The Pediatric Roadmap

Screening – Investigate the following:

1. Where is the patient going → Sedation targets and therapy goals
2. Where is the patient now → Current RASS, pCAM-ICU
3. How did they get there → Shock, hypoxia, fever, too much/too little drugs

Present to the Team – State the following (only takes 10 seconds!):

1. Target RASS
2. Actual RASS
3. pCAM-ICU
4. Sedation, Anxiety/Pain therapy

Example of a PICU patient with delirium in the setting of ARDS

Day 1: Patient just admitted for respiratory failure, now intubated on 90% FiO2, PEEP 12.

Target RASS → - 3

Actual RASS →+1 to -1, patient bucking against the ventilator

pCAM-ICU + → Delirium present

Problem → Patient is under-sedated in the setting of ARDS and ongoing hypoxia. Patient-ventilator asynchrony is exacerbating the disease state.

Plan → Best approach would be to **INCREASE** drug delivery! Fentanyl infusion is initiated for pain and to provide mild sedation. Anxiety is treated with midazolam PRN.

Day 4: Patient has had slow but steady improvement with resolution of ARDS. He remains intubated on 40% FiO2, PEEP 6, and goal is to begin weaning ventilation as tolerated. Patient is receiving high dose fentanyl and midazolam infusions.

Target RASS → - 1

Actual RASS → - 3

pCAM-ICU + → Delirium present

Problem → Patient is now over-sedated in the setting of a resolving disease state.

Plan → Titrate sedation and analgesia towards TARGET RASS. Wean ventilation as tolerated with aggressive goal of extubation. The more quickly tubes and lines are removed, the more quickly the brain returns to its baseline.

Day 5: Patient was successfully extubated last night. The midazolam and fentanyl infusions were discontinued yesterday afternoon and replaced with PRN dosing of hydromorphone. Patient did not sleep last night following extubation and has been unable to rest today. Patient has been without any respiratory distress.

Target RASS → 0

Actual RASS → +1

pCAM-ICU + → Delirium present

Problem → Patient continues to have delirium despite resolution of HYPOXIA and removal of DRUGS which may cloud the sensorium and exacerbate brain dysfunction. The patient's sleep wake cycle is disturbed.

Plan → Consider child life consultation and aggressive move towards initiating a new day/night routine. Consider sleep aide. Reassess pain and anxiety and treat when appropriate. Consider other causes of delirium (BRAIN MAPS).

EVALUATE possible causes of Acute Brain Dysfunction (Delirium) → "BRAIN MAPS"

B – **B**ring OXYGEN (hypoxemia, decreased cardiac output, anemia)

R – **R**emove or **R**educe deliriogenic drugs (anticholinergics, benzodiazepines)

A – **A**tmosphere (i.e. lights, noise, restraints, absent family, 'strangers', no schedule)

I – **I**nfection, **I**mmobilization, **I**nflammation

N – **N**ew organ dysfunction (CNS, CV, PULM, Hepatic, Renal, Endocrine)

M – **M**etabolic disturbances: alkalosis, acidosis, ↑/↓: Na+, K+, ↓: Glucose, Ca++

A – **A**wake (No bedtime routine, Sleep-wake cycle disturbance)

P – **P**ain (too much and not enough drug OR pain treated and now too much drug)

S – **S**edation (Assess need and set sedation target)