

Drug	Dose	Class/MOA	ADRs	Notes
Haloperidol (Haldol)	5 mg PO/IM BID-TID Max for agitation: 30 mg/day	Typical antipsychotic. Competitive antagonist of post-synaptic D-2 receptor in CNS.	EPS, akathisia, and dystonia (frequent). Blurred vision. QT-prolongation and Tdp. priapism	BBW: death in elderly with dementia related psychosis. High risk of QT-prolongation and Tdp when given IV C/I: Parkinson's Monitor: BP, HR, and ECG periodically. EPS signs and symptoms
Olanzapine (Zyprexa)	5 mg PO/IM Max: 10 mg x3 doses Q2-4h (30 mg/d)	Atypical antipsychotic. Exact MOA unknown. May be mediated through dopamine (D-1,2,3,4) and 5HT-2 antagonism	Orthostatic Hypotension (>5%). Hypercholesterolemia (26%), hyperglycemia (20%), hyperprolactemia (30-60%), weight increase (22-64%). Constipation (11%), xerostomia (32%). Akathisia (27%), somnolence (52%)	BBW: death in elderly with dementia related psychosis. Geriatric: 5 mg per IM inj. No renal adjustment. Also not removed by dialysis. Monitor: fasting blood glucose and lipids, BP, and CBC at baseline, 12 weeks after, and annually thereafter. BMI at baseline weeks 4,8,12 and every 3 months thereafter
Ziprasidone (Geodon)	10 mg IM BID Max: 40 mg/day	Atypical antipsychotic. Antagonism of D-2, 5HT-2, Alpha-1-adrenergic, and H-1	Drowsiness (8-30%). EPS (2-31%). Headache (18%), dizziness (3-16%). Nausea (4-12%)	BBW: death in elderly with dementia related psychosis. C/I: decompensated HF, acute/recent MI, Long QT syndrome No renal or hepatic dose adjustment. Monitor: fasting blood glucose and lipids, BP, and CBC at baseline, 12 weeks after, and annually thereafter. BMI at baseline weeks 4,8,12 and every 3 months thereafter
Lorazepam (Ativan)	1-4 mg PO/IM Q4-6h PRN	Benzodiazepine. GABA-benzodiazepine receptor agonist	Sedation (15.9%) Dizziness (6.9%) Depression and delirium	No renal adjustment, but not recommended in renal failure. Monitor: Respiratory status and liver function

Delirium

DEFINITION: Per The American Psychiatric Association's DSM-V the following are the key characteristics of delirium:

- Disturbance in attention, awareness, and cognition.
- Develops over a short time (usually hours to days) and represents a change from baseline.
- Not explained by another preexisting, evolving or established neurocognitive disorder.
- Presence of evidence (history, physical, or laboratory findings) that the disturbance is caused by a medical condition, substance intoxication/withdrawal, or medication side effect.
- Psychomotor behavioral disturbances such as hypoactivity, hyperactivity with increased sympathetic activity, and impairment in sleep.
- Variable emotional disturbances, including fear, depression, euphoria, or perplexity.

RISK FACTORS:

- Underlying brain diseases such as dementia, stroke, or Parkinson disease (present in nearly 50% of older patients with delirium)
- Advanced age (NOTE: Older patients with delirium often do not look sick apart from their behavioral change. Thus, delirium may be the only finding suggesting acute illness)
- Sensory impairment

COMMON UNDERLYING CAUSES:

- Fluid and electrolyte disturbances (dehydration, hyponatremia and hypernatremia).
- Infections (CNS, urinary tract, respiratory tract, blood, skin, and soft tissue).
- Drug or alcohol toxicity.
- Withdrawal from alcohol, barbiturates, benzodiazepines, and SSRIs.
- Metabolic disorders (~~hypoglycemia~~; ~~hypercalcemia~~, uremia, liver failure, ~~thyrotoxicosis~~).
- Low perfusion states (shock, heart failure).
- Postoperative states, especially in the elderly.

TREATMENT OF SEVERE AGITATION WITH DELIRIUM:

- Neuroleptic:
 - Antipsychotics: Haloperidol, quetiapine, risperidone, ziprasidone, and olanzapine.
 - Because of longer clinical experience with haloperidol, it still remains the standard therapy.
 - Risk: Extrapyramidal SEs.
- Benzodiazepines:
 - Short Acting: Lorazepam.
 - Clinical use: Drug/Alcohol withdrawal or when neuroleptic drugs are C/I.
 - Risk: Increase confusion and sedation leading to worsening of delirium (beneficial with agitation).
- Cholinesterase inhibitors:
 - Rivastigmine.
 - Not indicated for treatment or management of delirium

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