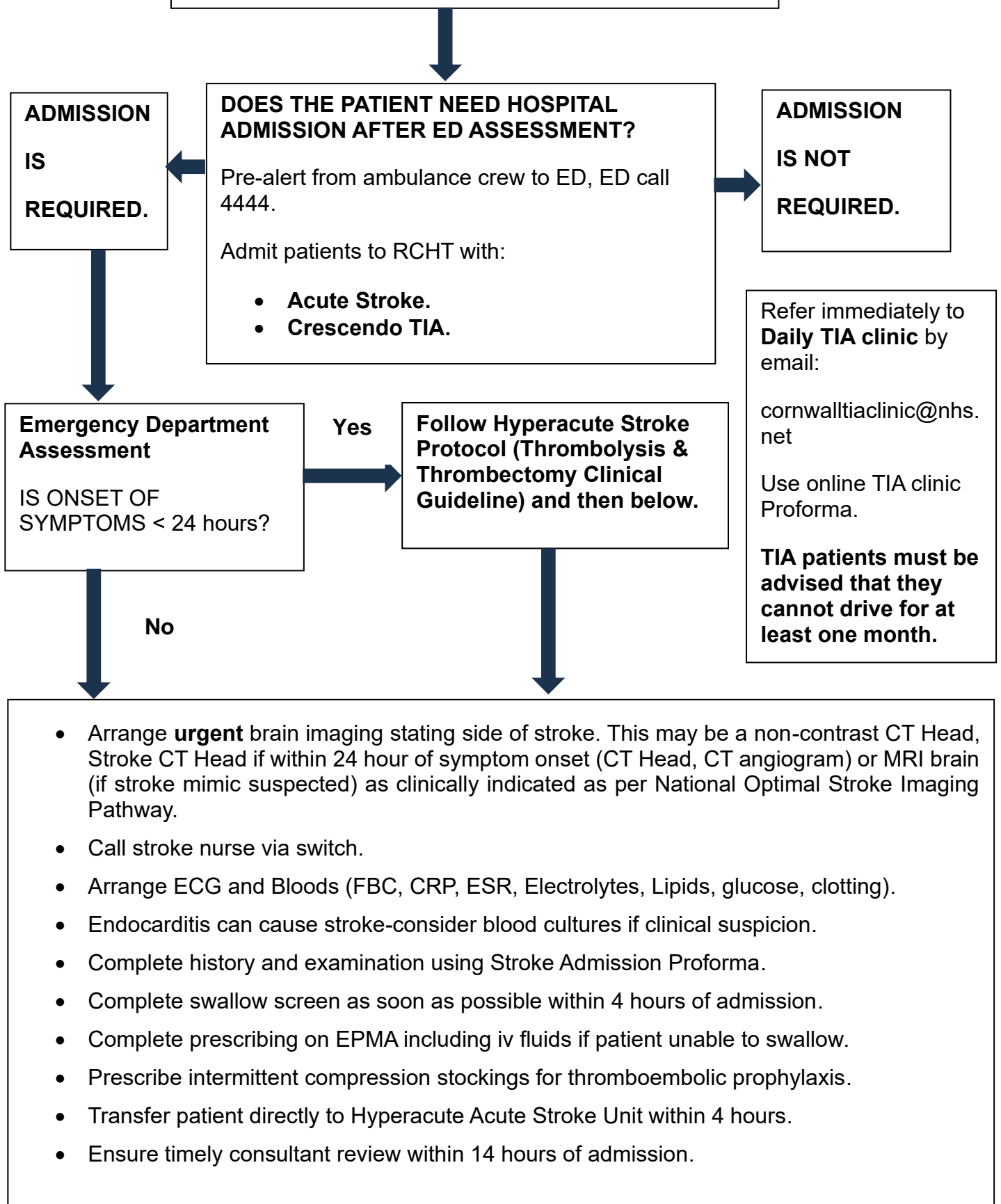
For more information about your obligations under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 please see the Information Use Framework Policy or contact the Information Governance Team.

Royal Cornwall Hospital Trust rch-tr.infogov@nhs.net

2. The Guidance

- 2.1. 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 acute management of stroke. They are intended to provide guidance that clinicians 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 As the process of stroke care develops, they will be superseded by updated versions.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 please contact Dr Mohana Maddula at the Royal Cornwall Hospital, Truro ext 01872 253458, e-mail: m.maddula@nhs.net. For clinical advice on individual cases, please contact Stroke Consultant via switchboard (Mon-Fri) or Eldercare Consultant on call via Silverphone.**
- 2.2. Please see flowchart on following page, which provides guidance.

Admission with Suspected Acute Stroke.



- 2.3. **Nutrition/ Hydration** Screen swallow, if impaired start iv fluids, refer to Speech and Language therapist and insert NG feeding tube within 24 hours of admission, Confirm NG tube placement with aspirate testing, if unable request CXR and ring Xray dept 3771. If patient received thrombolysis delay NG insertion for 12 hours post lysis.
- 2.4. **Antihypertensive treatment** – in patients with acute ischaemic stroke and Blood pressure <220/110 not receiving thrombolysis/mechanical thrombectomy, do not routinely lower BP with antihypertensive treatment in the first 24 hours of symptom onset, unless indicated for another condition (such as aortic dissection, pre-eclampsia/eclampsia, hypertensive encephalopathy, hypertensive nephropathy, hypertensive cardiac failure/myocardial infarction).
- For BP management in the setting of acute haemorrhagic stroke (see below).
 - For BP management in the peri-thrombolysis setting, see RCHT Hyperacute Stroke Protocol.

If in doubt discuss with Stroke Physician.

- Blood Glucose - Aim for blood glucose 4-11mmol/l.
- Oxygen therapy - Give oxygen, if oxygen saturation < 95% on air.
- Mobility - Mobilise when clinical condition permits, Physiotherapy assessment within 24 hours of admission.
- Temperature: Aim for temperature < 37.5, If temperature >38, screen for sepsis using Sepsis guidelines and follow the sepsis protocol.2 If sepsis ruled out, consider paracetamol.

2.5. Ischaemic stroke

2.5.1. Treatment:

- Start antithrombotic treatment as per RHCT Secondary Prevention after Stroke or TIA Clinical Guideline.
- For patients with AF/other indications for anticoagulation e.g., heart valves, see RCHT Non-Vitamin K Oral Anticoagulant (NOAC) for prevention of Stroke and systemic embolism in Atrial Fibrillation Clinical Guideline.
- Perform CT brain to exclude haemorrhage prior to commencing anticoagulation.
- Start other secondary prevention as per guidelines, such lipid-lowering medication.
- If concomitant sepsis and patient on anticoagulation monitor clotting every 24 hours.

2.5.2. Investigation:

- Book carotid duplex ultrasound if anterior circulation stroke and patient fit for surgery or possible dissection. This may not be required if patient had a CT angiogram on admission as part of the Stroke CT protocol.
- Request 24-hour ECG to look for presence of Paroxysmal AF, in patients with ischaemic stroke or TIA not already diagnosed with AF, if they are appropriate for anticoagulation. Consider prolonged cardiac rhythm monitoring (e.g., R-test) where there is high-suspicion of cardioembolism.
- Consider further tests after discussion with stroke consultants.
- If suspicion of artery dissection, consider CT cerebral and neck angiogram if not already performed. Discuss with Radiologist.
- Repeat CT brain scan if large MCA stroke & clinical deterioration within 48 hours without evidence of other cause. If evidence of malignant MCA infarct and neurological deterioration contact neurosurgeons.
- Arrange 'Young Stroke bloods' on maxim for patients with stroke <60 years age.

2.6. Haemorrhagic stroke

2.6.1. Treatment:

- If patient on anticoagulation aim for reversal within 1 hour of arrival, consult anticoagulation policy.
- Aim for target systolic BP of 140 within 1 hour of arrival, as per the RCHT Hypertension in Intracerebral Haemorrhage Clinical Guideline.
- Avoid completing Treatment Escalation Plan for 24 hours unless unsurvivable bleed.
- Refer to Derriford neurosurgical team (via website: referapatient.org and also telephone in emergency situation).

2.6.2. Investigations:

- Urgent CTA if aneurysm rupture suspected (and not already performed)
- Consider early CTA/MRA (within 48 hours and not already performed) unless:
 - Age <18 or >70.
 - History of malignancy.
 - Anticoagulated.

- Age >45 with hypertension and haemorrhage in 'typical' hypertensive location - basal ganglia, thalamus or posterior fossa.
- **Follow-up imaging:**
 - Non-contrast CT head in 6-8 weeks if had CTA/MRA/post-contrast CT/MR at presentation.
 - Pre and post-contrast CT head in 6-8 weeks if no CTA/MRA/post-contrast CT/MR at presentation.
 - Consider MR with SWI in 3 months if earlier imaging inconclusive or still felt high probability of macrovascular cause or does not meet above criteria.

If in doubt discuss with Stroke Physician and/or discussion at Neuroradiology Meeting.

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Stroke Audit ensures all patients are admitted to stroke unit as soon as possible.
Lead	Stroke Team- Dr M Maddula.
Tool	Sentinel Stroke National Audit Programme.
Frequency	Daily.
Reporting arrangements	Bimonthly review at Stroke Operational Group Meeting.
Acting on recommendations and Lead(s)	Stroke Operational Group Meeting led by Care Group General Manager.
Change in practice and lessons to be shared	Stroke Operational Group Meeting led by Care Group General Manager.

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 And Inclusion 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

Information Category	Detailed Information
Document Title:	Acute Stroke Management Clinical Guideline V9.1.
This document replaces (exact title of previous version):	Acute Stroke Management Clinical Guideline V9.0.
Date Issued/Approved:	November 2023.
Date Valid From:	November 2023.
Date Valid To:	January 2026.
Directorate / Department responsible (author/owner):	Dr Mohana Maddula, Eldercare Department.
Contact details:	07827833626.
Brief summary of contents:	The aim of this document to inform clinicians in Cornwall on management of patients presenting with acute stroke.
Suggested Keywords:	Acute Stroke Management.
Target Audience:	RCHT: Yes CFT: No CIOS ICB: No
Executive Director responsible for Policy:	Chief Medical Officer.
Approval route for consultation and ratification:	Eldercare Governance Group, Stroke Operational Group.
Manager confirming approval processes:	Nigel D'Arcy- Interim.
Name of Governance Lead confirming consultation and ratification:	Paul Evangelista.
Links to key external standards:	None required.
Related Documents:	Hyperacute Stroke Protocol - Thrombolysis and Mechanical Thrombectomy Clinical Guideline. Hypertension following Intracerebral Haemorrhage Clinical Guideline. Secondary Prevention after Stroke or TIA Clinical Guideline.

Information Category	Detailed Information
	Stroke and TIA Multidisciplinary Care pathway. Peninsula Referral Guidelines for Early Decompressive Surgery in Acute Ischaemic Stroke. Non-Vitamin K Oral Anticoagulant (NOAC) for prevention of Stroke and systemic embolism in Atrial Fibrillation Clinical Guideline.
Training Need Identified?	No.
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet.
Document Library Folder/Sub Folder:	Clinical / Stroke.

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
2008	V1.0	Initial issue	Dr K Adie, Consultant
2009	V2.0	Updated with new clinical evidence.	Dr K Adie, Consultant
2010	V3.0	Updated with new clinical evidence.	Dr K Adie, Consultant
2011	V4.0	Updated with new clinical evidence.	Dr K Adie, Consultant
2012	V5.0	Updated with new clinical evidence.	Dr K Adie, Consultant
July 2014	V6.0	Updated with new clinical evidence.	Dr K Adie, Consultant
July 2017	V7.0	Updated with new clinical evidence.	Dr K Adie, Consultant
November 2018	V7.1	Updated with SI and new clinical evidence.	Dr K Adie, Consultant
February 2019	V7.2	Update post inquest.	Dr K Adie, Consultant
February 2020	V8.0	Updated with new clinical evidence.	Dr K Adie, Consultant

Date	Version Number	Summary of Changes	Changes Made by
November 2022	V9.0	Updated with new clinical evidence.	Dr K Adie, Consultant
November 2023	V9.1	Updated with new clinical evidence.	Dr M Madulla, Consultant

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

All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.

This document is only valid on the day of printing.

Controlled Document.

This document has been created following the Royal Cornwall Hospitals NHS Trust [The Policy on Policies \(Development and Management of Knowledge Procedural and Web Documents Policy\)](#). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity, and Inclusion Team
rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	Acute Stroke Management Clinical Guideline V9.1
Directorate and service area:	Stroke.
Is this a new or existing Policy?	Existing.
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Dr Mohana Maddula- Stroke Consultant.
Contact details:	07827 833626.

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	The aim of this document to inform clinicians on management of patients presenting with acute stroke in Cornwall.
2. Policy Objectives	The guidance enables clinical staff to give patients with stroke best chance of recovery.
3. Policy Intended Outcomes	Gold standard stroke care.
4. How will you measure each outcome?	Sentinel Stroke National Audit Programme. Monthly board report.
5. Who is intended to benefit from the policy?	Patients with new suspected stroke in Cornwall.

Information Category	Detailed Information
6a. Who did you consult with? (Please select Yes or No for each category)	<ul style="list-style-type: none"> • Workforce: Yes • Patients/ visitors: No • Local groups/ system partners: No • External organisations: No • Other: No
6b. Please list the individuals/groups who have been consulted about this policy.	Please record specific names of individuals/ groups: Clinicians at RCHT, GPs, Managers, Stroke survivors.
6c. What was the outcome of the consultation?	It has been signed off by the eldercare governance group 01 January 2019 and stroke operational group 20 February 2019.
6d. Have you used any of the following to assist your assessment?	National or local statistics, audits, activity reports, process maps, complaints, staff, or patient surveys: No

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	
Sex (male or female)	No	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
Religion or belief	No	

Protected Characteristic	(Yes or No)	Rationale
Marriage and civil partnership	No	
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Dr M Maddula- Stroke Consultant.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:

[Section 2. Full Equality Analysis](#)