UCSF Benioff Children's Hospital Oakland

Appendix V: Pediatric Delirium Causes & Interventions- Typical or Atypical

Delirium Defined	Looks like
Disturbance of consciousness and cognition that develops acutely with fluctuating course of mental status, inattention, and impaired ability to receive, process, store or recall information directly triggered by general medical condition, substance intoxication, and/or trauma	Psychosis Encephalopathy ICU syndrome Acute Brain Failure Acute state of confusion "Sun-downing"

Causes

Downers- Primary cause in critically ill	Alcohol, barbiturates, benzodiazepines
Acute metabolic	Electrolyte imbalance, hepatic or renal failure
Trauma	Head injury, post-operative
CNS pathology	Stroke hemorrhage, tumor, seizures
Hypoxia	Anemia, cardiac failure, pulmonary embolus
Nutrient Deficiencies	Vitamin B12, Thiamine, folic acid
Endocrinopathies	Thyroid, glucose, parathyroid or adrenal dysfunction
Acute Vascular	Shock, vasculitis, hypertensive encephalopathy
Toxins/drug	Toxins, anesthetics, anticholinergics, opioids
Heavy metals	Arsenic, lead, mercury

Recognition tools: Cornell Assessment for Pediatric Delirium (CAPD)
*adapted from *Pediatric Anesthesia Emergence Delirium Age 0-21*)

Treatment: ultimate goal to NORMALIZE ROUTINE

Tier I **Non Pharmacologic Mgt**	Tier II **Pharmacologic adjuncts**	Tier III **Atypical Antipsychotics** **Must obtain Psych consult*
Reassurance & reorientation • Family participation • Calendars, clocks • Pictures- people/objects • Familiar toys, music, blankets	First Line • Avoid and/or Remove benzodiazepines • Caution w Opioids & Antihistamines ***If Opioid needed, transition to longer acting***	**Seroquel** (Quetiapine) • *Safe in younger children >5yo* • Uses – Hyperactive delirium, agitation • Dosage: 12.5 - 100mg, max 300mg/day • ICU psychosis - Expected course 4-14 days
Ensure good sleep opportunity • Cluster care • Maintain day/night ○ Lighting, noise reduction	Medication for Sleep: • **Clonidine** 5-10 mcg/kg/d ○ Bigger dose at night, may divide TID (if needed daytime) • **Melatonin** 3-10 mg at night • **Dexmedetomidine** ○ 0.2- 1mcg/kg/hr. ○ If possible lower dose for ventilated pts during day ** in younger pts may have ↑bradycardia and hypotension*	**Olanzapine** • Recommended ages >12yo • Uses – Mood lability, aggressive/crying • 2.5 -10 mg - ideally BID ○ Tablet (rapidly dissolving), or IM
Early mobilization • Avoid restraints		**Risperidone** • Uses- Hyperactive Psychosis • Less extrapyramidal effects • Do not use w chronic liver dx • Orally disintegrating tablet or liquid
Psychiatry consult needed if: • Pain is alleviated • Sleep addressed • Environment optimized		

Mayo Clinic, 2016 Guidelines for Delirium in Patients 2.20.2020
J Pediatr Pharmacol Ther. 2019 May-Jun; 24(3): 204-213. Antipsychotic treatment of delirium in critically ill children.
Pediatrics, Volume 137, No. 3 March 2016. Diagnosis and management of delirium in critically ill infants: Case report and review.