The Doctors' Handbook

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You've Been **Bleeped:**

Acute Neuro/Psych

You've been **bleeped:** Scenario 1a

You're the weekend on-call FY1, bleeped about a patient on the ortho ward

You've been **bleeped:** Scenario 1a

S 83M, was well this morning. Is now unrousable. Responding to pain

B 2 days post-op for a #NOF. PMHx: TIA, T2Dm, CKD3, OA

A

HR 65

130 87

RR 5

97% RA

T° 38.1

Localises to pain (sternal rub)

R You're going to attend quickly. Put on 02. Ensure IV access

Scenario 1a

HR 65 | 130 89 | RR 5 | 97% RA | T° 38.1

A **B** Airway patent, chest clear

C HS normal. CRT <1s, JVP normal. Calves SNT. No pedal oedema

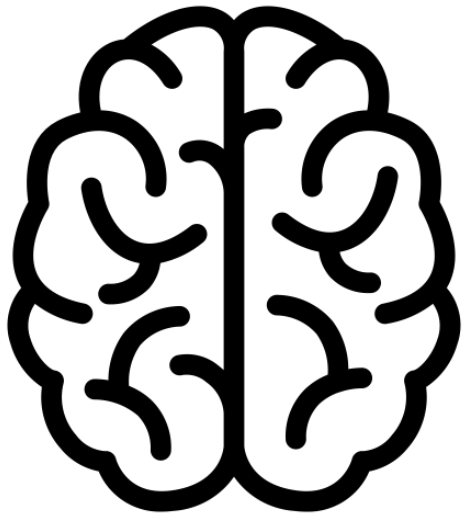
D Pinpoint pupils, fixed and unreactive. Groans and localised to pain in response to sternal rub. Plantars downgoing. BM 6

E Abdomen SNT, bowel sounds +ve, catheter draining cloudy urine

Scenario 1a

What are **differentials** of acute drop in GCS?

Differentials



- Sepsis
- Opiate toxicity
- Hypoglycaemia
- Hypercapnia
- Seizure
- Stroke

Less likely due to no focal neurology

NB TIA rarely causes impaired consciousness

Investigations

Looking at the drug chart, they've been prescribed 60mg codeine QDS for post-op pain

From this morning

Bloods

Creatine	160 (105)
WBC	20 (11)

ABG

On 15L

pH	7.28	**SO_2**	99
$PaCO_2$	9	**PaO_2**	14
HCO_3^-	26	**BE**	+1
Lactate	3		

Scenario 1a

Impression?

Impression

1. Opiate toxicity
2. Codeine build up caused by AKI
3. Urosepsis as underlying cause of AKI
4. T2RF/respiratory acidosis from hypoventilation

Scenario 1a

Management?

Management

Naloxone – 200-400mcg initially. Repeat if no effect.
Beware short half-life and consider infusion

Abx (tazocin) plus **sepsis 6**

Sepsis screen
CXR, CSU, blood cultures, change catheter and send tip for culture

Escalate to seniors

AKI management
IVFs, review meds, start fluid input/output monitoring
Consider alternative analgesia e.g. fentanyl/alfentanyl

Consider Resus status and escalation status

You've been **bleeped:** Scenario 1b

Similar situation as before, but when you arrive the patient begins to snore heavily
Sats drop to 89% RA

Immediate management?

Management

1. Sit them up

2. Oxygen (high flow 15L)

3. Whilst managing their airway, instruct someone else (e.g. a nurse/HCA) to out **put a 2222 with anaesthetic assistance**. Do **not** leave the patient

Management

4. Simple manoeuvres – jaw thrust or head tilt/chin lift. **Jaw thrust usually more effective** – look for **misting** of the mask and listen for airway noises which hopefully should be alleviated

5. Reassess airway

6. If simple manoeuvres don't work, insert an **airway adjunct** – either a nasopharyngeal or oropharyngeal airway

You've been **bleeped:** Scenario 1b

Snoring stops, sats improve from 89% to 97%

Do we still need to **escalate** with a 2222 and anaesthetics?

Yes. **Any** evidence of airway compromise needs a 2222 call with anaesthetics

This is true even if you're able to temporarily manage with manoeuvres/adjuncts and have found a reversible cause

Scenario 1b

What are the different signs of an **obstructed airway**?

Scenario 1b

- Snoring
- Gurgling
- Stridor
- Low GCS
- Paradoxical chest movement

You've been **bleeped:** Scenario 2

You're the weekend FY1 oncall. A Healthcare Assistant runs over to you and shouts 'Bed 6 is having a seizure!'

You walk quickly into the bay to find a man jerking and spasming. You've never met him before and obviously haven't been given a handover

What **immediate** action do you take?

Immediate action in first 5 mins of a seizure

AORTA-BED-N

- **A**irway
- **O**xygen
- **R**ecovery position
- **T**ime of onset
- **A**ccess (IV)
- **B**M
- **E**scalate (2222 w/ anaesthetics)
- **D**rugs – draw up ready
- **N**otes – ask someone to bring

Airway - Can use manoeuvres/Guedel/NP

Given that the sats probe often doesn't give an accurate reading during a seizure and that it's almost impossible to get an ABG – how can we **accurately** tell if they're hypoxic?

It's difficult. Often if sats probe low we'd just put on 15L O_2 NRB mask and wait 5 minutes

If after 5 mins nothing has changed, then that's the point when anaesthetics would consider **further intervention**

NB: However if signs/sounds of airway obstruction e.g. stridor/choking etc then obviously we would intervene **immediately**

Recovery position (if airway is patent/secure)

Time of onset – start a stopwatch

Access – ensure cannula in situ

BM/blood glucose

If <3.5mmol then give 100ml of 20% glucose STAT. If any history of alcoholism then give Pabrinex concurrently (risk of Wernickes)

Escalate – put out a 2222 peri-arrest w/ assistance of anaesthetics

Drugs – draw up ready to give at 5 minute mark

1st choice Lorazepam 0.1mg/kg IV

Usual dose 2-4mg depending on size/frailty of patient. Get 4mg ready, so that even if you use 2mg initially you have the other 2mg ready as a backup

NB: with 4mg of lorazepam there's a high chance of respiratory arrest

If no IV access:

Midazolam 10mg IM **OR** Diazepam 10mg PR

Notes – ask someone to bring the notes/drug chart

Further action (5-20 min) - treat with benzodiazepines

If seizing for >5min — Lorazepam 2-4mg IV

Repeat after 10 min if no effect

If no IV access then — Diazepam 10mg PR

If seizure hasn't stopped after the 1st dose of benzodiazepine, the dose can be repeated in 5- 10min

The most common reason of ongoing status is failure to administer an **initial adequate dose** of benzodiazepine

Only give **two** doses of benzodiazepine in hospital

If seizure persists after a second dose of benzodiazepine, a 2nd line agent is required

- Phenytoin
- Levetiracetam
- Valproate

If any Hx of alcoholism/malnourishment then give Pabrinex 2 pairs over 10 min (ideally the patient should already have received)

Attempt an ECG

Repeat bloods including **lactate**, calcium, sodium

NB: Management beyond the 20 minute mark of a seizure is well above what is expected from an FY1 - this would be for a **Med SpR/Anaesthetics** only

Scenario 2

There are several reasons why we put out a 2222 and need anaesthetics to attend immediately for a patient having a seizure. Mainly airway management and administration of specialised drugs

One reason to be aware of is the risk of **post-ictal laryngospasm**, when a patients' airway seizes up. It is a rare complication and well above the level of an FY1, but if it happens then it's essential that anaesthetics are already present at the bedside

Differentials of the underlying cause of a seizure

- Inadequate dose/missed AED
- Alcohol withdrawal
- CNS infection
- Head trauma
- Non-epileptic attack
- Metabolic derangements
- Illicit drug use
- Acute stroke
- Brain surgery
- Convulsive syncope

You've been **bleeped:** Scenario 3a

You are the FY1 on-call over the weekend on the acute take

You've been **bleeped:** Scenario 3a

You have been asked by the Med Reg to clerk in the next stroke thrombolysis call

NB Some DGH's don't have an on-site Stroke SpR and instead it is delegated to the on-call medical team

You arrive in Resus bay 1, the Stroke Nurse is already there attending to the patient. Unfortunately the rest of the medical on-call team (including the Reg) are attending a cardiac arrest on the other side of the hospital

The paramedics arrive and transfer the patient onto the bed. Then they give you the handover

You've been **bleeped:** Scenario 3a

'This is Samantha Smith, a 67 year old lady who was at home, sitting down watching TV when she noticed a sudden left sided facial droop, as well as LUL and LLL weakness.

This occurred at 14:10. Her daughter immediately called 999 and we arrived at the scene by 14:30. It is now 14:45 and so a total of 35 minutes since the onset of her symptoms.

She has a history of TIA in 2016, hypercholesterolaemia, obesity, hypertension and a 20 pack year smoking history'

Scenario 3a

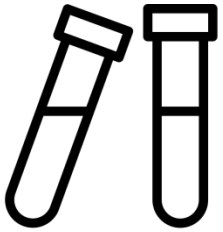
HR 107	**152** 90	
RR 18	99% RA	
T° 37.1		**BM** 6

Scenario 3a

As well as the Stroke nurse, you also have an A&E nurse with you. What do you do, and how do you divide up the **team roles**?

Stroke nurse – NIHSS and liaising with the stroke consultant

A&E nurse – getting vascular access (green cannula) and a full set of bloods



Bloods

- FBC
- Group + Save
- LFT, U+E, CRP, B12/folate, LDH, calcium, magnesium, phosphate
- clotting

NB: the reason for a green cannula is because they may need a CT angio of head/neck vessels

Scenario 3a

What is the **NIHSS**?

What is it **used** for?

The NIHSS is a form of **neurological examination**, combining some aspects of CN, UL and LL

It is used to **quantify the severity** of a stroke in the **acute setting** and plays an essential role in determining whether or not to thrombolise a patient with tPA

Your role as the junior doctor

Focused history

- Whether >4.5hrs of onset
- If on a NOAC/warfarin and when last dose taken (may be eligible for tPA)
- PMHx: ischaemic/haemorrhagic strokes or brain tumours. Any recent surgery or trauma.
- Full contraindications to tPA listed in Trust guidelines

Find out renal function e.g. PMHx CKD/old bloods on system

A-E assessment including a full neuro exam – CN, UL and LL

Scenario 3a

HR	152	RR	99%	T°
107	90	18	RA	37.1

A **B** Airway patent, chest clear

C HS 1+2+0. CRT <2s, JVP normal. Calves SNT

D GCS 15, PEARL, left sided weakness affecting face, UL and LL. Brisk reflexes on left side. Numbness on left side

E Abdomen SNT, bowel sounds +ve

Following initial assessment

- The Stroke Nurse phones the consultant and then tells you which scans the consultant wants
- You order these on the system, then you phone CT
- Then you phone porters. If no porter is immediately available, consider just wheeling them yourself (you need to go as escort anyway) **but only if certain you know where to go**
- You take the patient to CT, they scan them, then you take the patient back to Resus whilst the Stroke consultant reviews the images on the system

Scenario 3a

The patient's relative arrives. They ask if it's OK if they can give their relative some water as they're **thirsty**.

What do you say?

No, **not yet**.

Ask the stroke nurse/A&E nurse to do a quick swallow assessment

Any problems whatsoever and the patient should be made NBM until a full SALT review

Write up slow IV fluids for comfort/maintenance

Aspirin 300mg can be given PR if unsafe swallow

You've been **bleeped:** Scenario 3b

Same scenario as above but you don't have the Stroke Nurse with you:

A&E nurse — Cannula, bloods, BM and repeat obs

You — Just ensure patent airway, O_2 sats OK and haemodynamically stable

<u>Very</u> focused A-E

NIHSS – paper forms or MDCalc

Focused Hx, then phone Stroke consultant

Complete full A-E plus neuro exam and document

You've been **bleeped:** Scenario 3c

You're on a surgical WR with your consultant when you are called over by one of the nurses to review one of your patients urgently

He is a 56M demonstrating right facial droop. The patient has a PMHx of TIAs and says the facial droop came on about 15 minutes ago. A neuro exam demonstrates right facial droop and slurred speech. No other focal neurology

You've been **bleeped:** Scenario 3c

Your consultant tells you to order a CT head to rule out stroke. They want to just move quickly onto the next patient

What do you think? What **action** should you take?

This would be an **incorrect** instruction from the consultant

Management

Call the Stroke SpR **immediately** (if your hospital has one). If no Stroke SpR onsite then put out a 2222 stroke thrombolysis call

Order an urgent CT head +/- neck

Ensure he has a green cannula in situ. Send off a fresh set of bloods

You've been **bleeped:** Scenario 4a

82M admitted to trauma ward 4 days ago after fall down 10 stairs. Bilateral rib fractures, fractured right humerus. PMHx: T2DM, CKD3, HTN

On admission to A&E he had a GCS of 13/15. CT head was NAD. Subsequently his GCS came back up to 15. He's been put on a serratus anterior block and a PCA for the pain

You've been **bleeped:** Scenario 4a

ATSP due to behaviour change. He's been extremely aggressive with the nurses, shouting and cursing randomly

Whilst upset and sometimes verbally aggressive, he is not physically aggressive or a danger to himself or others

Son and HCA tells you he is way off of his baseline. Just 2 days ago he was alert with GCS 15

Scenario 4a

	HR 70	135 76		RR 16	99% RA		T° 36.6

A Patent

B Chest clear, chest drains swinging but not bubbling

C HS 1+2+0. CRT <2s, JVP normal, mucous membranes slightly dry, calves SNT. Right UL neurovascularly intact

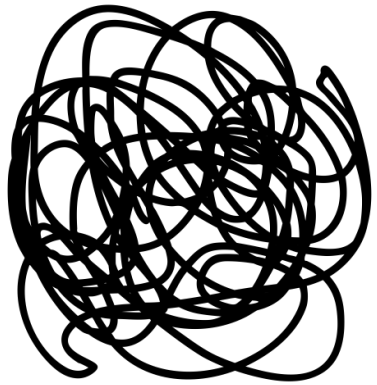
D GCS 14, confused, PEARL, BM 6, AMTS 4/10

E Abdomen SNT

Scenario 4a

Impression/underlying cause?

Impression



1. Delirium

2. Secondary to pain, analgesia, prolonged hospital stay, brain contusions, general disorientation

Scenario 4a

General **causes** of acute confusion/delirium?

Causes of acute confusion/delirium

- Pain
- Sepsis
- Iatrogenic
  - Opiates, benzodiazepines, post-GA etc.
- Constipation
- Head injury e.g. cerebral contusions
- Alcohol withdrawal/intoxication
- Metabolic
  - Hypoglycaemia, calcium, sodium
- Urinary retention
- Meningitis/encephalitis
- Intracranial bleed

Scenario 4a

Management?

First and foremost – ensure that all possible causes for acute confusion are identified and treated: pain, withdrawal, low cardiac output, hepatic encephalopathy, uraemia, etc

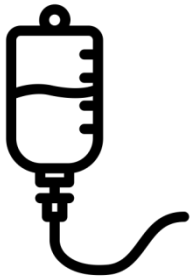
Repeat set of bloods, especially renal function, sodium and calcium

Pain/analgesia

If opiate toxicity is suspected, then consider switching PCA from morphine to fentanyl/ketamine

Discuss with your senior or the Pain Team before doing so however, because untreated pain is itself a frequent cause of delirium

Fluid management



You could consider IV fluids if there are any signs of clinical dehydration but the patient may well tear out their cannula if they're delirious

How can you **protect** a cannula from a delirious patient?

Scenario 4a

Locate it if possible on the **upper arm/shoulder** out of their direct line of sight (this may not be possible if they have poor veins). Then wrap the cannula thoroughly in a bandage and tape it up

If available, give the patient a **knitted woollen toy** with lots of buttons and ribbons attached. Hopefully they will play with this rather than their cannula site

Other aspects of management

Ask the ward matron very nicely if it might be possible to relocate the patient to a bed next to a window so they can get natural light coming in

Place them within sight of a clock

Put a sign near their bed saying 'You are in X ward, based in Y hospital

Involve family i.e. visits or virtual meeting on a tablet. Some hospitals have iPads for this

You've been **bleeped:** Scenario 4b

Same scenario as before. Later in the day the patient punches a nurse in the face

He also keeps trying to get out of bed despite the fact that he is very unsteady on his feet with a high falls risk

What can you do?

Management

PRN PO/SC/IM lorazepam for sedation. 0.5mg max QDS

Can give haloperidol if no Hx of stroke/ECG problem however discuss with senior

Emphasise on drug chart and to nursing team that it is for use **only** for patients who present a physical danger to themselves or others. Shouting and keeping other patients' awake isn't an adequate reason. Benzos can **worsen** delirium and dementia

Deprivation of Liberty Safeguards (DoLS)

The nurses will lower the bed to the floor, put a crash mat down and 1-2-1 him if they have the staff

You've been **bleeped:** Scenario 5

A 23M with schizophrenia is admitted to the general surgical ward after swallowing 15 electronic cigarettes

He has not threatened anyone with physical violence, but he is a tall, well-built young man whose behaviour is erratic and at times verbally hostile

He keeps threatening to abscond

You've been **bleeped:** Scenario 5

You carry out a capacity assessment and quickly conclude that he does not have the capacity to decide:

1. Whether or not to undergo this operation
2. Regarding self-discharging against medical/surgical advice

Furthermore, you feel he may become a threat to staff safety though he is not a threat currently

Scenario 5

Medical plan for sedation?

Legal plan?

Management

Urgent psychiatry review: can recommend an **initial psychotropic regimen** (e.g. Risperidone)

If insufficient, a next step would be to use a **sedative regimen** as prescribed/recommended by psychiatry

In case patient remains aggressive/agitated despite maximal sedation that can be given on the ward AND needs urgent medical interventions (e.g. a central line insertion that he refuses), he should **be referred to the ITU team**

They can provide sedation/general anaesthesia in ITU in order to facilitate the necessary interventions

Legalities of holding someone

Section 5(2)

An order to stop the patient from leaving, **not** an order to treat

- An FY1 can't do it but you can ask anyone from FY2 and above to fill one out
- Once it's done you **must** inform the Site Coordinator aka. Site Manager that it's in place so that they can ensure that security is notified
- You cannot apply a Section 5(2) in A&E as it is legally classified as a public place – **Section 5(2) can only be applied on an inpatient ward**

Feedback

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