ICU delirium

Diagnosis	
Confusion assessment method (CAM)	
1. Acute onset	Is there acute behavior change from baseline and does it fluctuate during the day?
2. Inattention	Does the patient have difficulty focusing, easily distractible
3. Disorganized thinking	Does the patient ramble, unclear or illogical flor of words
4. Altered consciousness	For example, vigilant, lethargic, stupor, or coma
Diagnosis requires presence of 1 AND 2 plus either 3 OR 4	
The Intensive Care Delirium Screening Checklist (ICDSC) has high agreement with CAM	

Delirium Prevention	
• Nothing has been shown to reliably prevent delirium, but you can reduce the incidence:	
Orientation protocol- clocks, calendars, windows, etc	Cognitive stimulation
Physiologic sleep- data supports ear plugs, noise reduction	Early mobilization, limited restraints
Visual and hearing aides	Avoid problematic medications
Manage medical issues – volume depletion, hypoxemia	Treat pain
• Current evidence does not support using medications to prevent delirium in ICU or postoperative settings	

Management

- Treatment of medical conditions:
  - Fluids and electrolytes
  - Organ failure – uremia, hypoxemia, etc
  - Infections
  - Hypoglycemia
- Drug toxicity – thought to contribute to 30% of all cases of delirium, even when levels are "therapeutic"
  - Classic examples are lithium and digoxin
- Withdrawal- namely alcohol and sedatives
- Thiamine deficiency and Wernicke encephalopathy- older patients with nutritional deficiency
- Managing agitation
  - Nonpharmacologic interventiosn such as addressing noise, light, windows, and restraints have been shown to improve clinical outcomes of frail patients.
  - Physical restraints should be a last resort.
  - Neuroleptics to treat severe agitation – data support reduces severity and duration, **not** incidence
    - Best data is for quetiapine as add-on treatment to as-needed haloperidol
  - When pain is an issue: data supports more rapid improvement with morphine versus haloperidol
- Hypoactive delirium- similar management to the above; some data for low dose methylphenidate improving alertness

Hyperactive delirium is less common in older patients and usually alternates with periods of hypoactive delirium which is less obvious to providers.

Prognosis
Mortality – one and six month mortality is 14 and 22%, respectively, even after adjusting for confounders
Persistent cognitive dysfunction- after 2 years, only 1/3 of patients live independently
Course of Alzheimer disease – deterioration proceeds at twice the rate compared with pre-hospitalization