SEIZURES

ACUTE CARE, MANAGES PATIENTS WITH IMPAIRED CONSCIOUSNESS INCLUDING SEIZURES

TARGET: Interns (1st year postgraduate doctors)

BACKGROUND:
Prioritisation is extremely important in the initial assessment and management of patients with acutely altered levels of consciousness and seizures. Interns should be able to work within and lead a team to safely assess and treat these patients in a timely manner.

CURRICULUM – adapted from UK Foundation Programme

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<th>1 Professionalism</th>
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<td>1.4 Team Working:</td>
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<td>Demonstrates clear and effective communication within the team</td>
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<td>1.5 Leadership:</td>
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<td>Demonstrates extended leadership role by making decisions and dealing with complex situations across a greater range of clinical and non-clinical situations</td>
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<td>6 Good Medical Practice</td>
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<td>6.2 Evidence, guidelines, care protocols and research</td>
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<td>Recognises, understands and follows appropriate guidelines</td>
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<td>Prescribes drugs and treatments appropriately, clearly and unambiguously in accordance with Good Practice in Prescribing Medicines (GMC, 2008)</td>
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<td>Uses the BNF plus pharmacy and computer-based prescribing-decision support to access information about drug treatments, including drug interactions</td>
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<td>Performs dosage calculations correctly and verifies that the dose is of the right order</td>
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<td>Chooses appropriate intravenous fluids as vehicles for intravenous drugs and calculates the correct volume and flow rate</td>
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<td>Prescribes oxygen appropriately including to patients with the risk of carbon dioxide retention</td>
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<td>Relates prescribing activity to available prescribing guidelines / audit data eg antibiotic usage</td>
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<td>7.7 Infection control and hygiene</td>
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<td>Demonstrates correct techniques for hand hygiene with hand gel and with soap and water</td>
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<td>Takes appropriate microbiological specimens in an timely fashion</td>
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<td>Follows local guidelines / protocols for antibiotic prescribing</td>
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<td>7.9 Interface with different specialties and with other professionals</td>
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<td>Understands the importance of effective communication with colleagues in other disciplines</td>
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Adapted for Queen Elizabeth Central Hospital, Blantyre, Malawi by K. Burton, P. Garg, J. Chettwood
Courtesy of HETV and QuEST Simulation Centre, Frimley Healthcare Foundation Trust
Original Author: N Feely
8 Recognition and management of the acutely ill patient

### 8.1 Promptly assesses the acutely ill, collapsed or unconscious patient
- Uses Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach to assessing the acutely unwell or collapsed patients
- Uses the GCS or Alert, Voice, Pain, Unresponsive (AVPU) to quantify conscious level
- Investigates and analyses abnormal physiological results in the context of the clinical scenario to elicit and treat cause
- Uses monitoring (including blood glucose) to inform the clinical assessment
- Asks patients and staff appropriate questions to prioritise care
- Seeks senior help with the further management of acutely unwell patients both promptly and appropriately
- Summarises and communicates findings to colleagues succinctly
- Appropriately communicates with relatives/friends and offers support

### 8.2 Responds to acutely abnormal physiology
- Formulates treatment plan in response to acutely abnormal physiology taking into account other co-morbidities and long-term conditions
- Administers and prescribes oxygen, fluids and antimicrobials as appropriate (see Good Clinical Care: Safe Prescribing and Infection Control)
- Recognises when arterial blood gas sampling is indicated, identifies abnormal results, interprets results correctly and seeks senior advice
- Plans appropriate action to try to prevent deterioration in vital signs
- Reassesses ill patients appropriately after starting treatment
- Monitors for efficacy of interventions
- Recognises the indicators for intensive care unit review when physiology abnormal

### 8.3 Manages patients with impaired consciousness, including seizures
- Assesses conscious level (GCS or AVPU)
- Treats ongoing seizures
- Recognises causes of impaired consciousness and seizures and seeks to correct them
- Recognises the potential for airway and respiratory compromise in the unconscious patient (including indications for intubation)
- Understands the importance of supportive management in impaired consciousness
- Seeks senior help for patients with impaired consciousness in an appropriate and timely way

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<th>11 Investigations</th>
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<td><strong>11.1 Investigations</strong></td>
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<td>- Requests investigations appropriate for patients’ needs in accordance with local and national guidance to optimise the use of resources</td>
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<td>- Seeks out, records and relays results in a timely manner</td>
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<td>- Plans/organises appropriate further investigations to aid diagnosis and/or inform the management plan</td>
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<td>- Provides concise, accurate and relevant information and understands the diagnostic question when requesting investigations</td>
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<td>- Understands what common tests and procedures entail, the diagnostic limitations and contraindications, in order to ensure correct and relevant referrals/requests</td>
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<td>- Interprets the results correctly within the context of the particular patient/presentation e.g. plain radiography in a common acute condition</td>
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LEARNING OBJECTIVES

ABCDE assessment and initial management of patient with altered conscious level and seizures to include
genral supportive treatments and specific drug therapies
Appropriate call for help and concise transfer of information
Management of status epilepticus

SCENE SETTINGS

Location: Emergency Department

Expected duration of scenario: (a) 15 mins
Expected duration of debriefing: (a) 20-30 mins

EQUIPMENT AND CONSUMABLES

- Adult manikin with IV access
- Selection of oxygen masks
- Airway adjuncts: OPA, NPA
- SpO2, ECG, NIBP monitoring
- Crystalloid + giving sets
- Mock up drugs: benzodiazepine, phenytoin,
  antibiotics as per local guideline
- Syringes, fluid flushes
- Blood bottles, culture bottles, request forms
- Observation chart, medical note paper, drug chart

PERSONNEL-IN-SCENARIO

- Intern to lead scenario
- AETC assistant staff member
- (nurse, intern, medical student)
- “medical registrar” if requested

PARTICIPANT BRIEFING

1. Scene-setting: Recognition and initial management of the acutely unwell patient are essential skills for intern doctors. Today we would like one of you to assess a patient in the AETC who has been brought in by relatives. Please assess the patient methodically and treat the problems / symptoms that you find.
2. Assistance: An assistant will be present as the scenario begins (faculty will tell you who this is and what experience they have). If other (appropriate) help is needed at any stage, ask for it (faculty will tell you how to do this).
3. The scenario will run until a natural conclusion, after which we will regroup to discuss the scenario and any related subjects that the group raises. This is not a test of the person who participates in the scenario and they will not be judged in any way on their performance.
4. We may then move back to the manikin again for the next steps in the management of the patient, followed by a further discussion of any matters that arise.

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‘VOICE OF THE MANIKIN’ BRIEFING

Your name is Peter (Flora) Chilembwe. You are a 45 year old farmer. You had a grand mal seizure while you were having lunch and another with relatives on the way to hospital. You have remained very drowsy since the seizure stopped, you do not speak and only make snoring sounds.

IN-SCENARIO PERSONNEL BRIEFING

The patient is Peter (Flora) Chilembwe, a 45 year old farmer who had a grand mal seizure while eating lunch. The seizure lasted 3 minutes and stopped spontaneously but the patient remained very drowsy so family brough him/her to hospital. The patient had another seizure in the ambulance on the way to hospital. The seizure terminated spontaneously after 4 minutes.

Please role play an emergency department nurse or intern doctor as directed by the faculty. Please assist the staff member who comes to assess the patient in the AETC.

If asked, give the following collateral history (from family):

PMHx: Nil, but family history of epilepsy

Headaches every day for past couple of weeks.

Usual meds: nil

NKDA

ADDITIONAL INFORMATION

The main focus of the first part of this encounter is the initial management of seizures.

If the participant progresses quickly through the scenario and faculty wish to expand the clinical challenge, then the patient could deteriorate and progress to status epilepticus before the more senior medical staff arrive.
EXPECTED ACTIONS:

- ABCDE assessment
- Basic airway management
- O2 facemask
- SpO2, ECG + NIBP monitoring
- Recognise risk to airway and consider when to call airway expert
- Bloods, MRDT and HIV test

INITIAL SETTINGS

A: snoring, gurgling
B: RR30, SpO2 86% on 21% /92% on 15LO2, chest clear, central cyanosis
C: HR 120 ST, BP 170/90, CR 3sec
D: eyes closed, PERL 3mm
E: no rash, temp 37.9 °C

DETERIORATION

A: partial obstruction if no OPA
B: unchanged
C: unchanged
D: grand mal seizure
E: unchanged

EXPECTED ACTIONS:

- Recognise airway risk
- Benzodiazepine administration (if available)
  Otherwise, phenobarbitone or phenytoin
- Reassess ABCDE
- Consider differential diagnosis and request relevant investigations (biochemistry, metabolic screen, MRDT, LP)

FURTHER DETERIORATION

A: partial obstruction if no OPA
B: RR 30, SpO2 95% on 15L O2, chest clear
C: HR 130 ST, BP 130/80, CR 3 sec
D: eyes closed, pupils sluggish 3mm, E1,V2,M3
E: unchanged

EXPECTED ACTIONS/CONSEQUENCES:

- Liaise with medical seniors re next steps
- Plan next drugs if seizure does not terminate
- Ensure investigations sent
- Antibiotics to cover for bacterial meningitis

LOW DIFFICULTY

- Medical registrar arrives early, ensures samples taken, antibiotics given and anticonvulsants prescribed
- Registrar secures airway and arranges ongoing care

NORMAL DIFFICULTY

- Seniors not present
- Reassess, fluids, benzodiazepine, phenobarbitone or phenytoin
- Consider further investigations

HIGH DIFFICULTY

- Seizure recurs before seniors arrive: manage as per local protocol for status epilepticus (initial + ongoing)
- Consider further investigations

RESOLUTION

Scenario ends following discussion of Further management. Notes should be written to accompany the patient.

Results/Other information:

- CXR: normal
- ECG: SR
- Biochemistry: normal
- FBC: WBC 14, others normal

Author: Niamh Feely
Adapted for QECH by K. Burton, P. Garg, J. Chettwood
KEY POINTS

Initial approach to the patient with seizures is ABCDE.

Standard drug treatment guidelines for management of seizures – benzodiazepines, phenytoin, phenobarbitone

Remember risk of aspiration during seizure and post-ictal phase

If seizure recurs – get help

POINTS FOR FURTHER DISCUSSION

General supportive management of patient during seizure and in post-ictal phase

When to be concerned about airway and when to intervene to protect it

Review of guidelines / protocols for pharmacological management of seizures

Definition of status epilepticus and review of NICE guidance / local guidelines

Task prioritisation, team interactions and leadership in status epilepticus

DEBRIEFING RESOURCES

Local protocol for management of seizures and status epilepticus


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