Health Education Thames Valley

OPIOID OVERDOSE (EMERGENCY DEPT)

MODULE: ACUTE CARE

TARGET: FY1 & FY2 TRAINEES AND FINAL YEAR MEDICAL STUDENTS

BACKGROUND:

Prioritisation is extremely important in the initial assessment and management of patients with acutely altered levels of consciousness and seizures. FY trainees should be able to work within and lead a team to safely assess and treat in a timely manner. Recognition and management of Opioid overdose is extremely important in order to prevent hypoxia and airway risk.

RELEVANT AREAS OF THE FOUNDATION PROGRAMME CURRICULUM

1 Professionalism	**1.4 Team Working:** • Demonstrates clear and effective communication within the team **1.5 Leadership:** • FY2 demonstrates extended leadership role by making decisions and dealing with complex situations across a greater range of clinical and non-clinical situations
7 Good clinical care	**7.5 Safe prescribing** • Prescribes drugs and treatments appropriately, clearly and unambiguously in accordance with Good Practice in Prescribing Medicines (GMC, 2008) • Uses the BNF plus pharmacy and computer-based prescribing-decision support to access information about drug treatments, including drug interactions • Performs dosage calculations correctly and verifies that the dose is of the right order • Chooses appropriate intravenous fluids as vehicles for intravenous drugs and calculates the correct volume and flow rate • Prescribes oxygen appropriately including to patients with the risk of carbon dioxide retention • Relates prescribing activity to available prescribing guidelines / audit data eg antibiotic usage **7.7 Infection control and hygiene** • Demonstrates correct techniques for hand hygiene with hand gel and with soap and water • Takes appropriate microbiological specimens in an timely fashion • Follows local guidelines / protocols for antibiotic prescribing **7.9 Interface with different specialties and with other professionals** • Understands the importance of effective communication with colleagues in other disciplines

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 • 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
11 Investigations	**11.1 Investigations** • Requests investigations appropriate for patients' needs in accordance with local and national guidance to optimise the use of resources • Seeks out, records and relays results in a timely manner • Plans/organises appropriate further investigations to aid diagnosis and/or inform the management plan • Provides concise, accurate and relevant information and understands the diagnostic question when requesting investigations • Understands what common tests (Table 1) and procedures entail, the diagnostic limitations and contraindications, in order to ensure correct and relevant referrals/requests • Interprets the results correctly within the context of the particular patient/presentation e.g. plain radiography in a common acute condition • Prioritises importance of investigation results

INFORMATION FOR FACULTY

LEARNING OBJECTIVES:

- ABCDE assessment and initial management of patient with altered conscious level
- Differential Diagnosis and investigation in patients with reduced conscious level
- Appropriate call for help and concise transfer of information
- Management of opioid overdose

SCENE INFORMATION:

- Location: Emergency Department

Expected duration of scenario: 15-20 mins
Expected duration of debriefing: 20-30 mins

EQUIPMENT & CONSUMABLES

- Mannequin: On ED trolley, with full O2 cylinder
- Stocked airway trolley
  (Specifically: Airway adjuncts (OPA, NPA))
- O2 and selection of masks incl. NRB
- Monitoring equipment (SpO2, ECG, NIBP)
- Syringes, flushes, IV fluid and giving sets
- Simulated drugs (antibiotics as per local guideline, glucose, naloxone)
- Blood bottles, culture bottles, request forms
- Observation chart, medical note paper, drug chart
- Stocked crash trolley
- Mock-up anaesthetic equipment/drugs

PERSONS REQUIRED

FY Trainee to lead scenario
Emergency Department assistant staff (Nurse, FY, Medical student)
Medical Registrar (If requested)
ITU Registrar (If requested)

PARTICIPANT BRIEFING: (TO BE READ ALOUD TO PARTICIPANT)

1. Scene-setting: Recognition and initial management of the acutely unwell patient are essential skills to develop during FY training. Today we would like one of you to assess a patient in the Emergency Department who has been brought in by ambulance. 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 (the faculty will let you know how to request it).
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.

'VOICE OF MANIKIN' BRIEFING:

Your name is John (Joanne) Walsh. You are 25 years old. You have taken an overdose of methadone and have a reduced conscious level. You are snoring / gurgling and moan slightly in response to pain. Your conscious level improves if you are given more naloxone so that you open your eyes to pain and mumble incoherent words. If you are also given glucose, your conscious level returns to normal.

IN SCENARIO BRIEFING:

Mr John (Miss Joanne) Walsh is 25 years old, was found unconscious in their bedroom by flatmates and was brought to hospital by ambulance. Paramedics gave one dose of naloxone IV because of a low respiratory rate and small pupils.

Please role play an Emergency Department nurse or FY1 doctor as directed by the faculty. Please assist the FY doctor who comes to assess the patient in the Emergency Department.

If asked, tell the FY doctor the following: Friends say the patient has no past medical history but didn't really give any other information.

ADDITIONAL INFORMATION

The main focus of this encounter is the assessment of the patient with a reduced conscious level and recognition of the risk to the airway.

The secondary focus is on the use of naloxone to reverse opioid-induced respiratory depression. IV naloxone acts very quickly, however, it has a shorter half life than the opioids it reverses and trainees need to be aware that an infusion may be required.

Trainees should also be made aware that there may be more than one factor contributing to the reduced conscious level and that glucose must always be checked.

CONDUCT OF SCENARIO

INITIAL SETTINGS

A: Gurgling sounds, incoherent sounds
B: RR3, SpO_2 85% on 21%/93% on 15LO_2, Chest clear
C: HR 60 SR, BP 80/50, CRT 3secs
D: Eyes closed, Pinpoint pupils, E1V2M3
E: No rash, temp 36.2°C

EXPECTED ACTIONS

- ABCDE assessment
- Airway adjunct, O_2 facemask, recognise airway risk
- Inadequate ventilation - BVM
- ECG + NIBP monitoring
- Severity of illness: call for seniors
- Start to form DDx and appropriate investigations
- ABG and routine bloods

RESULTS

INITIAL ABG:
pH 7.31
pO2 7.5 (9.5 if on O2)
pCO2 9.5
BE -3
Lact 1.4

CXR:
Normal

ECG:
Sinus tachycardia

ABG AFTER DETERIORATION:
pH 7.29
pO2 7.5 (13 if on O2)
pCO2 10.9
(pCO2 lower if Naloxone given)
BE -3
Lact 1.4

BLOODS
WCC 13, Glucose 2.3
Tox screen – ve+ Opiates
Otherwise normal

DETERIORATION

A: Clear if manoeuvres + adjunct used, no verbal responses.
B: RR 4, SpO_2 93% on O_2, Chest clear
C: HR 100 SR, BP 130/70, CRT 3 secs
D: Eyes closed, E1V1M1, PERL 2mm
E: Unchanged

EXPECTED ACTIONS

- Recognise signs of opioid overdose and give naloxone
- Gather additional information to guide investigations e.g. Collateral history
- Look for clinical signs to support other diagnoses.

IMPROVEMENT

A: Clear if manoeuvres + adjunct used, no verbal responses.
B: RR 12 after Naloxone, SpO_2 93% on O_2, Chest clear
C: HR 80 SR, BP 90/60, CRT 3 secs
D: Eyes closed, E1V2M3, PERL 2mm

LOW DIFFICULTY

- Medical Registrar arrives early, gets collateral history, orders bloods, takes BM/gives Glucose
- ITU Registrar present and prepared to secure airway, if required.

NORMAL DIFFICULTY

- Seniors not present
- Bloods sent, BM checked
- Glucose given.
- Patient recovers

HIGH DIFFICULTY

- Bloods sent and BM checked
- Glucose given → improvement
- Neurological deterioration as Naloxone bolus wears off – RR 5, E1,V1,M3 – recognise need for infusion

RESOLUTION

Opioid overdose treated (Bolus +/- Infusion), Glucose given
A: Clear, coughs out OPA
B: RR 16, SpO2 95%, Chest Clear
C: HR 110 SR, BP 150/90
D: E3V4M5, PERL 5mm
Scenario ends when plans made for ongoing Naloxone infusion and investigations

DEBRIEFING

POINTS FOR FURTHER DISCUSSION:

- ABCDE assessment and supportive management
- Investigations in cases of reduced conscious level - many differential diagnoses, need for team input
- Risk of bias towards overdose in this patient population, with resulting failure to investigate adequately
- Appropriate and timely call for senior assistance due to risk to patient
- Management of opiate overdose including possible need for a Naloxone infusion

DEBRIEFING RESOURCES

1. BMJ best practice monograph on management of opioid overdose available at http://bestpractice.bmj.com/best-practice/monograph/339/treatment/step-by-step.html

2. BNF: Emergency treatment of poisoning – outlines procedure for bolus dose and infusion

INFORMATION FOR PARTICIPANTS

KEY POINTS:

- Early recognition of need for airway protection +/- ventilation.
- Broad differential diagnosis list – how to investigate efficiently to exclude diagnoses
- Pitfall of focusing only on obvious diagnosis

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6 Good Medical Practice	**6.2 Evidence, guidelines, care protocols and research** • Recognises, understands and follows appropriate guidelines
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PARTICIPANT REFLECTION:

What have you learnt from this experience? (Please try to list 3 things)

How will your practice now change?

What other actions will you now take to meet any identified learning needs?

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PARTICIPANT FEEDBACK

Date of training session:.....

Profession and grade:.....

What role(s) did you play in the scenario? (Please tick)

Primary/Initial Participant	
Secondary Participant (e.g. 'Call for Help' responder)	
Other health care professional (e.g. nurse/ODP)	
Other role (please specify):	
Observer	

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
I found this scenario useful					
I understand more about the scenario subject					
I have more confidence to deal with this scenario					
The material covered was relevant to me					

Please write down one thing you have learned today, and that you will use in your clinical practice.

How could this scenario be improved for future participants?
(This is especially important if you have ticked anything in the disagree/strongly disagree box)

FACULTY DEBRIEF – TO BE COMPLETED BY FACULTY TEAM

What went particularly well during this scenario?

What did not go well, or as well as planned?

Why didn't it go well?

How could the scenario be improved for future participants?