2014/15 Clinical Audits: Initial management of the fitting child

Introduction
Children experiencing seizures are a common presentation at Emergency Departments. By the age of 16 years approximately 1% of the population will have suffered a seizure without a fever and approximately 50% of children who have an afebrile seizure will have a recurrence\(^1\). The population risk of febrile seizure is 2.7–3.3%. The risk of recurrence of febrile seizure following a first febrile seizure is 29–35\(^\%\)\(^1\). Management of the fitting child is an important area for quality improvement.

The information provided below is now final (28\(^{\text{th}}\) July 2014). It has been amended slightly from the original version published on 9\(^{\text{th}}\) June 2014 following feedback from the pilots.

Background
In 2013 the College’s Standards and Audit subcommittee proposed developing standards for the management of status epilepticus, based on existing evidence-based guidance\(^2\)\(^3\), with an intention to conduct an audit in 2014/15. Following discussion it was proposed to develop generic standards for the initial management of febrile and afebrile seizures. The standards have been developed in consultation with the Royal College of Paediatrics and Child Health who are leading development of intercollegiate standards for the management of afebrile seizures. The standards are being audited for the first time.

Objectives
The objective of the audit is to identify current performance in EDs against clinical standards and show the results in comparison with other departments in order to facilitate quality improvement.

The audit primarily covers domain 3 of the NHS Outcomes Framework: Helping people to recover from episodes of ill health and injury.
**Participation**

All Emergency Departments in Acute Trusts/ Health Boards in England, Ireland, Northern Ireland, Scotland and Wales are invited to participate. This audit is listed in the Department of Health (England) Quality Accounts for 2014/15, which require providers in England to report on their participation in identified national clinical audits.

Reports will be made available by ED and by Trust/Health Board to participants. Each report will identify performance in comparison with CEM standards.

An overall report will be made publically available.

**Inclusion criteria**

Patients must meet the following criteria for inclusion:

- Patients **under 16 years of age** who presented at your ED with a febrile or afebrile seizure (actively fitting or following a fit). See definitions & identifying patients for inclusion
- Up to 50 cases from **1st August 2014 to 31st January 2015**.

Do **NOT** include:

- Any patient 16 years of age or over.
- Any patient presenting with a known history of seizures **and** has a written personal management plan.

**Methodology**

*Data collection:* Cases should be selected from ED/hospital records. We recommend the audit is conducted retrospectively, but EDs can audit prospectively if they wish. The audit will not collect any patient identifiable information. Data can be entered on to the online data collection system between **1st August 2014** and **31st January 2015**.

*Sample size:* A maximum of 50 cases can be submitted. The minimum is 10 cases.

*Data submission:* Data must be submitted to the College using the online data collection platform at [https://cem.l2s2.com](https://cem.l2s2.com). EDs who have registered will be sent access details. EDs should decide internally who will undertake data collection and quality improvement actions following the audit.
Standards

1. Manage all fitting children as per APLS or EPLS algorithm\(^4\) (exceptions: children with known history of seizures and a written management plan)
2. Take a careful eyewitness history to ascertain possible cause and document in the patient’s clinical record
3. Check blood glucose and document in the patient’s clinical record
4. Parent information leaflets should be given to parents/carers providing clear safety net advice for all children discharged from the ED.

Definitions

**Standard 1** – for the purposes of the audit ‘fitting child’ means any child under the age of 16 presenting with or following a fit, convulsion or seizure. All presentations below should be included:

- **Seizure** - paroxysmal disturbance of brain function (motor, sensory, autonomic or cognitive) that may be epileptic, or non epileptic
- **Epileptic seizure** - occurrence of signs and/or symptoms of abnormal excessive hypersynchronous activity in the brain
- **Non-epileptic seizure** - seizure occurring due to non epileptic causes e.g. syncope, reflex anoxic seizures, breath holding attacks, cardiac arrhythmias, raised ICP
- **Acute symptomatic seizure** - seizure secondary to metabolic or electrolyte disturbances, intracranial infections, intracranial haemorrhage, tumour, ingestions
- **Febrile seizure** - seizure in presence of fever $\geq$37.8 C or features in history or examination indicative of febrile seizure
- **Epilepsy** - recurrence of epileptic seizures.

Exceptions: If the child has a known history and has a written management plan then that patient should not be included in the audit. If it is unclear whether the patient had a personal written management plan when they presented please include in the audit.

**Standard 2** – An eyewitness to the seizure should be contacted to ascertain:

- the conscious level prior to the seizure
- the duration of the seizure
- whether the seizure was focal or generalised
- the time taken to recover
- the state of the child afterwards.\(^5\)

**Standard 3** – Measuring blood glucose must be done in all cases. If it was measured pre-hospital by an ambulance crew the result must be recorded in the ED notes.

**Standard 4** – Parents or carers of children discharged from the ED should be provided with written information that includes:

- information about the type of seizure experienced
- the likelihood of recurrence
- what steps to be taken by carers in the event of a recurrence
- contact details for where carers can seek help in the event of a recurrence. Exceptions: if the patient has a history of seizures with a diagnosed condition and has already received written advice on the type of seizure experienced.

**Identifying patients for inclusion**

The following ICD10 codes can be used to identify possible patients for inclusion:

<table>
<thead>
<tr>
<th>ICD10</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G40.0</td>
<td>Localization-related (focal)(partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset</td>
</tr>
<tr>
<td>G40.1</td>
<td>Localization-related (focal)(partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures</td>
</tr>
<tr>
<td>G40.2</td>
<td>Localization-related (focal)(partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures</td>
</tr>
<tr>
<td>G40.3</td>
<td>Generalized idiopathic epilepsy and epileptic syndromes</td>
</tr>
<tr>
<td>G40.4</td>
<td>Other generalized epilepsy and epileptic syndromes</td>
</tr>
<tr>
<td>G40.5</td>
<td>Special epileptic syndromes</td>
</tr>
<tr>
<td>G40.6</td>
<td>Grand mal seizures, unspecified (with or without petit mal)</td>
</tr>
<tr>
<td>G40.7</td>
<td>Petit mal, unspecified, without grand mal seizures</td>
</tr>
<tr>
<td>G40.8</td>
<td>Other epilepsy</td>
</tr>
<tr>
<td>G40.9</td>
<td>Epilepsy, unspecified</td>
</tr>
<tr>
<td>G41.0</td>
<td>Grand mal status epilepticus</td>
</tr>
<tr>
<td>G41.1</td>
<td>Petit mal status epilepticus</td>
</tr>
<tr>
<td>G41.2</td>
<td>Complex partial status epilepticus</td>
</tr>
<tr>
<td>G41.8</td>
<td>Other status epilepticus</td>
</tr>
<tr>
<td>G41.9</td>
<td>Status epilepticus, unspecified</td>
</tr>
<tr>
<td>R56.0</td>
<td>Febrile convulsions</td>
</tr>
<tr>
<td>R56.1</td>
<td>Post traumatic seizures</td>
</tr>
<tr>
<td>R56.8</td>
<td>Unspecified convulsions</td>
</tr>
</tbody>
</table>

**How to register**

To participate in this audit please complete and return the registration form before 1st August 2014. Download the form here: [REGISTRATION FORM 2014/15](#). Forms should be returned by e-mail to audit@collemergencymed.ac.uk

A fee is charged for participation in CEM audits. Please see the registration form for details.

**Audit timeline 2014/15**

- 9/6/2014 – Registration for 2014/15 audits opens
- 30/6/2014 – Audit pilot completed
- 28/7/2014 – Final audit questions published
- 1/8/2014 – Data collection opens
- 31/1/2015 – Data collection closes
- May 2015 – Reports published
Evidence based guideline for post seizure management in children presenting acutely to secondary care.

The epilepsies: the diagnosis and management of the epilepsies in adults and children in primary and secondary care, NICE CG137, Jan 2012

Transient loss of consciousness ('blackouts') management in adults and young people (NICE CG109, Aug 2010)

Advanced paediatric life support (ALSG, 5th edition)

NICE Clinical Knowledge Summary (updated October 2013)