WHAT IS AGITATION

Agitation is a state of anxiety, distress, excitement, or nervousness. It could also be defined as any state where the patient does not appear calm.

In the ICU, agitation is usually associated with movement, which may compromise safety (for example by removing tubes) or limit the ability to provide treatments (such as mechanical ventilation or physiotherapy).

CAUSES OF AGITATION

The common causes of agitation can be remembered using the following mnemonic:

S Synchronization – Patient is not synchronizing with ventilator

A Analgesia – Patient needs analgesia

D Delirium – Patient is delirious

IS

B bowels – Patient has bowel problems

A Anxiety – Patient is anxious

D Drug withdrawal – Patient has drug withdrawal

Key point:

If your patient is agitated remember: **SAD is BAD**.

ASSESSING AGITATION

History: Mr Brown is a 72-year old man admitted to ICU with septic shock following surgery for perforated colon 2 days previously. He has a midline laparotomy scar following Hartmann's procedure. His social history includes high alcohol intake (10 units of alcohol per day). His comorbidities include hypertension and obesity.
Respiratory: He is currently mechanically ventilated on SIMV-VC, FiO2 0.5, PEEP 5 cmH2O, Vt 500ml, and frequency 14/minute. The Positive Inspiratory Pressure is 38cmH2O. Blood gases indicate PaO2 11kPa, PaCO2 4.3 kPa, H+ 41 nmol/L.
Cardiovascularly: He was initially on norepinephrine infusion, but this has been discontinued and his blood pressure is now 160/95 mmHg, with pulse rate 120/minute.
Sedation: The medical team have reduced his sedation dose to propofol 1% 8mL/h from a previous rate of 15mL/h with the intention of starting to wean from mechanical ventilation; alfentanil infusion is running at 1000mcg/h). Mr Brown is coughing frequently, which is accompanied by grimacing and generalised increased tension and retraction of his arms. He is not responding appropriately to commands. He has been scored as a RASS score +2: "Agitated: frequent non- purposeful movement, fights ventilator." Intermittently he tries to extubate himself and climbs out of bed.

QUESTION 1

Which of the following could be contributing to Mr Brown's agitation? Select all which apply:

- [x] Poor synchronisation with the ventilator
- [x] Pain
- [x] Anxiety
- [x] Delirium
- [x] Drug withdrawal

That's correct. All of these are possible factors.

ASSESSING AGITATION – EXERCISE

Reveal possible causes of agitation:

Poor ventilator **S**ynchronisation:

Mr Brown is coughing but has a drive to breathe. Volume –controlled modes can be uncomfortable even when synchronised with respiratory efforts, especially when the patient is in pain or is confused. Try switching the patient to Assisted Spontaneous Breathing (ASB) or Pressure Support Ventilation (PSV). Furthermore, the patient's PaO2 is 11kPa which rules out hypoxaemia another likely cause of agitation.

Patient needs **A**nalgesia:

Analgesia requirements would be expected to be high 2 days following midline laparotomy, but Mr Brown is only receiving small doses of a short-acting opiate. Confusion and altered conscious level mean Mr Brown cannot describe his pain clearly Clues to inadequate analgesia are abdominal tenderness, and grimacing and arm retraction. He would score highly on the Behavioural Pain Score. Try giving a bolus of alfentanil and increasing the infusion rate. At this stage it is also important to assess Mr. Brown's elimination following his surgery as constipation can equally cause a great deal of stress, discomfort and associated agitation.

Patient is **D**elirious:

Mr Brown shows signs of delirium, namely altered conscious level, sensory inattention and probably disordered thinking. He also has some risk factors such as high alcohol intake and older age. Perform a CAM-ICU to formally determine whether he fulfils criteria to diagnose delirium. Once analgesia is optimised, it may be appropriate to administer an antipsychotic drug, such as haloperidol, if he is still agitated and restless.

Patient has **B**owel problems:

At this stage it is important to assess Mr. Brown's elimination pattern
as constipation can cause a great deal of stress, discomfort and associated agitation. In Mr. Brown's case, constipation can be opiate induced or as a result of diet and surgery. Constipation must also be assessed and treated in patients with hepatic encephalopathy as these patients can show increased levels of agitation when it is left untreated.

Patient has **A**nxiety:

Mr Brown could be suffering from anxiety but this is difficult to assess because of altered conscious level. If a sedative was used prior to excluding and treating other possible causes he may appear less agitated, but sedatives could be masking pain, delirium or sub-optimum ventilator settings. Once these issues are addressed it will be easier to reassess whether anxiety is contributing to agitation.

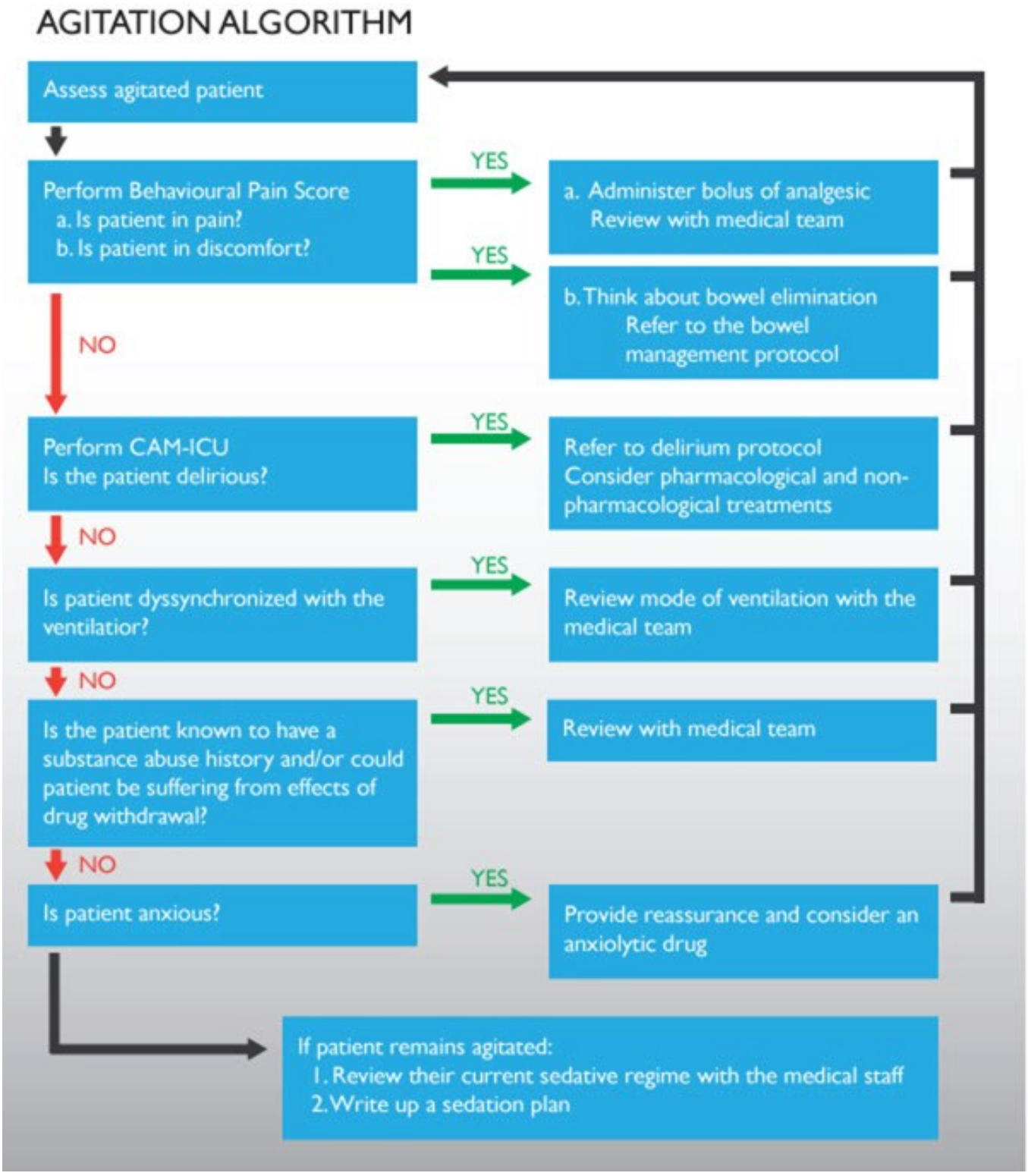
Patient has **D**rug withdrawal:

Mr Brown is not normally dependent on opiates, benzodiazepines or other drugs of addiction. He has also not been deeply sedated for a long period in ICU making withdrawal syndromes from sedative drugs unlikely. However, he does have high chronic alcohol intake and is at risk of alcohol withdrawal syndrome. This could explain his agitation. If he remains agitated after addressing analgesia and ventilator synchrony the use of benzodiazepines for alcohol withdrawal should be considered

MANAGING AGITATION

A structured approach to managing agitation

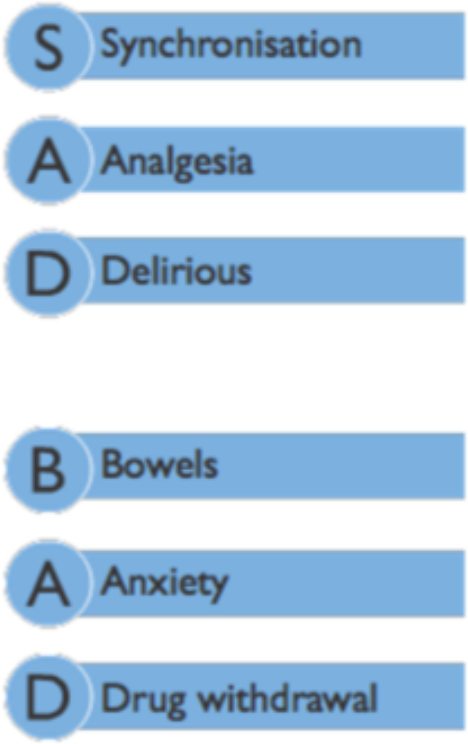
Use the following decision-making algorithm to help work out why a patient may be agitated, and initiate the most appropriate management.



SUMMARY

Agitation is a common problem in ICUs, especially when deep sedation is avoided.

The common causes of agitation are:



Key point:

A systematic approach to diagnosing the reason for agitation and treating it appropriately will increase patient comfort, improve safety, and improve patient outcomes.