

Neurocognitive Disorders

A plain-English guide for you and your family

WHAT IS HAPPENING

Your brain is a bustling city where billions of nerve cells talk to each other through messengers called neurotransmitters (chemicals that carry signals between brain cells). In a healthy brain, memories form, thoughts flow smoothly, and you can plan tomorrow's dinner or recall your grandchild's name. A neurocognitive disorder means something is damaging or killing those brain cells—Alzheimer disease clogs them with sticky plaques and tangles, vascular dementia starves patches of brain by blocking blood flow like clogged pipes, Lewy body disease jams the cells with lumps of a protein called alpha-synuclein, and so on. At first the brain has backup routes, so you forget a word here and there or lose your keys more often. As more cells die the backup runs out: you forget whole conversations, get lost on familiar streets, struggle to pay bills, and later may not recognize loved ones or need help with dressing and eating. Some causes—like a vitamin B12 shortage, thyroid trouble, or certain medicines—can be fixed if caught early, which is why doctors check blood work, ask specific memory questions (like remembering three words five minutes later), and sometimes order a brain scan. When the damage is permanent, medicine and routines can slow the decline and keep life safer and calmer for months to years.

What you might feel

- Memory loss that disrupts daily life
- Trouble planning or solving problems
- Confusion about time or place
- Difficulty understanding visual images or judging distance
- Problems with words in speaking or writing
- Misplacing things and losing the ability to retrace steps
- Decreased or poor judgment
- Withdrawal from work or social activities
- Changes in mood or personality
- Sudden worsening of confusion or inability to stay awake

Call the doctor right away if...

- Sudden, rapid confusion or change in alertness over hours to days—may signal delirium from infection, stroke, or medication toxicity
- New trouble walking, severe headache, or one-sided weakness—may mean a stroke or bleeding in the brain
- Weight loss, not eating or drinking, or signs of neglect or abuse—the person may no longer be safe at home
- Thoughts of harming themselves or others, severe agitation, or hallucinations that are frightening—needs urgent psychiatric and medical evaluation

What the care team will do

- Assess and document Glasgow Coma Scale score every 1 to 2 hours, notifying provider immediately if score drops 2 or more points
- Check blood glucose with fingerstick immediately on arrival and repeat every 4 hours if abnormal
- Position head of bed at 30 degrees and keep head midline, avoiding neck flexion or rotation
- Monitor pupil size, shape, and reaction to light every 2 hours, reporting unequal pupils or new sluggish response
- Maintain oxygen saturation above 94% with supplemental oxygen, and ensure patent airway with suction at bedside
- Perform fall-risk precautions with bed alarm, padded rails, and frequent reorientation without physical restraints
- Review medication administration record and hold anticholinergic, sedating, or opioid medications until provider reassesses
- Monitor intake and output strictly, assess for urinary retention, and check for constipation or fecal impaction

Medicines you may be given — and why

Donepezil (Aricept)

Donepezil blocks an enzyme (a molecular scissor) called acetylcholinesterase that normally breaks down acetylcholine, a brain messenger that helps memory and thinking. By blocking that scissor, the drug lets more acetylcholine stick around in the spaces between brain cells, which can slightly slow the loss of memory and attention in Alzheimer disease.

Rivastigmine (Exelon)

Rivastigmine blocks two molecular scissors—acetylcholinesterase and butyrylcholinesterase—that break down acetylcholine, the brain messenger for memory and thinking. By jamming both scissors, the drug raises acetylcholine levels in the gaps between brain cells, which can modestly slow memory loss in Alzheimer disease and dementia with Lewy bodies.

Galantamine (Razadyne)

Galantamine blocks the enzyme acetylcholinesterase (the molecular scissor that chops up acetylcholine, a memory messenger) and also gives a boost to nicotinic receptors (the docking ports on brain cells that catch acetylcholine). This double action raises acetylcholine levels and makes the remaining receptors work better, which can modestly slow memory and thinking decline in Alzheimer disease.

Memantine (Namenda)

Memantine blocks NMDA receptors (docking gates on brain cells that let calcium rush in when glutamate, an excitatory messenger, arrives). In Alzheimer disease, these gates get stuck partly open, letting too much calcium leak in all the time, which poisons and kills the cell. Memantine plugs the gate just enough to stop the toxic leak but still lets normal bursts of calcium through when a real signal arrives, protecting cells from slow death while preserving learning.

Aducanumab (Aduhelm)

Aducanumab is a laboratory-made antibody (a protein that tags enemies for cleanup) designed to stick to clumps of amyloid-beta protein (the sticky plaques that build up in Alzheimer disease). Once tagged, the brain's immune cells (microglia) recognize the antibody flag and sweep the plaques away. Clearing plaques may slow the underlying disease process, though the clinical benefit remains uncertain and the drug is highly controversial.

Lecanemab (Leqembi)

Lecanemab is a laboratory-made antibody that sticks to soluble amyloid-beta protofibrils (early, toxic clumps of the amyloid protein before they harden into full plaques). By tagging these early clumps, the antibody flags them for the brain's cleanup cells (microglia) to remove. Clearing protofibrils may slow the toxic cascade that damages neurons in Alzheimer disease, and clinical trials show a modest slowing of decline in early-stage patients.

Where this information comes from

- American Academy of Neurology (AAN) practice guideline on mild cognitive impairment and dementia

- Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR)
- Alzheimer's Association clinical criteria
- UpToDate: Evaluation of cognitive impairment and dementia

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