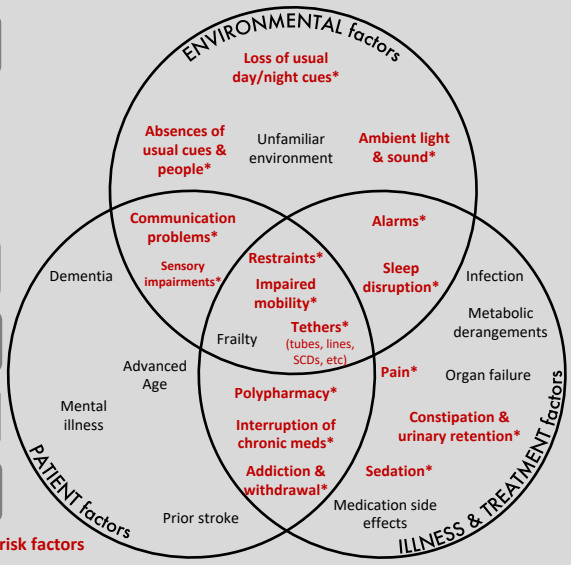
Delirium

1. REDUCE risks for developing DELIRIUM

DELIRIUM risk depends on **PATIENT**, **ILLNESS/TREATMENT**, & **ENVIRONMENTAL** risk factors.

- Use family & visitors to reorient
- Avoid & promptly remove restraints
- Earplugs & eye covers at night
- Provide glasses & hearing aides
- Early mobilization
- Avoid interrupting home meds
- ICU Diaries



- Preserve day/night cycles
- Provide time clues: clocks & calendars
- Change alarm thresholds
- Encourage physiologic sleep
- Remove unneeded tubes/lines
- Appropriately treat pain
- Daily sedation vacation (SAT)
- Optimize hydration & nutrition

* Denotes *modifiable* risk factors

Implement these strategies to reduce delirium risk

Use **DELIRIUM** as a mnemonic to recall many of the causes of delirium:

- **D**rugs (avoid BZDs, minimize use of opioids & other deliriogenic meds)
- **E**lectrolyte disturbances
- **L**ack of drugs (interruption of chronic meds), **L**ow O2 (hypoxemia)
- **I**nfection
- **R**educed sensory input (eyeglasses, pocket talker/hearing aide, etc)
- **I**ntracranial disorders, **I**ctal state (seizures)
- **U**rinary or fecal disorders
- **M**yocardial & pulmonary disorders

DELIRIUM is an **acute confusional state** characterized by a **fluctuating alterations of consciousness** with **reduced attention/focus**

DELIRIUM has different manifestations depending on subtype:

- **HYPOACTIVE DELIRIUM** (40-60%) Most common but frequently overlooked. Decreased awareness, lethargy, flat affect, daytime somnolence.
- **HYPERACTIVE DELIRIUM** (25-35%) Classic "ICU psychosis": hypervigilant, labile mood, psychomotor agitation, insomnia.
- **MIXED DELIRIUM** (15-25%) features of both

DELIRIUM is extremely ***common*** among people who are experiencing critical illness:

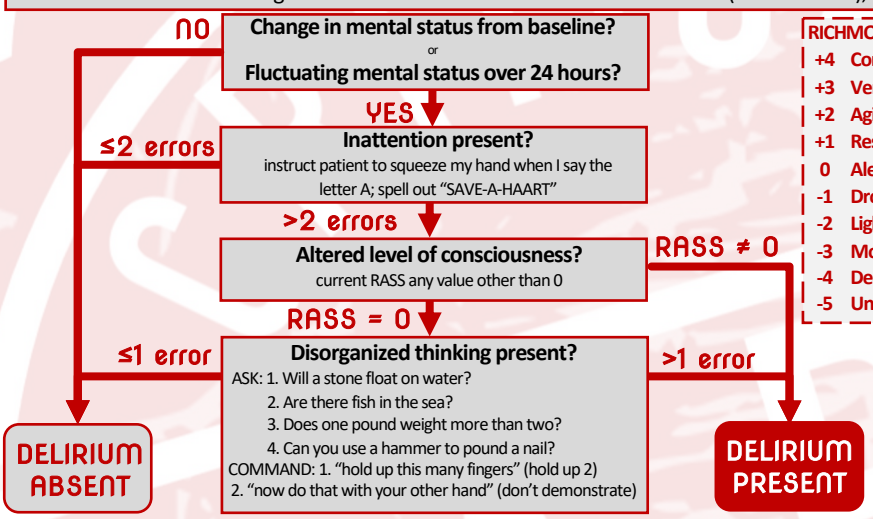
- **1/3 of people in the ICU** develop delirium
- **2/3 of those on mechanical ventilation** develop delirium

Among people who require mechanical ventilation, **DELIRIUM** is associated with many adverse health outcomes, including: (see Ely *et al*, JAMA 2004)

- Longer duration of mechanical ventilation (5 days longer)
- Longer hospital stay (median 21 vs 11 days)
- More cognitive impairment after discharge (55% vs 27%)
- Increased 6-month mortality (34% vs 15%)
- Greater healthcare costs (2.5x daily inpatient costs)

2. Promptly DIAGNOSE DELIRIUM when it occurs

SCREEN FOR DELIRIUM using a validated instrument such as **RASS** & **CAM-ICU** (shown below); however many alternatives exist.



RICHMOND AGITATION & SEDATION SCALE (RASS) is used to assess **level of consciousness**

+4	**Combative**	Overtly combative, violent, immediate danger to staff
+3	**Very agitated**	Pulls or removes tube(s) or catheter(s); aggressive
+2	**Agitated**	Frequent non-purposeful movement, fights ventilator
+1	**Restless**	Anxious but movements not aggressive vigorous
0	**Alert and calm**	
-1	**Drowsy**	Not fully alert, but has sustained awakening (eye-opening) to voice (>10 sec)
-2	**Light sedation**	Briefly awakens with eye contact to voice (<10 seconds)
-3	**Moderate sedation**	Movement or eye opening to voice (but no eye contact)
-4	**Deep sedation**	No response to voice, but moves or opens eyes to physical stimulation
-5	**Unarousable**	No response to voice or physical stimulation

ALTERNATE SCORING SYSTEMS (**COMFORT-B**) can be used for pediatric patients (**Pediatric CAM-ICU**, **CAPD**) or outside of the ICU.

3. TREAT DELIRIUM using the A2F BUNDLE

A	**Assess**, Prevent, and Manage Pain Use a pain scale (e.g. **CPOT** or **BPS**) to measure pain & response to treatment. Treat pain using the lowest effective dose of IV opioids. Titrate medications to pain score. Consider non-opioid medications as adjuncts.
B	**Both** Spontaneous Awakening Trials (**SATs**) & Spontaneous Breathing Trials (**SBTs**) Perform SAT daily in all patients who quality. Sedative/analgesic infusions should be STOPPED during SAT.
C	**Choice** of Analgesia and Sedation Avoid benzodiazepines if possible. Use non-opioids (APAP, ketamine, gabapentin) as adjuncts; see **PADIS** guidelines
D	**Delirium**: Assess, Prevent, and Manage Screen for delirium using **CAM-ICU** & **RASS**; use the multi-disciplinary approach (part 1) to reduce delirium risk
E	**Early** Mobilization Collaborate w/ PT, OT, nursing, Gradually increase daily exercise/mobility. Patients on MV or ECMO can be ambulated.
F	**Family** engagement and empowerment Daily meetings w/ family, flexible visitation, involve family in interdisciplinary rounds (if they wish), patient & family diaries, allow family of participate in care. Provide resources to support family.

ANTI-PSYCHOTIC MEDICATIONS do **not** reduce the risk of delirium. They may be useful to prevent harm in patients with dangerous agitation.

DEXMEDATOMIDINE is a useful adjunct for sedation (in patients with dangerous agitation) that is less deliriorgenic than benzodiazepines.

MELATONIN (or its analog RAMELTEON) slightly improves sleep in the ICU and may reduce delirium risk.

The **A2F BUNDLE** improves several ICU outcomes:

- 68% lower risk of hospital death
- 25-50% fewer delirium days
- 60% less restrain use required
- 50% reduction in ICU readmissions
- 40% reduction in SNF/LTAC discharges

For more information about implementing the **A2F BUNDLE** see www.sccm.org & www.icudelirium.org

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