

Sudden confusion

A plain-English guide for you and your family

WHAT IS HAPPENING

Your brain stays awake and thinking when two parts team up: the cerebral cortex (the wrinkly outer layer that handles thought, memory, language, and movement) and the reticular activating system (a network deep in the brainstem—the stalk connecting your brain to your spinal cord—that flips the consciousness switch on). Sudden confusion means one or both just stopped working. The causes fall into four buckets. First, brain structure problems: a stroke (a clot blocks blood flow to part of the brain), a bleed (a blood vessel bursts and blood pools inside the skull or brain tissue), a tumor pressing on brain tissue, or swelling (the brain puffs up from injury, infection, or high altitude). Second, body chemistry problems: blood sugar drops too low, sodium swings too high or too low, oxygen falls, carbon dioxide rises (from lung failure), ammonia builds up (from liver failure), waste piles up (from kidney failure), or thyroid or adrenal hormones go haywire. Third, infections: sepsis (infection spreads through the bloodstream and triggers inflammation everywhere), bacterial meningitis (germs infect the protective lining around the brain and spinal cord), or encephalitis (a virus or the immune system attacks brain tissue itself). Fourth, toxins and drugs: opioids (heroin, fentanyl, prescription painkillers), sedatives (Valium, Xanax, Ativan), alcohol (too much at once or withdrawal after stopping), anticholinergic medicines (like Benadryl or some psych drugs that block acetylcholine—a brain messenger needed for attention and memory), carbon monoxide (an invisible poisonous gas), or serotonin syndrome (too much serotonin—a brain messenger that steadies mood and sleep—from mixing certain medicines). Seizures can also cause confusion during the seizure or for minutes to hours afterward while the brain recharges. Each cause leaves clues. Stroke or bleed usually brings one-sided weakness, vision loss, or slurred speech because one spot in the brain died. Chemistry and toxin problems cause whole-brain confusion and sleepiness because the entire brain is poisoned evenly—no single area is worse. Infection brings fever plus confusion, shouting meningitis or encephalitis. Your job is to trace every odd sign backward to the one broken step upstream, name it, and fix it before the brain runs out of time.

What you might feel

- Disorientation to time, place, or person

- Agitation or combativeness
- Lethargy or drowsiness (hard to keep awake)
- Slurred speech or trouble finding words
- One-sided weakness (arm, leg, or face droop)
- Seizure or confusion after seizure (post-ictal confusion)
- Asterixis (flapping tremor when hands held out)
- Fever with confusion
- Pinpoint pupils and slow or shallow breathing
- Decorticate or decerebrate posturing (arms bend or straighten rigidly)

Call the doctor right away if...

- One-sided weakness, vision loss, or slurred speech (stroke or brain bleed—get a CT scan of the head and call neurology immediately)
- Fever with stiff neck or severe headache (bacterial meningitis—draw blood cultures, start intravenous ceftriaxone plus vancomycin, then do a lumbar puncture to test spinal fluid)
- Pinpoint pupils and slow breathing (opioid overdose—give naloxone intravenously or intramuscularly now)
- Posturing, unequal pupils, or Glasgow Coma Scale 8 or lower (herniation or severe brain injury—intubate, give intravenous hypertonic saline or mannitol to drop brain pressure, call neurosurgery)
- Blood glucose below 55 mg/dL (hypoglycemia—give intravenous dextrose or inject glucagon immediately)

What the care team will do

- Check the fingerstick blood sugar (glucose) immediately at the bedside, before waiting for any laboratory results.
- Check vital signs (blood pressure, heart rate, respiratory rate, temperature, and oxygen saturation) and put the patient on continuous pulse oximetry and cardiac telemetry monitoring.
- Protect the patient from falling by raising both side rails, placing the bed in the lowest position, and keeping the call light within reach; consider a 1-to-1 sitter if the patient is combative or trying to pull out tubes.
- Establish intravenous (IV) access with at least one large-bore catheter (18-gauge or 20-gauge) and draw all stat (emergency) blood work at the same time: complete metabolic panel, liver function tests with ammonia level, arterial blood gas, complete blood count, toxicology screen, and troponin.

- If blood sugar is below 70 mg/dL, give thiamine 100 milligrams into the vein first, then immediately give 50 milliliters of 50% dextrose (D50W)—that is 25 grams of sugar—by slow IV push over 3 to 5 minutes while watching for IV infiltration (the IV fluid leaking into the tissue instead of the vein).
- Perform a focused neurological assessment every 15 to 30 minutes: check if the patient knows their name, where they are, and what day it is (orientation times three); check pupil size and reaction to light; check for face droop, arm drift (ask the patient to hold both arms up with eyes closed—one weak arm drifts down), and leg strength; and use the Glasgow Coma Scale to track if the patient is getting better or worse.
- If the patient has pinpoint pupils (very tiny pupils) and slow breathing under 10 breaths per minute, give naloxone 0.4 milligrams IV push immediately and be ready to bag-mask ventilate (use an Ambu bag to breathe for the patient) if breathing stays slow or stops.
- Keep the patient NPO (nothing by mouth—no food, liquid, or pills) until the cause of confusion is found and the patient is fully awake enough to protect their own airway.

Medicines you may be given — and why

Dextrose (sugar water given through a vein)

The brain runs on sugar (glucose) the way a car runs on gas. If blood sugar drops too low (hypoglycemia), the brain cannot think or stay awake. Dextrose is pure sugar that goes straight into the bloodstream and reaches the brain in seconds, bringing the fuel level back up so brain cells can work again.

Thiamine (vitamin B1)

Thiamine is a helper molecule (coenzyme) that brain cells need to turn sugar into energy. Without enough thiamine, the brain cannot burn glucose properly — even if sugar is in the blood. People who drink heavily, eat very little, or have certain illnesses run out of thiamine. Giving thiamine restores the missing helper so brain cells can make energy again.

Naloxone (Narcan)

Opioid drugs (like fentanyl, heroin, oxycodone, morphine) lock onto mu opioid receptors in the brain and slow down breathing and thinking until the person becomes unconscious. Naloxone is shaped like an opioid but does NOT turn the receptor on — it just blocks the spot. It kicks the opioid off the receptor, and within 1 to 3 minutes the person wakes up and starts breathing normally again.

Flumazenil (Romazicon)

Benzodiazepines (like midazolam, lorazepam, diazepam) attach to GABA-A receptors in the brain and boost GABA (the brain's main calming signal), slowing down electrical activity and

making the person sleepy or unconscious. Flumazenil blocks those receptors and reverses the sedation. It works within 1 to 2 minutes.

Ceftriaxone

Ceftriaxone kills bacteria by breaking down their cell walls. Bacteria need strong walls to survive — without them, they burst and die. Ceftriaxone crosses the blood-brain barrier into the brain and spinal fluid and kills most bacteria that cause meningitis (infection of the lining around the brain) and encephalitis (infection inside the brain itself). It works on *Streptococcus pneumoniae*, *Neisseria meningitidis*, *Haemophilus influenzae*, and many other common germs.

Vancomycin

Vancomycin kills bacteria that are resistant to other antibiotics, especially MRSA (methicillin-resistant *Staph aureus*) and resistant *Streptococcus pneumoniae*. It works by blocking the final step of building the bacterial cell wall, so the bacteria cannot finish their protective coat and they die. It crosses into the brain and spinal fluid, especially when the brain lining is inflamed.

Ampicillin

Ampicillin kills bacteria by punching holes in their cell walls. Bacteria need a strong wall to hold their shape and survive — without it, they burst and die. Ampicillin crosses the blood-brain barrier and is one of the few antibiotics that kills *Listeria monocytogenes*, a dangerous germ that causes meningitis (brain lining infection) in older adults, newborns, pregnant women, and people with weak immune systems. It also works on many other bacteria like *Streptococcus* and some *E. coli* strains.

Acyclovir

Acyclovir stops herpes simplex virus (HSV) from copying itself inside brain cells. HSV is the most common virus that causes encephalitis (brain infection). Acyclovir looks like a building block of viral DNA, so the virus grabs it and tries to use it to make more viruses — but acyclovir is a fake block that stops the copying machine cold. The virus cannot multiply, and the immune system has time to clear it out.

Lorazepam (Ativan)

A seizure is an electrical storm in the brain — neurons fire out of control. Lorazepam boosts the effect of GABA (the brain's main calming signal), which tells neurons to slow down. It opens chloride channels on neurons, making them harder to fire. This calms the electrical storm and stops the seizure. Lorazepam works within 1 to 3 minutes when given IV and is the first-line treatment to stop an ongoing seizure.

Levetiracetam (Keppra)

Levetiracetam calms overactive neurons by binding to a protein called SV2A inside brain cells. SV2A sits on tiny bubbles (synaptic vesicles) that store glutamate (the brain's main excitatory signal). By attaching to SV2A, levetiracetam slows down how much glutamate neurons release. Less glutamate means less excitation and less chance of a seizure storm starting or spreading.

Haloperidol (Haldol)

In severe agitation (like delirium or psychosis), too much dopamine activity in certain brain circuits makes the person see or hear things that are not there, believe false things, or become violent. Haloperidol blocks dopamine D2 receptors and calms the overactive circuits, reducing agitation, hallucinations, and delusions.

Where this information comes from

- American College of Emergency Physicians (ACEP) Clinical Policy on Acute Altered Mental Status
- American Academy of Neurology (AAN) Practice Parameter for Coma and Altered Consciousness
- Infectious Diseases Society of America (IDSA) Bacterial Meningitis Guidelines
- American Heart Association/American Stroke Association (AHA/ASA) Acute Ischemic Stroke Guidelines

Last reviewed: 2026-07-07