

Schizophrenia

A plain-English guide for you and your family

WHAT IS HAPPENING

Schizophrenia happens when the balance of brain messengers — especially dopamine and glutamate — tips out of control. In a healthy brain, dopamine flows steadily through different paths: one path helps you feel motivated and enjoy things, another helps you move smoothly, and a third helps you sort real from not-real. Glutamate (the brain's main 'go' signal) works with GABA (the main 'stop' signal) to keep thoughts organized. When this system breaks, dopamine floods the reality-checking circuits, so the brain flags harmless sights and sounds as dangerous or meaningful — a stranger's laugh becomes a threat, random noises become voices, everyday events feel like secret messages. At the same time, dopamine drains from the motivation circuits, so you lose the spark to want things, move, speak, or show feelings. The thinking parts of the brain — the prefrontal cortex in front and the hippocampus deep inside — also struggle, so memory, focus, and planning crumble. What you or your family see are three groups of changes: positive symptoms (hallucinations, which means seeing or hearing things that are not there; delusions, which means believing things that are not true; and disorganized speech or behavior), negative symptoms (flat face and voice, no motivation, pulling away from people, trouble feeling pleasure), and cognitive symptoms (trouble remembering, focusing, or making decisions). None of this is a choice or a character flaw — it is the brain's wiring misfiring. Genes load the gun, but stress, drug use (especially marijuana and stimulants), infections before birth, and childhood trauma can pull the trigger. Treatment works: antipsychotic medicines quiet the dopamine floods, therapy helps you test reality and build coping skills, and a safe home with daily structure and people who care make recovery possible. Most people get better with the right help, especially if treatment starts early.

What you might feel

- Hearing voices or seeing things that aren't there (hallucinations)
- Believing things that aren't true, even when shown proof (delusions)
- Jumbled or hard-to-follow speech (disorganized speech)
- Chaotic or bizarre behavior that doesn't match the situation (disorganized or catatonic behavior)

- Flat face and voice, no interest or enjoyment (flat affect and anhedonia)
- Trouble starting or finishing tasks, staying motivated (avolition)
- Speaking very little, even when asked direct questions (alogia)
- Poor memory, slow thinking, and trouble focusing (cognitive impairment)

Call the doctor right away if...

- New confusion, fever, or stiff muscles after starting an antipsychotic (may be neuroleptic malignant syndrome — a dangerous medication reaction)
- Talk of hurting themselves or someone else
- Unable to eat, drink, or move for hours (catatonia can become life-threatening)
- Sudden severe headache, seizure, or one-sided weakness (rule out a stroke or brain bleed)
- Using drugs like methamphetamine or PCP, which can look identical to schizophrenia but need different care

What the care team will do

- Assess suicide and violence risk every shift by directly asking about thoughts of self-harm and homicidal plans, and check if the patient hears command hallucinations telling them to hurt themselves or others.
- Monitor vital signs, muscle rigidity, level of consciousness, and sweating every four hours in patients taking antipsychotics, and notify the provider immediately if temperature rises above 100.4°F with confusion or stiff muscles.
- Check for extrapyramidal symptoms each shift by watching for tremor, shuffling walk, muscle rigidity, tongue movements, or the patient pacing and unable to sit still.
- Give antipsychotic medication at the same time daily, watch the patient swallow it, and check under the tongue and in the cheeks afterward.
- Measure weight, waist circumference, blood pressure, and fingerstick glucose every week for the first month, then monthly, because second-generation antipsychotics cause metabolic changes.
- Reorient the patient calmly when they describe hallucinations or delusions by saying 'I don't see that, but I believe you do,' and redirect to a structured activity like a puzzle or walk.
- Encourage the patient to get out of bed, attend group activities, shower daily, and eat meals in the dining area even if they say they don't want to.
- Teach the patient and family that schizophrenia is a brain illness caused by dopamine imbalance, not weakness or bad parenting, and that medication plus therapy together work better than either alone.

Medicines you may be given — and why

Risperidone (Risperdal)

Risperidone quiets the overactive dopamine signals in the brain's reward and thought circuits that drive hallucinations and confused thinking, while also calming serotonin pathways that help with mood and impulse control.

Olanzapine (Zyprexa)

Olanzapine blocks overactive dopamine signals that fuel psychotic symptoms and also dampens serotonin, histamine, and other brain messengers to calm agitation and help with sleep, though this increases appetite and weight gain risk.

Aripiprazole (Abilify)

Aripiprazole is a partial agonist — it gently nudges dopamine receptors just enough to stabilize them, turning down overactive dopamine in psychosis circuits while propping up dopamine in underactive motivation and mood circuits, which causes fewer metabolic and movement side effects.

Quetiapine (Seroquel)

Quetiapine blocks dopamine receptors to quiet psychotic symptoms and also strongly blocks histamine and serotonin receptors, which makes it very sedating and helpful for agitation and insomnia but raises risk for weight gain and metabolic problems.

Paliperidone (Invega, Invega Sustenna, Invega Trinza)

Paliperidone is the active form of risperidone and works the same way — blocking overactive dopamine and serotonin receptors to quiet psychotic symptoms. It is available as a once-monthly or once-every-3-months injection, which helps people who have trouble remembering daily pills.

Clozapine (Clozaril)

Clozapine is the most effective antipsychotic for people who have not improved after trying at least two other antipsychotics. It blocks dopamine, serotonin, and many other receptors in a unique pattern that quiets psychosis and may help with negative symptoms and suicidal thinking, but it requires close blood monitoring because it can dangerously lower white blood cells.

Haloperidol (Haldol)

Haloperidol powerfully blocks dopamine receptors in the brain's psychosis circuits, which stops hallucinations and delusions quickly, but because it also blocks dopamine in movement circuits, it causes stiff, rigid movements and tremors more often than newer antipsychotics.

Where this information comes from

- APA Practice Guideline for the Treatment of Patients with Schizophrenia, 3rd edition, 2020
- Schizophrenia Patient Outcomes Research Team (PORT) Treatment Recommendations, 2023
- National Institute of Mental Health (NIMH)
- Cochrane Schizophrenia Group

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