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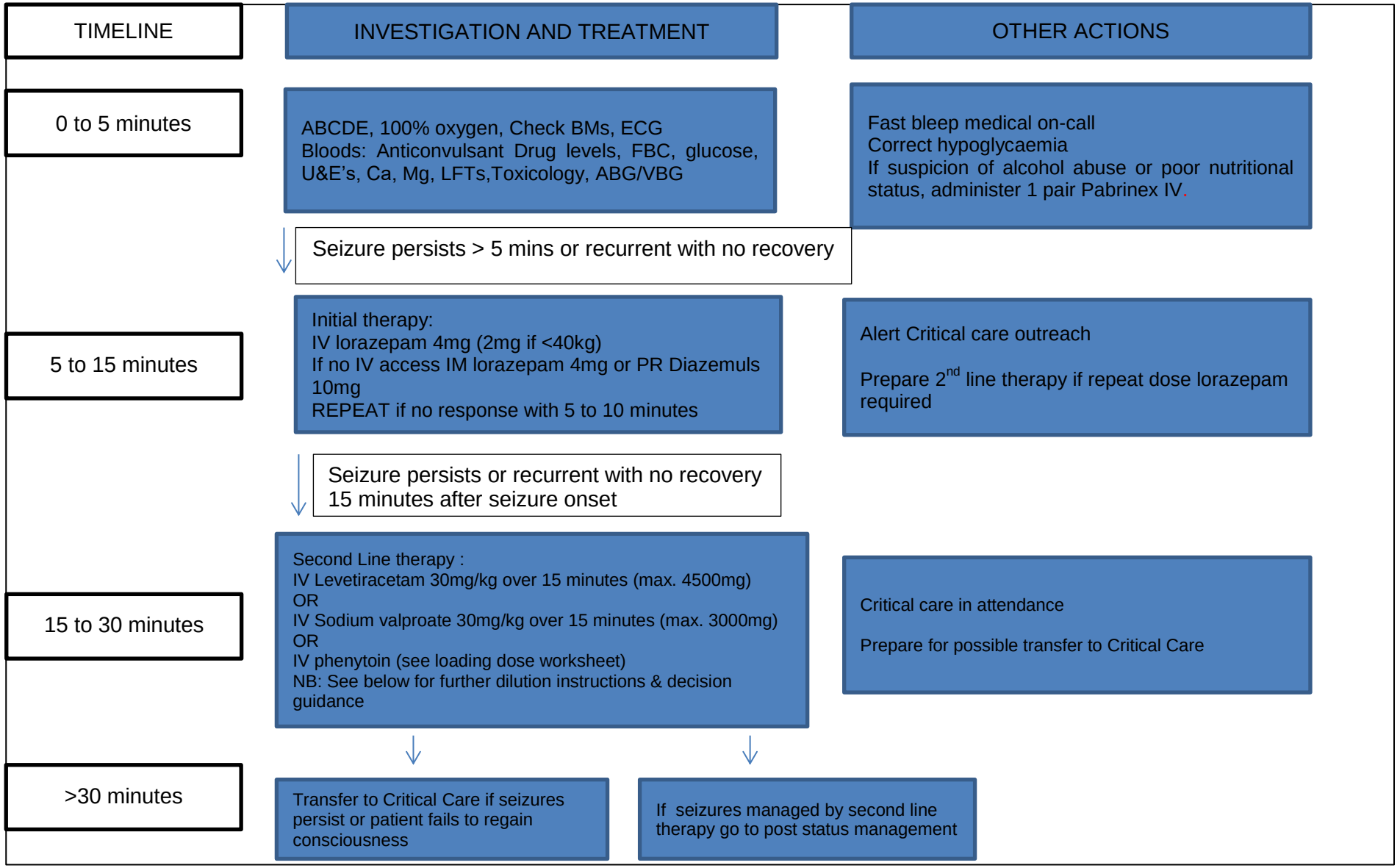
Royal Cornwall Hospitals NHS Trust

Management of Convulsive/Generalised Tonic Clonic Status Epilepticus in Hospital Clinical Guideline

V2.1

May 2021

Summary - Convulsive/ Generalised Tonic Clonic Status Epilepticus in Adults



1. Aim/Purpose of this Guideline

1.1. This guideline is intended for all medical staff who will be managing patients with convulsive/generalized tonic clonic status epilepticus. These patients may be seen in ED/ MAU or in the hospital wards.

1.2. This version supersedes any previous versions of this document.

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

The Trust has a duty under the DPA18 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.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the *Information Use Framework Policy* or contact the Information Governance Team rch-tr.infogov@nhs.net

2. The Guidance

Status epilepticus is a life threatening neurological condition defined as 5 or more minutes of continuous seizure activity, or repetitive seizures without regaining consciousness

2.1. Common Causes

- In an individual with epilepsy, poor compliance with antiepileptic drug regime
- Alcohol
- Illicit drug use:
  - Cocaine
  - Amphetamine
- CNS pathology including:
  - Infection
  - Trauma
  - Tumour
  - Stroke
- Metabolic disturbance
- NB Not all seizures are epileptic; non epileptic or “pseudoseizures” may also be prolonged or recurrent

2.2. Management

See flow chart.

2.3. Investigation

See flow chart for acute investigation.

2.3.1. CNS imaging

- Consider CT brain in first instance
- MRI brain in selected cases

2.3.2. EEG

- Request EEG in all new onset cases
- Consider EEG if doubts regarding diagnosis or to confirm that seizures have been abolished

2.3.3. CSF examination

- If suspected CNS infection
- Neurology referral via MAXIMs

2.4. Second Line Therapy Guidance

With the exception of contra-indications there is no preferential status given to any of the second line treatments stated within this guidance.

2.4.1. Intravenous **loading levetiracetam**

No contra-indications except for previous allergic reaction.

2.4.2. Dilute the required dose in 100mls of 0.9%w/v sodium chloride or 5%w/v glucose.

2.4.3. Administer required dose over 15 minutes

2.4.4. Loading dose levetiracetam can be administered to a patient already prescribed the drug, with problems being unlikely.

2.4.5. Adverse effects that may be experienced include aggression/irritability, somnolence and headache.

2.4.6. If the combination of a patient's regular dosing and loading dose will exceed 100mg/kg in a 24 hour period then contact during the day shift either the on-call neurology consultant or your ward pharmacist for advice regarding potential monitoring. Out of hours please contact the on-call pharmacist.

2.5. Intravenous loading dose sodium valproate

2.5.1 This medication is contra-indicated in:

- Women of child bearing potential, unless the conditions of the Pregnancy Prevention Programme are fulfilled
- Severe liver failure
- Mitochondrial disorder

2.5.2 Dilute the required dose in 50mls 0.9%w/v sodium chloride

2.5.3 Administer required dose over 10 minutes

2.6. Intravenous loading dose phenytoin with ECG monitoring

2.6.1. See loading dose worksheet at: Use of Phenytoin in Epilepsy Clinical Guideline

2.6.2. This guideline will advise on the loading dose of phenytoin to administer in those patients who are phenytoin naïve and those already on phenytoin.

2.6.3. Maximum infusion rate should not exceed 50mg/minute.

2.7. Intravenous Phenobarbital (For potential use in Critical Care only when used for status epilepticus)

- Single dose of 10mg/kg
- Maximum infusion rate of 100mg/minute
- Dilution of injection is required with 0.9%w/v sodium chloride or 5% glucose (see Medusa via hospital intranet)

2.8. Post Status Management

2.8.1. Complete investigations for cause

2.8.2. Ensure that individuals with prior epilepsy diagnosis continue with their usual antiepileptic drug regime

2.9. Maintenance Dosing for Levetiracetam

2.9.1. Maintenance dosing is started 4 to 8 hours after receiving the loading dose of levetiracetam.

2.9.2. Oral, NG and IV maintenance dose following loading dose is 1000mg BD; switch IV maintenance dose to an enteral dose as soon as practicable.

2.9.3. In renal impairment dose reductions may be required:

- For eGFR 50mls-80mls/min – give 1000mg BD
- For eGFR 30mls-50mls/min – give 750mg BD
- For eGFR <30mls/min – give 500mg BD
- For dialysis patients – give 500mg OD

2.10. Maintenance Dosing for Sodium Valproate

2.10.1. Maintenance dosing is started 4 to 8 hours after receiving the loading dose of sodium valproate.

2.10.2. Oral, NG and IV maintenance dose following loading dose is 1000mg BD switch IV maintenance dose to an enteral dose as soon as practicable.

2.10.3. For patients already on lamotrigine, dose reduction will be required when starting regular sodium valproate. On reducing lamotrigine dosing please seek advice from neurology and/or pharmacy.

2.10.4. This medication is contra-indicated in:

- Women of child bearing potential, unless the conditions of the Pregnancy Prevention Programme are fulfilled (https://www.gov.uk/guidance/valproate-use-by-women-and-girls)
- Severe liver failure
- Mitochondrial disorder

2.11. Maintenance Dosing for Phenytoin

See clinical guideline in document library Clinical Guideline for the Use of Phenytoin in Epilepsy

3. Monitoring compliance and effectiveness

Element to be monitored	Compliance with recognition of the definitions, recommended drug policy, escalation procedures, and investigations required, with morbidity and mortality outcomes.
Lead	Neurology Department
Tool	Review of case notes, using the guidelines as the audit standard on a Word or Excel template specific to the topic.
Frequency	One year after implementation to complete first audit. Thereafter frequency will depend on our compliance.
Reporting arrangements	Report will be initially discussed in the Neurology audit and Governance meeting, then presented to the medical Division, and to the ED and MAU departments. The Divisional Audit and Governance groups will receive a report. Adherence to the guidelines will be examined and deviations explored, with recommendations to rectify made. The Neurology Department Governance and Audit leads will be responsible for this.
Acting on recommendations and Lead(s)	The Neurology Department Governance and Audit leads will be responsible for this. The report will be disseminated and an expectation to implement any recommendations of change immediately
Change in practice and lessons to be shared	The recommended actions will be cascaded to the junior staff involved in the clinical management of these patients, at presentations to the relevant departmental meetings and re-iterated at the Emergency Neurology Teaching sessions.

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, Inclusion & 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	Management of Convulsive Status Epilepticus in Hospital Clinical Guideline V2.1			
This document replaces (exact title of previous version):	Management of Convulsive Status Epilepticus in Hospital Clinical Guideline V2.0			
Date Issued/Approved:	17th May 2021			
Date Valid From:	May 2021			
Date Valid To:	4th June 2023			
Directorate / Department responsible (author/owner):	Dr Jonathan Stewart, Consultant Neurologist			
Contact details:	01872 253195			
Brief summary of contents	This guidance is for the emergency management of Convulsive Status Epilepticus within the RCHT Hospitals Group			
Suggested Keywords:	Epilepsy, Status, Status Epilepticus, Convulsions, Seizures			
Target Audience	RCHT	CFT	KCCG	
	✓			
Executive Director responsible for Policy:	Medical Director			
Approval route for consultation and ratification:	Medication Practice Committee Neurology Governance Meeting			
General Manager confirming approval processes	Rachel Pearce			
Name of Governance Lead confirming approval by specialty and care group management meetings	Becky Osborne			
Links to key external standards	None required			
Related Documents:	None			
Training Need Identified?	Junior Doctors receive annual training update as part of the Emergency Neurological Conditions Teaching			
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet & Intranet	✓	Intranet Only	
Document Library Folder/Sub Folder	Clinical / Neurology			

Version Control Table

Date	Version No	Summary of Changes	Changes Made by *(Name and Job*
23.12.2014	V1.0	Initial version	Dr Brendan Mclean Neurology Consultant
27.02.2020	V2.0	Full Update to flowchart and all of section 2 together with being transposed to latest Trust template.	Dr Jonathan Stewart, Consultant Neurologist
17.05.2021	V2.1	Section 2.6.1: hyperlink to guideline updated	Helen McClay Deputy Chief Pharmacist

Appendix 2. Equality Impact Assessment

<table>
<tr><th colspan="6">Section 1: Equality Impact Assessment Form</th></tr>
<tr><td colspan="6">Name of the strategy / policy /proposal / service function to be assessed
Management of Convulsive Status Epilepticus in Hospital Clinical Guideline V2.1</td></tr>
<tr><td colspan="3">Directorate and service area:
Specialist Medicine, Neurology</td><td colspan="3">Is this a new or existing Policy?
Existing</td></tr>
<tr><td colspan="3">Name of individual/group completing EIA
Jonathan Stewart, Consultant Neurologist</td><td colspan="3">Contact details:
01872 253195</td></tr>
<tr><td>1. Policy Aim
Who is the strategy / policy / proposal / service function aimed at?</td><td colspan="5">The policy is aimed at Medical staff who may be asked to attend a patient in Status Epilepticus,</td></tr>
<tr><td>2. Policy Objectives</td><td colspan="5">The policy provides the guidelines for medical interventions and supportive care, as well as necessary emergency investigations required for patients.</td></tr>
<tr><td>3. Policy Intended Outcomes</td><td colspan="5">To standardise care, ensure early and timely interventions, guide escalation of care, and reduce morbidity and mortality from the condition.</td></tr>
<tr><td>4. How will you measure the outcome?</td><td colspan="5">Audit of patients experiencing this complication.</td></tr>
<tr><td>5. Who is intended to benefit from the policy?</td><td colspan="5">Patients who present with status epilepticus</td></tr>
<tr><td rowspan="3">6a). Who did you consult with?

b). Please list any groups who have been consulted about this procedure.</td><td>Workforce</td><td>Patients</td><td>Local groups</td><td>External organisations</td><td>Other</td></tr>
<tr><td>X</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">Please record specific names of groups:
The guidelines have been discussed with the Junior medical staff, Consultant Neurologists, Pharmacy and ICU.
Medication Practice Committee
Neurology Governance Meeting</td></tr>
<tr><td>c). What was the outcome of the consultation?</td><td colspan="5">Agreed</td></tr>
</table>

7. The Impact

Please complete the following table. If you are unsure/don't know if there is a negative impact you need to repeat the consultation step.

Are there concerns that the policy **could** have a positive/negative impact on:

Protected Characteristic	Yes	No	Unsure	Rationale for Assessment / Existing Evidence
Age		X		
Sex (male, female non-binary, asexual etc.)		X		
Gender reassignment		X		
Race/ethnic communities /groups		X		
Disability (learning disability, physical disability, sensory impairment, mental health problems and some long term health conditions)		X		
Religion/ other beliefs		X		
Marriage and civil partnership		X		
Pregnancy and maternity		X		
Sexual orientation (bisexual, gay, heterosexual, lesbian)		X		

If all characteristics are ticked 'no', and this is not a major working or service change, you can end the assessment here as long as you have a robust rationale in place.

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:	**Jonathan Stewart, Consultant Neurologist**

If you have ticked 'yes' to any characteristic above OR this is a major working or service change, you will need to complete section 2 of the EIA form available here: Section 2. Full Equality Analysis

For guidance please refer to the Equality Impact Assessments Policy (available from the document library) or contact the Human Rights, Equality and Inclusion Lead india.bundock@nhs.net