NEUROCOGNITIVE DISORDERS

Delirium

DSM-5-TR 293.0 | ICD-10-CM F05 (MEDICAL), F1X.X21 (SUBSTANCE)

Acute, fluctuating disturbance of attention and awareness caused by a medical condition, substance intoxication, withdrawal, or medication.

INPATIENT PREVALENCE	ONSET	PEAK RISK GROUP	MORTALITY
18-35%; ICU up to 80%	Hours to days; fluctuating	Age 65+ with dementia	~25-33% within 6 months

CLINICAL PICTURE

- Attention fails first: the patient cannot sustain focus, loses the thread of questions, and needs repeated redirection throughout the interview.
- Symptoms fluctuate across hours and are typically worse at night, so a calm morning exam can miss an episode well documented by overnight nursing.
- Hypoactive delirium, meaning quiet withdrawal and somnolence, is the most common and most missed subtype and carries the worst overall prognosis.
- Hyperactive presentations bring agitation, pulling at lines, and combative behavior, and are frequently mislabeled as primary psychiatric decompensation.
- Perceptual disturbance includes visual hallucinations, illusions, and fleeting paranoid delusions, accompanied by disorientation to time and place.
- Sleep-wake cycle reversal, emotional lability, and disorganized rambling speech round out the picture alongside altered psychomotor activity.

DIAGNOSTIC CRITERIA AT A GLANCE

- A disturbance in attention and awareness develops acutely, over hours to a few days, and represents a clear change from the person's baseline.
- Severity fluctuates over the course of a day, a defining feature that separates it from the stable deficits of a major neurocognitive disorder.
- An additional cognitive disturbance is present in memory, orientation, language, visuospatial ability, or perception beyond the attentional problem.
- The disturbance is not better explained by an established or evolving neurocognitive disorder and does not occur in the context of severe coma.
- Evidence indicates a medical condition, substance intoxication or withdrawal, a medication, a toxin, or multiple etiologies as the direct cause.

NEUROBIOLOGY & PHYSIOLOGY

- Cholinergic deficiency with relative dopaminergic excess is the leading model, explaining why anticholinergic drugs precipitate episodes so reliably.
- Systemic inflammation drives neuroinflammation as IL-1, IL-6, and TNF-alpha cross a compromised blood-brain barrier and activate resident microglia.
- Impaired oxidative metabolism from hypoxia, hypoglycemia, sepsis, or hypoperfusion reduces neurotransmitter synthesis and degrades network connectivity.
- EEG shows diffuse background slowing with increased theta and delta activity, a useful confirmatory test when the clinical diagnosis is uncertain.
- Baseline vulnerability from dementia, advanced age, frailty, sensory impairment, and prior stroke lowers the insult required to precipitate an episode.
- Episodes accelerate long-term cognitive decline, and both severity and duration predict persistent deficits and new dementia diagnoses at 12 months.

PSYCHOLOGICAL MECHANISMS

- Delirium is a physiologic event rather than a psychological one, so psychological factors modify its expression and distress but do not cause the syndrome.
- Sensory deprivation and sensory overload, meaning absent windows, constant alarms, and interrupted sleep, measurably raise incidence in ICU settings.
- Loss of familiar anchors such as glasses, hearing aids, family, and routine removes the orienting cues that compensate for already fragile attention.
- Patients recall frightening delusional memories in 30-50% of cases, and those memories predict later PTSD symptoms after discharge from intensive care.
- Family and staff distress is substantial, and explaining the medical basis and the expected fluctuation reduces conflict and improves cooperation with care.

DIFFERENTIAL & COMORBIDITY

- Dementia is distinguished by insidious onset, attention preserved early, and a stable rather than fluctuating course, though delirium is superimposed in most cases.
- Nonconvulsive status epilepticus, Wernicke encephalopathy, and acute stroke can mimic delirium and require EEG, empiric thiamine, and urgent imaging.
- Depression is misdiagnosed in hypoactive cases and mania or psychosis in hyperactive cases, and formal attention testing separates them within minutes.
- Common causes cluster as infection, metabolic derangement, hypoxia, medications, withdrawal, urinary retention, constipation, and uncontrolled pain.
- Alcohol and sedative withdrawal delirium is life-threatening and demands protocolized benzodiazepine treatment, thiamine, and close monitoring.

Treatment EVIDENCE-BASED MANAGEMENT

PHARMACOLOGIC

- Treat the underlying cause first, since no medication is FDA-approved for delirium and antipsychotics do not shorten duration or reduce mortality.
- For dangerous agitation use low-dose **haloperidol 0.25-1 mg** or quetiapine 12.5-50 mg at night, reassessed daily and stopped once the episode resolves.
- Avoid benzodiazepines except in alcohol or sedative withdrawal, where symptom-triggered **lorazepam** by CIWA protocol is the established first-line treatment.
- Give **thiamine 500 mg IV** three times daily before glucose whenever Wernicke encephalopathy or chronic heavy alcohol use is suspected.
- Deprescribe offending agents including anticholinergics, unnecessary opioids, sedative-hypnotics, and steroids, guided by the **Beers criteria**.

PSYCHOTHERAPY

- Formal psychotherapy has no role during the acute episode because attention is too impaired to support any cognitive or verbal intervention.
- Frequent reorientation to name, place, date, and reason for admission, delivered calmly and repeatedly, is the core behavioral intervention at the bedside.
- Family presence at the bedside with familiar objects and voices reduces agitation and lowers the need for chemical or physical restraint.
- After recovery, debrief the patient about delusional memories to reduce residual distress and screen for PTSD symptoms at outpatient follow-up.
- Educate caregivers that the recovery arc is measured in weeks to months rather than days, which prevents premature nursing home placement decisions.

ADJUNCT & SUPPORTIVE

- Multicomponent prevention such as the **HELP** program cuts incidence roughly 30-40% through mobility, hydration, sleep, and orientation protocols.
- Screen daily with the **CAM**, **CAM-ICU**, or the **4AT** in acute care, because routine clinical observation misses more than half of all episodes.
- Restore glasses and hearing aids, mobilize early, and remove tethers such as urinary catheters, telemetry lines, and restraints as soon as possible.
- Protect sleep with nonpharmacologic bundles including clustered care, daytime light exposure, nighttime quiet, and no routine overnight vital signs.
- Avoid physical restraints, which prolong delirium and increase injury, and use sitters, redirection, and de-escalation techniques instead.

CLINICAL PEARLS

- Inattention is the cardinal sign; if attention is intact, question the diagnosis.
- Hypoactive delirium is the common one, the missed one, and the deadly one.
- Antipsychotics manage agitation; only fixing the cause treats the delirium.

References

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NOTE

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