

Delirium Prevention

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THE STORY IN ONE SENTENCE

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“Stop delirium before it starts—use many non-drug steps together (orientation, sleep, movement, glasses, hearing aids) in every at-risk patient.”

Normal anatomy — the body's job

The brain stays organized by knowing where you are, what time it is, and what is happening around you (called 'orientation'). It needs good sleep every night to clear out waste and reset. It needs to see and hear clearly to take in the world. It needs to move, because movement keeps blood flowing to the brain and keeps the body's rhythm steady. When all of these things work together, the brain can filter what is important from what is not, stay calm, and think clearly.

BODY'S JOB

The brain's job is to take in signals from the world (sight, sound, time, place) and make sense of them—so you know where you are, what is real, and what to do next. Sleep clears out the brain's waste every night (like taking out the trash). Movement pumps fresh blood and oxygen to the brain. When the brain has all these tools—clear senses, good sleep, steady blood flow, and a predictable environment—it stays organized and calm.

1. Eyes and ears take in the world → the thalamus (the brain's relay station) sends these signals to the cerebral cortex (the thinking part of the brain) → you know where you are and what time it is (orientation).
2. Night comes, lights go off, noise stops → the suprachiasmatic nucleus (the brain's clock in the hypothalamus) tells the pineal gland to release melatonin (the sleep hormone) → you enter deep sleep → the glymphatic system (the brain's waste-clearing network) flushes out toxins like beta-amyloid → memories are saved in the hippocampus → the brain resets for the next day.

3. You move and walk → heart pumps blood → oxygen and glucose travel through blood vessels to every brain cell → neurons (brain cells) stay energized and firing → you think clearly.
4. All day, the reticular activating system (the brain's alertness center in the brainstem) keeps you awake and filters millions of signals → the prefrontal cortex (the front of the brain that makes decisions and stays focused) picks out what matters → you stay calm, focused, and aware of what is real.

What breaks

Delirium happens when the brain loses its tools to stay organized. Three big forces break it: (1) the hospital itself (new place, bright lights and noise all night, no familiar faces, tubes and wires attached to the body); (2) the patient's risk (older age, already sick, brain already working hard from dementia or past stroke, weak body); and (3) things doctors and nurses do that hurt the brain without meaning to (give medicines that fog thinking, keep the patient lying in bed all day, take away glasses and hearing aids, wake them up every hour at night). When all three forces hit at once, the brain cannot filter what is real anymore, and it gets confused.

CLINICAL TERM

Delirium is an acute change in attention and awareness (inability to focus, stay awake, or know where you are) that develops over hours to days and fluctuates during the day. It is caused by a medical condition, medication, or substance. The core mechanism is global brain dysfunction: the brain loses its ability to process and integrate sensory input, maintain the sleep-wake cycle, and regulate neurotransmitters (especially acetylcholine drops in the basal forebrain and hippocampus, dopamine rises in the striatum and frontal cortex, and inflammation markers like cytokines increase). Risk factors are divided into predisposing (older age, baseline cognitive impairment, vision or hearing loss, frailty, severe illness) and precipitating (ICU stay, sedatives or anticholinergics, sleep deprivation, immobility, dehydration, infection, surgery). Prevention works because it removes precipitating factors before the brain tips into delirium.

How the body compensates

The brain tries to stay organized even as the hospital environment and medications overwhelm it. At first, the patient may seem just a little 'off'—sleepy during the day, restless at night, asking the same question twice. Vital signs often look normal. This is the dangerous middle: the team may miss that the brain is already failing. Without action, the brain tips into full delirium—cannot focus, does not know where they are, sees things that are not there, pulls at tubes. Once delirium is full, it is much harder to reverse, and the damage (longer hospital stay,

higher death risk, permanent cognitive loss) is already done. The job is to catch the patient in that early 'off' phase and stop the slide.

1. {'step': "The reticular activating system (the brain's alertness center in the brainstem) and prefrontal cortex (the focus and decision center) try to filter the overwhelming signals from the hospital (noise, lights, tubes, medicines).", 'result': "Patient seems a little confused or sleepy during the day, but still answers questions. Vital signs are normal. Family says 'he is not himself.' This is subsyndromal delirium—the brain is starting to fail but has not fully broken yet."}
2. {'step': "The suprachiasmatic nucleus (the brain's internal clock in the hypothalamus) loses its rhythm because of constant light, noise, and interruptions.", 'result': "Patient sleeps all day (because the reticular activating system is exhausted) and becomes restless or agitated at night (called 'sundowning'). This flip is a red flag that delirium is coming."}
3. {'step': "Acetylcholine (the neurotransmitter that keeps you alert and able to focus) drops in the basal forebrain and hippocampus, and dopamine (which can cause agitation and hallucinations) rises in the striatum.", 'result': "Patient cannot follow a conversation, asks the same question over and over, or stares blankly. This is the core feature of delirium and means the prefrontal cortex has lost its ability to focus and filter."}
4. {'step': "The hippocampus (the brain's map and memory center) and prefrontal cortex lose track of time, place, and context.", 'result': "Patient does not know where they are, what day it is, or why they are in the hospital. They may think they are at home or that the nurse is a family member. This disorientation can flip hour to hour (fluctuation)."}}
5. {'step': "Dopamine surges in the striatum and frontal cortex, and the thalamus (the brain's relay station) sends scrambled signals to the cerebral cortex.", 'result': "Patient sees people who are not there, hears voices, or believes someone is trying to hurt them. This is hyperactive delirium (agitated, pulling at tubes). OR: patient becomes very quiet and still (hypoactive delirium)—this type is missed more often but is just as dangerous."}
6. {'step': "The crash point: full delirium is present across multiple brain networks (reticular activating system, prefrontal cortex, hippocampus, thalamus).", 'result': "Without prevention or early treatment, delirium lasts days to weeks, doubles the risk of death, triples the length of hospital stay, and increases the chance of permanent dementia. The worst mistake is using sedatives or physical restraints—they make delirium worse and harm the patient."}

Domino effect

1. Patient at risk enters the hospital (older age, already has dementia or serious illness, hearing or vision loss). — Their brain is already working at full capacity to stay organized—the hippocampus (memory and map center), prefrontal cortex (focus and decision center), and reticular activating system (alertness center) have no reserve left. Any new stress can tip them into confusion.

2. Hospital environment removes the brain's tools: take away glasses and hearing aids, bright lights and noise all night, no clocks or windows, lying in bed twenty-four hours a day, tubes and wires attached. — The thalamus (the brain's relay station) cannot send clear signals to the cerebral cortex because the eyes and ears are not working well. The suprachiasmatic nucleus (the brain's clock) loses its rhythm because there is no difference between day and night. The hippocampus cannot build a map of where you are because the room has no landmarks. Sensory deprivation plus sensory overload at the same time—this is the perfect recipe for delirium.
3. Doctors give medicines that fog the brain: benzodiazepines for 'anxiety,' diphenhydramine for sleep, high-dose opioids for pain, or anticholinergic drugs. — These medicines block acetylcholine receptors in the basal forebrain, hippocampus, and prefrontal cortex (the neurotransmitter that keeps you alert and able to think) and increase dopamine in the striatum and frontal cortex (which can cause hallucinations and agitation). The brain's chemistry becomes unbalanced and it cannot process information anymore.
4. Sleep is broken every one to two hours for vital signs, blood draws, or medicines. No deep sleep for days. — Without deep sleep, the glymphatic system (the brain's waste-clearing network) cannot flush out toxins like beta-amyloid, the hippocampus cannot save memories, and acetylcholine and GABA (the brain's main calming signal) cannot reset. The brain becomes toxic and confused—like a computer that has not been restarted in days.
5. The brain loses the ability to focus, know where it is, or tell what is real. Delirium is now present. — The final common pathway: acetylcholine drops in the basal forebrain and hippocampus, dopamine rises in the striatum, inflammation markers (cytokines like interleukin-6 and tumor tissue death (necrosis) factor-alpha) flood the brain, plus no sleep plus sensory chaos → the reticular activating system, prefrontal cortex, hippocampus, and thalamus shut down their ability to organize information. The patient becomes confused, agitated, or very quiet and withdrawn.
6. If not caught early, delirium causes: longer hospital stay, higher risk of death, permanent cognitive decline (new or worse dementia), higher chance of nursing home placement, and more falls or injuries. — Delirium is not just confusion that goes away—it is a brain injury. Every day of delirium increases the risk of permanent damage. Neurons in the hippocampus and prefrontal cortex are stressed, synapses (connections between brain cells) are lost, inflammation damages blood vessels in the brain, and some patients never return to their baseline thinking.

7. Prevention works: multicomponent, non-drug bundle (orientation, sleep, mobility, vision and hearing, avoid harmful drugs) cuts delirium by thirty to fifty percent. — Give the brain back its tools—let the thalamus send clear signals by providing glasses and hearing aids, protect the glymphatic system's waste-clearing by ensuring sleep, keep blood flowing to the brain by encouraging movement, remove acetylcholine-blocking medicines—and the reticular activating system, prefrontal cortex, and hippocampus can stay organized. This is the Hospital Elder Life Program (HELP) model, and it is the standard of care. No single drug prevents or treats delirium as well as this bundle does.

Symptoms · what the patient feels, and why

- Older age (over 65 years): As the brain ages, it loses some of its backup cells and connections. That means less reserve to stay clear when stress hits — like infection, surgery, or new medicine. An older brain tips into confusion more easily because it has less cushion to absorb the blow.
- Hearing or vision problems: When you cannot see or hear well, fewer signals reach the brain from the outside world. The brain relies on those signals to stay grounded — to know where you are, what time it is, and what is happening around you. Without them, confusion creeps in more easily.
- Dementia or memory problems: A brain already damaged by dementia has fewer healthy cells and weaker connections. It works near its limit every day. Any new stress — an infection, a hospital stay, pain — pushes it past that limit and triggers delirium (sudden, severe confusion that swings hour by hour).
- Taking three or more medicines (polypharmacy): Each medicine changes brain chemistry. When you take many at once, they bump into each other and multiply side effects. Certain types — sleeping pills, strong pain pills (especially opioids), antihistamines (allergy pills), and bladder pills — are especially good at fogging the brain and triggering delirium.
- Recent surgery or anesthesia: Anesthesia medicines flood the brain to put it to sleep. Afterward, the brain has to reboot — and in older people, that reboot sometimes stalls. Add in pain, inflammation, and the body's stress hormones (like cortisol), and the brain's normal rhythm gets scrambled, leading to confusion.
- Severe illness or infection: When the body fights a serious infection or illness, immune cells release chemicals called cytokines (messengers that rally the fight). Those cytokines travel through the blood to the brain and scramble its signals. Low oxygen, low blood pressure, or high fever also starve or overheat brain cells, causing confusion.
- Using a bladder catheter or being unable to move (immobility): A bladder tube (catheter) can cause infection and discomfort, adding stress signals to the brain. Lying still in bed for days means less blood flow to the brain, weaker muscles, and fewer outside cues (like daylight, voices, movement). All of that makes the brain foggy and confused.

- Not eating or drinking enough (malnutrition or dehydration): Brain cells need sugar (glucose) and water to work. When you skip meals or fluids, the brain runs low on fuel. The blood also thickens, slowing the delivery of oxygen. That causes confusion, drowsiness, and makes delirium much more likely.
- Sleep problems or a noisy, bright environment: The brain needs regular sleep to clear out waste and reset its rhythm. In a hospital or unfamiliar place, bright lights, noise, and interruptions break that rhythm. Without deep sleep, brain cells stay fatigued and the person loses track of time and place, opening the door to delirium.
- Pain that is not well controlled: Pain floods the brain with stress signals and raises cortisol (the body's main stress hormone). That scrambles thinking. At the same time, strong pain medicines (especially opioids) fog the brain directly. Either way — too much pain or too much pain medicine — can trigger delirium.

Focused exam

- Ask three orientation questions: What day is it? Where are you right now? Who is the president?: These questions check if the prefrontal cortex (the front of the brain that tracks time, place, and recent memory) is still working. Wrong answers or a confused look mean confusion is starting. Catching it now, before it gets worse, is the whole point of prevention.
- Watch how they move. Are they slow and stiff, or restless and trying to get up? Do they sit still or keep fidgeting?: Movement changes show the brain's motor and alertness centers are struggling. Restlessness (hyperactive delirium) or slowness (hypoactive delirium) both mean the same thing: the hospital plus being older or sick is pushing the brain into confusion.
- Review the chart for delirium risk factors: Did they sleep last night? What medicines are they taking? Do they have a urinary catheter, IV, or feeding tube they do not truly need?: Hospitals often add tubes, wreck sleep, and give the wrong medicines without thinking. These are the upstream breaks you can fix right now to stop delirium before it starts.
- Check: Do they have their glasses? Their hearing aids? Is family here to help keep them oriented?: The hospital takes away normal cues (glasses left at home, hearing aids lost, family sent home at night). Putting them back helps the brain stay awake and know where it is. Sensory input is the brain's GPS.
- Give a one-step command: Point to the door. Squeeze my hand. Stick out your tongue.: If they cannot follow a one-step command, confusion is deeper than you thought. This is a quick way to check if the prefrontal cortex (the brain's planning and command center) is still processing and responding.

- Listen to how they talk. Do they jump from topic to topic? Repeat the same thing over and over? Say things that make no sense?: Confused speech (rambling, repeating, strange statements) points to the same upstream break: the hospital took away sleep, movement, water, and knowing where they are. The brain cannot build a clear, organized story anymore.

Diagnostics · every test answers a question

- Confusion Assessment Method (CAM) score at admission and daily → Is delirium present right now, or is confusion starting?
- Complete metabolic panel (CMP): sodium, glucose, creatinine, calcium → Is the body's chemistry off in a way that confuses the brain?
- Complete blood count (CBC) with differential → Is there infection or anemia making the brain struggle?
- Urinalysis and urine culture (if catheter present or patient cannot void) → Is a urinary tract infection confusing the brain?
- Chest X-ray (if fever, cough, low oxygen, or crackles on exam) → Is pneumonia starving the brain of oxygen?
- Oxygen saturation (pulse oximetry) at rest and with activity → Is the brain getting enough oxygen?
- Medication reconciliation (review all home and hospital medicines for anticholinergics, benzodiazepines, opioids) → Which medicines are turning off the brain's alarm system?
- Thyroid-stimulating hormone (TSH) and liver function tests (if cause unclear after basic work-up) → Is thyroid or liver failure slowing the brain?

Treatment logic

- Assess delirium risk at admission using a validated tool (e.g., age above 70, known dementia, severe illness, vision or hearing loss, abnormal sodium or glucose) → Identifies which patients need prevention before confusion starts. Catching risk early lets you stop the domino before it falls.
- Reorient constantly: put a clock and calendar in the room, open the window, tell them the date and where they are, explain who you are and why they are here — repeat every two hours → The hippocampus (the brain's memory and map center) builds a map of where the person is. A confused brain is one that lost its GPS. Reorienting fixes the map so the brain can stay organized.

- Stop or reduce anticholinergic drugs (diphenhydramine, oxybutynin), benzodiazepines (lorazepam, diazepam), opioids (morphine, oxycodone), and other sedating medicines → These drugs turn off the brain's alarm system. Anticholinergics block acetylcholine (the brain's main attention and memory signal), benzodiazepines boost GABA (the brain's main calming signal, which slows brain waves too much), opioids sedate the whole system. Removing them lets the brain wake up and stay clear.
- Restore the sleep-wake cycle: lights on and blinds open during the day, lights off and quiet at night, no unnecessary alarms or care rounds between 10 p.m. and 6 a.m. → The suprachiasmatic nucleus (the brain's clock, a tiny spot in the hypothalamus that runs the 24-hour rhythm) gets reset. Confusion is what happens when the brain's clock breaks. Fixing the clock fixes the signal that keeps the brain awake during the day and asleep at night.
- Return glasses and hearing aids immediately; assign the same nurse and doctor each shift; involve family in care rounds and daily decisions → The brain gets sensory input (see, hear) and recognizes trusted voices. Familiar people and faces are the brain's anchor to reality. Without them, the hospital is a confusing blur.
- Mobilize early: sit in a chair by day one if safe, walk in the hall with help twice a day; give water and food by mouth instead of IV or tube; treat constipation and urinary retention daily → Movement wakes up the brain's motor cortex and cerebellum (the brain's balance and movement centers). Water and gut motion fix the body's plumbing. Retention (full bowel, full bladder) and dehydration muddy the brain's chemistry.
- Remove unnecessary tubes and lines (urinary catheter, IV if patient can drink, restraints) as soon as possible → Tubes and restraints keep patients still, uncomfortable, and tethered. Removing them lets the patient move, stay oriented, and feel like a person instead of a prisoner. Each tube is a risk for infection and immobility.

Medications

No medication prevents delirium — only a bundle of care steps working together · Non-pharmacologic bundle (multicomponent intervention)

Delirium happens when the brain's wiring gets scrambled by stress — like a serious infection, surgery, or just being sick in the hospital. Medicine almost never stops delirium before it starts, and many drugs actually make it more likely. Instead, you protect the brain by keeping six everyday rhythms strong: (1) remind the person where they are and what day it is (orientation), (2) help them get out of bed and move around (early mobility), (3) make sure they drink enough water (hydration), (4) guard their sleep with a quiet, dim room at night (sleep hygiene), (5) give them their glasses and hearing aids so the world stays clear (sensory support), and (6) have loved ones visit (family presence). At the same time, you remove harm: review every medicine and stop drugs that fog thinking — especially anticholinergics (drugs

that block acetylcholine, the brain messenger for attention and memory), benzodiazepines (sedatives like lorazepam that slow the brain down), and high-dose opioids (strong pain medicines that cloud awareness). Avoid placing tubes like catheters or IVs unless truly needed, because tubes raise confusion and infection risk. Treat pain, but use the smallest dose that works so the person stays awake and alert. Fix constipation and trouble urinating right away, because a full bladder or bowel sets off agitation. Keep the same nurses and doctors each day so the person sees familiar faces. This bundle works because it keeps the brain's signals firing normally and takes away the things that scramble them.

1. Orientation boards and calendars keep the hippocampus (the brain's memory center deep inside each ear) active by reminding the person of the day, time, and place, so the brain does not drift into confusion or lose its anchor in reality.
2. Getting out of bed and walking sends signals from muscles up the spinal cord to the brain that say 'you are awake and strong,' which keeps brain networks firing in healthy patterns and pumps more oxygen-rich blood to the prefrontal cortex.
3. Drinking enough water keeps blood flowing smoothly to every part of the brain. When you get dehydrated, blood gets thicker and carries less oxygen, so brain cells slow down and start misfiring, which leads to confusion.
4. Protecting sleep at night gives the brain time to clear out waste — like beta-amyloid (a sticky protein) and other trash that piles up during the day. Without deep sleep, this junk builds up and inflames brain cells, making the brain foggy and confused.
5. Glasses and hearing aids let the brain receive clear signals from the outside world. When the brain gets blurry sights or muffled sounds, it has to guess what is happening, and it often guesses wrong — creating hallucinations (seeing things that are not there) or paranoia (feeling unsafe for no real reason).
6. Family visits turn on the limbic system (the emotional center deep in the brain) and give the brain familiar, safe cues. Seeing a loved one lowers cortisol (the body's main stress hormone) and reduces fear and agitation.
7. Stopping anticholinergic drugs (like diphenhydramine, oxybutynin, or promethazine) restores acetylcholine in the brain. Acetylcholine is the chemical that powers attention, memory, and clear thinking. Without it, the prefrontal cortex cannot focus and the hippocampus cannot form new memories.
8. Stopping benzodiazepines (like lorazepam, diazepam, or alprazolam) removes the drug that forces GABA to over-brake the brain. In older adults, this can backfire and cause confusion, agitation, and falls instead of calm.
9. Using the smallest dose of opioids (like morphine, oxycodone, or hydromorphone) that controls pain keeps you from flooding opioid receptors in the brainstem and cerebral cortex, which would slow breathing, lower oxygen delivery to the brain, and cloud consciousness.

- 10.** Removing catheters (tubes in the bladder) and unnecessary IV lines cuts infection risk and lets the person move freely, which keeps the brain's activity level normal and prevents the 'tied down and trapped' panic that worsens delirium.
- 11.** Treating constipation (with stool softeners or gentle laxatives) and urinary retention (by removing catheters or using a bedside toilet) stops physical discomfort that the confused brain reads as danger, which floods it with cortisol and triggers combativeness.
- 12.** Keeping the same nurses and doctors every day builds trust and cuts the 'where am I, who are you' stress. Each time a stranger walks in, the brain has to figure out if they are safe, which spikes cortisol and wears out the prefrontal cortex.

SAFETY WATCH

Do NOT use antipsychotics (like haloperidol, quetiapine, risperidone, or olanzapine) to prevent delirium — studies show they do not work for prevention and they raise the risk of stroke, dangerous heart rhythms, and sudden death, especially in people over 65 or anyone with dementia (FDA black-box warning on all antipsychotics in dementia patients).

- Do NOT use benzodiazepines (like lorazepam, diazepam, alprazolam, or temazepam) for sleep or agitation in hospitalized older adults — they often backfire and worsen confusion, raise fall risk, and slow breathing (Beers Criteria rates them high-risk in adults 65 and older).
- Do NOT stop opioids or benzodiazepines suddenly in someone who has been taking them daily for more than a few weeks — abrupt stopping can cause life-threatening withdrawal, including seizures, severe agitation, fast heart rate, and even death. Taper the dose slowly under close medical watch.
- Early mobility must be done safely: check that blood pressure is stable, oxygen level is adequate (usually at least 90 percent on pulse oximeter), and the person is not too weak or dizzy. Use a gait belt around the waist, have at least one helper nearby, and make sure the path is clear of cords and clutter.
- If the person refuses to drink or cannot swallow safely (choking, coughing when they sip), do NOT force fluids by mouth — instead give IV fluids to prevent aspiration pneumonia (liquid going into the lungs instead of the stomach, which causes a dangerous infection).
- If the person is critically ill (like septic shock, heart failure with low blood pressure, or respiratory failure needing high oxygen or a breathing tube), some bundle steps (like walking or stopping sedatives) may need to wait until they are stable enough. Always tailor the plan to what the person can safely handle.
- Family presence usually helps, but if the family member is angry, yelling, or intrusive (getting in the way of care), it can spike agitation instead of calming it. Guide family on how to be soothing: use a calm, gentle voice, light touch on the hand or shoulder, and talk about familiar, happy topics (not stressful news or arguments).
- Physical restraints (tying the person's wrists to the bed or putting up high bed rails) do NOT prevent delirium and usually make it worse by causing fear, skin injury, and keeping the person from moving. Use them only as an absolute last resort when someone is at immediate risk of pulling out a breathing tube or life-saving IV, and remove them as soon as safely possible. Restraints are linked to longer delirium, more pressure sores, and higher death rates.
- Pain must be treated — untreated pain is a major trigger for delirium. The goal is to balance: use enough medicine to keep pain under control (usually a pain score of 3 out of 10 or less) but not so much that the person is too sleepy to talk or participate in care. Non-drug methods like ice packs, repositioning, and gentle massage can help lower the opioid dose needed.
- If the person has dementia, they are at much higher risk for delirium, and the usual signs (like being suddenly more confused or agitated) can be easy to miss because their baseline thinking is already changed. Watch for ANY sudden change in behavior, sleep, or alertness — that is delirium until proven otherwise.

Red flags

- New or sudden confusion that was not there before (the main sign delirium has started)
- Being very sleepy and hard to wake up (may mean the brain is dangerously slowed or shutting down)
- Seeing or hearing things that are not real, or believing things that make no sense (hallucinations or delusions — signs the brain is misfiring badly)

Nursing priorities

1. Place a large clock and calendar where the patient can see them from the bed, open the window blinds during the day, and tell the patient the date, time, location, and why they are in the hospital every 2 hours and during every interaction. — The brain needs constant environmental cues to stay oriented. Sensory input (light-dark cycles, visible time markers, repeated verbal orientation) keeps the reticular activating system (the brain's wakefulness center) synchronized and prevents the disorganized thinking that leads to delirium.
2. Make sure the patient wears their glasses and hearing aids during all waking hours, and check that the devices are clean and working properly each shift. — Sensory deprivation confuses the brain because it cannot process its surroundings accurately. Correcting vision and hearing lets the hippocampus (memory center) and prefrontal cortex (reasoning center) work normally, which are the first brain areas to fail in delirium.
3. Review the medication administration record (MAR) with the provider every day and request to stop or reduce anticholinergic drugs (diphenhydramine, hydroxyzine, oxybutynin, promethazine), benzodiazepines (lorazepam, diazepam), and sedating antihistamines. — Anticholinergics block acetylcholine receptors in the brain, which directly impairs memory and attention. Benzodiazepines enhance GABA (a calming brain chemical) too much, causing sedation and confusion. Removing these drugs restores normal neurotransmitter balance.
4. Help the patient get out of bed and sit in a chair for meals, walk in the hallway at least three times per day if safe, and do simple tasks like combing hair or folding towels. — Immobility and boredom reduce blood flow to the brain and decrease dopamine (a neurotransmitter for motivation and thinking). Physical activity and purposeful tasks keep the motor cortex and frontal lobes active, preventing the brain shutdown that starts delirium.

5. Reduce nighttime interruptions by clustering care tasks (vital signs, medicines, turning) so the patient has at least 4 uninterrupted hours of sleep, keep hallway noise and lights low after 9 PM, and avoid waking the patient for non-urgent tasks. — Sleep deprivation fragments the sleep-wake cycle and prevents the brain from clearing metabolic waste products through the glymphatic system (the brain's cleaning network). Lack of deep sleep causes neurotransmitter imbalances that trigger delirium within 48 hours.
6. Encourage family members to stay at the bedside, bring familiar objects from home (photos, a favorite blanket), play the patient's preferred music or TV shows, and talk about familiar topics like grandchildren or hobbies. — Familiar people and objects activate the hippocampus and strengthen memory networks. Social interaction releases oxytocin and serotonin (calming brain chemicals) and reduces the cortisol (stress hormone) that disrupts brain function during hospitalization.
7. Monitor fluid intake and output every shift, check daily electrolyte panels (sodium, calcium, glucose), and give oral fluids or IV hydration to keep urine light yellow and electrolytes in normal range. — Dehydration reduces cerebral blood flow and oxygen delivery to brain cells. Abnormal sodium causes neurons to swell or shrink, and low glucose starves the brain of energy. Correcting these imbalances restores cellular metabolism and prevents delirium before it starts.
8. Assess pain using a numeric scale or the FLACC tool (for non-verbal patients) every 4 hours, give scheduled acetaminophen for mild pain, use the lowest effective opioid dose for severe pain, and try non-drug methods like ice packs, repositioning, and hand massage. — Untreated pain releases inflammatory cytokines (immune chemicals) that cross the blood-brain barrier and damage neurons. But excessive opioids bind to mu receptors in the brain and cause sedation and confusion. Balanced pain control protects brain cells without over-sedating.

Sources

- AGS Beers Criteria 2023
- Hospital Elder Life Program (HELP)
- NICE Clinical Guideline CG103 (Delirium)
- American Delirium Society

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