Differential Diagnosis

D – **DRUGS!!!** (especially as a medication is introduced or dose adjusted)
E – Electrolytes, environment change
L – Lack of drugs (withdrawal: EtOH, opioids, benzos, SSRI/SNRI)
I – Infection, idiopathic
R – Restraints, reduced sensory input (vision, hearing)
I – Intracranial (CVA, bleed, meningitis, post-ictal)
U – Urinary retention or fecal impaction
M – Metabolic including hypoxia (MI, PE), uremia, ammonia, thyroid

ALWAYS check the MEDICATION LIST – There is a cumulative burden effect. Any new medication or recent dose change is suspect.

Common Offenders: (Drug Class and Examples)

1. Psychiatric medications
  a) Antidepressants (tricyclics, SSRI/SNRI)
  b) Anxiolytics (benzodiazepines)
  c) Antipsychotics
  d) Other (cholinesterase inhibitors/memantine, lithium)
2. Anti-histamines /Anticholinergics - (diphenhydramine, hydroxyzine)
  -Many unrelated drugs have anticholinergic activity such as diphenhydramine, tricyclic antidepressants and warfarin
3. Anti-vertigo/Anti-emetics (metoclopramide, meclizine, promethazine, prochlor perazine, trimethobenzamide)
4. Muscle relaxants
5. Anti-spasmodics
  a) GI (Donnatal, hyoscyamine, dicyclomine)
  b) GU (oxybutynin, tolterodine)
6. Anti-Parkinsons medications
7. Narcotics
8. Corticosteroids
9. H2 blockers- ranitidine, cimetidine
10. Anticonvulsants
11. Antibiotics – quinolones

Treatment

1. **Treat underlying cause/causes**
2. Provide supportive care and prevent complications
  -Falls, aspiration, dehydration, pressure sores, iatrogenesis
3. **Nonpharmacologic – FIRST LINE THERAPY**
  -**Normalize environment** - get rid of tethers, keep room calm and quiet, uninterrupted sleep (no midnight vitals), mobilization/reorientation during day, encourage caregiver involvement/familiar objects
  -Address/remove risk factors or precipitating agents
4. Pharmacologic – only when needed for patient safety
  -Agent of choice – **Haloperidol (Haldol)** (LOW doses to start) 0.5 mg
  -Atypical antipsychotics (olanzapine, risperidone – start LOW)
  -Benzos – agent of choice for EtOH withdrawal, otherwise AVOID

Delirium

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• *Adapted from: CHAMP: Delirium in Seniors Don Scott MD, University of Chicago*
Version 1.0

Diagnosis: CAM: 1+2 + (either 3 or 4)

1= Acute Onset & Fluctuating Course
2= Inattention
3= Disorganized Thinking
4= Altered Level of Consciousness

Delirium versus Dementia

Feature	Delirium	Dementia
Onset	Acute	Insidious
Course	Fluctuating	Constant
Attention	Disordered	Generally Preserved
Consciousness	Disordered	Generally Preserved
Hallucinations	Often Present	Generally Absent
Invol. Movmt	Often Present	Gen Absent*

Risk Assessment at Admission

1. ↓ Vision (<20/70)
2. Severe Illness
3. ↓ Cognition (≤ 24 MMSE)
4. Dehydration (BUN/Cr > 18)
  1-2 items = Intermediate Risk → OR 2.5
  3-4 items = High Risk → OR 9.2

Precipitating Factors During Hospitalization

1. Physical Restraints
2. Malnutrition
3. ≥ 3 Med Classes added
4. Bladder Catheter
5. Iatrogenic Event
  1-2 items = Intermediate Risk → OR 7.1
  3-5 items = High Risk → OR 17.5

Highly vulnerable patient only needs one slight insult, versus low vulnerability needing a large or numerous small insults.

References:
Does this patient have delirium? JAMA 2010;304(7):779-86.
Precipitating factors for delirium in hospitalized elderly persons. JAMA 1996;275:852-7.
Delirium in Older Persons. NEJM 2006;354:1157-65.