PSYCHIATRY CONSULTATION LINE (PCL)
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Delirium Tip Sheet created by Sara Vasudeva, MD

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Delirium is a medical emergency associated with adverse outcomes!!

Early identification is key!

Risk (Predisposing) Factors

- Advanced age > 70
- Baseline brain dysfunction: dementia, neurocognitive impairment, TBI, Hx of stroke
- Hx of delirium
- Vision/hearing impairment
- Longer duration of hospital stay
- Severe concomitant medical illnesses

The more risk factors present, the fewer precipitating factors needed to → DELIRIUM.

Etiologies (or Precipitating Factors)

- **D**rugs (new drugs, increased doses, interactions, psychoactive drugs)
- **E**lectrolyte disturbances (Na, Ca, Mg, PO4, K, dehydration, hypoglycemia, BUN)
- **L**ack of drugs – alcohol/drug withdrawal, under treatment of pain, insomnia
- **I**nfection/sepsis
- **R**educed sensory input (vision/hearing impairment)
- **I**ntracranial disorders (infection, bleed, seizure, stroke, tumor) – look for focal neurologic findings
- **U**rinary/fecal disorders – urinary retention, fecal impaction, constipation
- **M**yocardial/pulmonary disorders (MI, arrhythmia, heart failure, hypotension, severe anemia, COPD exacerbation, hypoxia, hypercarbia)
- Post-operative state
- Iatrogenic: immobility, restraints, bladder catheter, dehydration, malnutrition, sleep deprivation

Diagnosis

- Disturbance in attention/awareness + one additional disturbance in cognition
- Disturbance develops acutely and tends to fluctuate in severity (not better explained by pre-existing dementia)
- Evidence (from history, physical exam, lab findings) that the disturbance is a consequence of an underlying medical etiology
    - Of note: in clinical practice, this may not be immediately apparent, but due to high risk of unrecognized delirium, keep high suspicion even without clear etiology
- Screening via CAM (Confusion Assessment Method)

Workup

- Vitals, blood sugar, labs (CBC, CMP, UA/UCx)
- Review medications (look for meds that contribute to confusion (BZDs, opioids, anticholinergic meds), including PRNs
    - Stop offending/unnecessary meds
    - Check anticholinergic burden classification (ABC)
    - Consider drug levels for meds (Li, digoxin, phenobarbital, VPA, tricyclics, chemotherapeutic agents)
- Assess/treat pain – RN should monitor effectiveness of pain meds to ensure not contributing to delirium
- Consider constipation/urinary retention
    - Last BM? Urine output?
    - May need bowel regimen/bladder scan
- Consider withdrawal from maintenance meds (home sleep meds, SSRIs, narcotics, pain meds, antipsychotics)
- Consider withdrawal/intoxication from alcohol/illicit drugs
    - Urine Tox?
- Head CT if focal neurologic findings or recent falls
- Blood cultures if fever
- EEG/neuro consult if concern for seizure
  EEG in delirium shows generalized slowing

Delirium is a syndrome resulting from an underlying medical cause or causes, rather than a diagnosis on its own..

Always think: Delirium is secondary to…

Multifactorial is much more common than one single etiology

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Treatment of Delirium

The mainstay of treatment of delirium is identification and treatment of its underlying etiologies
In the meantime, our goal is to prevent complications and provide supportive care

Non-Pharmacologic Guidelines for All Patients with Delirium (or at High-Risk for Delirium):

- Promote Sleep-Wake Cycle
  - Cluster care to avoid repeated interruptions overnight
  - Review all care scheduled to occur at night and assess necessity (meds, vitals) and re-time if medically appropriate
  - Decrease noise in room and hallway as able
  - Open blinds in day, close at night
  - Lights off or soft lighting at night
- Environmental Interventions
  - Provide a clear, safe passage to the bathroom
  - Limit causes of overstimulation – room changes, clutter, people in room, noise
  - Don't hold rounds in room if not speaking directly to the patient
  - Institute fall precautions as appropriate
  - Provide as much consistency in staff and routine as possible
  - Provide glasses, hearing aids, dentures to decrease sensory impairment
  - Call light within reach
  - Remove lines/drains/catheters as soon as possible/safe
- Communication Style
  - Approach patient in full view, give verbal warning before touching patient
  - Provide frequent re-orientation & reassurance of safety
  - Guide patient using one-step directions
  - If patient is argumentative, remain calm, try redirection but if not successful, do not confront
    - Do a safety check, then leave room
    - Return in 10 minutes to try again
    - Upon return, start over and do not remind patient about previous interaction
  - Provide simple written information to be kept at bedside or signs (reminding patient where they are, how to use call light, not to get out of bed without assistance)
- Family Involvement and Education
  - Seek family to describe patient's baseline level of functioning and document in chart
  - Educate family about delirium including:
    - Etiologies and management
    - Waxing/waning course, possibility of hallucinations/delusions/confusion
    - Communication style with patient (quiet environment & regular reassurance/reorientation)
  - Encourage family to stay with patient
  - Ask family to bring familiar objects from home (pictures, favorite blanket/pillow, pajamas, bedside items)
  - Refer to social work for support
- Promotion of and Restoration of ADL Independence
  - Use of PT/OT
  - Early mobilization with assistance (out of bed and into chair as often as possible, out of bed for meals, walks around unit if/when safe)
  - Oral hydration/nutrition as soon as able
  - Aspiration precautions
  - Scheduled toileting for urinary incontinence

Treatment of delirium with antipsychotics has NOT been shown to reduce severity/duration of delirium, length of ICU/hospital stays or mortality.

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Management of Agitation in Patients with Delirium

If patient is combative/threatening, consider code gray

There is not enough evidence to support routine or prophylactic pharmacologic treatment of delirium with antipsychotics. Risks of Medication >> Benefits of Tx

- **Rule out EtOH/benzo withdrawal.** If concerned → tx with protocol
  - Strongly consider standing benzodiazepine taper as CIWA and symptom-triggered modalities rely on the patient being able to report symptoms which is likely impaired if delirious.
    - Remember holding parameters for over-sedation, RR<12
    - Can give additional benzodiazepines in addition to standing taper for OBJECTIVE symptoms (tachycardia, HTN, diaphoresis, tremulousness) or prompt nursing to page MD for evaluation
  - Thiamine (low threshold for IV) – low-risk intervention to prevent Wernicke's encephalopathy/Korsakoff syndrome

Non-Pharmacologic Techniques:

- Verbal de-escalation
- Use least restrictive measures to provide safety
  - Start with redirection, bed alarm, frequent checks
  - Then mitts/lap belts if indicated
  - Sitters and restraints can agitate patients further – they provide containment, not tx for symptoms
- Discontinue lines/drains/catheters as able. Abdominal binders for G/J tubes
- Give safe activities – towels to fold, magazines to read
- Mobilize as soon as possible to decrease level of internal agitation

Pharmacologic Management:

When to Use?

- Severe agitation/anxiety causing significant distress to the patient or placing the patient at risk to harm themselves or others
- Lack of cooperation with treatment; difficult or impossible to carry out essential diagnostic/treatment procedures
- Does not respond to non-pharmacological measures
- Remember: this is only SYMPTOM MANAGEMENT. It does not treat the underlying etiology.

How to Use?

- Goals: (1) Relieving patient's subjective distress
  (2) Preventing danger (to patient and/or others)
- START LOW, GO SLOW

What to Use?

- **First line pharmacologic treatment of agitation in delirium is Haloperidol**
  Exceptions: Parkinson's disease, Lewy Body Dementia, prolonged QTc
- Advantages over other antipsychotics: formulations (IV/IM), lower risk of sedation/hypotension
  - Check baseline EKG (QTc should be <500 ms) & if feasible, K/Mg should be monitored/repleted
  - Clearly document indication for antipsychotic medication
  - Ask RN/team to clearly document response to treatment
  - Monitor for side effects including oversedation/EPS

Dosing of Haloperidol:

	Mild Agitation (non-purposeful movements, appears restless/distressed)	**Moderate Agitation** (pulls/removes tubes, aggressive during care)	**Severe Agitation** (combative, immediate danger to self/staff)
Route	PO/IV/IM	IV/IM	IV/IM
<65 years old	0.5 - 1 mg	2 - 4 mg	2.5 – 5 mg
Frail or >65	0.25 – 0.5 mg	1 – 2 mg	Max 2 mg in one dose

- After treating with Haldol, wait 30 min (peak effect of IM/IV) or 4 hrs after PO dose
- If agitation controlled → resume evaluation/tx for etiologies
- If not, double initial dose
  - Would not exceed 10 mg in <65 yo or 2 mg in >65 in single dose
- Start with PRN doses. Once positive response is clear, could schedule standing but would evaluate for need to continue every 24-48 hours and decrease/discontinue as soon as possible.

Alternative antipsychotics:

- Starting doses for age >65
  - Olanzapine 1.25 to 2.5 mg BID
  - Risperidone 0.25 to 0.5 mg BID
  - Quetiapine 12.5 to 25 mg BID (better choice for Parkinson's/LBD patients)

Benzodiazepines

- First line for EtOH/BZD withdrawal. Lorazepam preferred if liver dysfunction. Consider diazepam/chlordiazepoxide if liver fxn ok.
- Avoid otherwise – can worsen cognitive dysfunction associated with delirium and lead to excessive sedation

Third-Line (also good choices for patients with prolonged QTc):

- Alpha 2 agonists (clonidine in non-ICU patients, dexmedetomidine in ICU pts)
- Valproic acid

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Sources:

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