

Anxiety Panic

Panic attack is a false alarm from your brain's threat center; panic disorder means repeated attacks plus constant worry and avoidance that shrink your world.

THE ONE-LINE TRUTH

A panic attack is a sudden wave of intense fear with a racing heart, trouble breathing, chest pain, and dizziness that peaks in minutes even when there is no real danger.

The chain — how it unfolds

1. Amygdala activation without real threat — why: A trigger—often a normal body sensation like a skipped heartbeat, or a stressful thought—activates the amygdala (alarm center). Because the prefrontal cortex (thinking brain) does not inhibit it quickly, the amygdala signals danger and activates the sympathetic nervous system (fight-or-flight branch).
2. Catecholamine surge and autonomic arousal — why: The sympathetic nervous system releases adrenaline and noradrenaline (stress hormones) into the bloodstream, causing a fast heart rate (tachycardia) (heart rate too fast), fast breathing (tachypnea) (breathing rate too fast), sweating, tremor, and vasoconstriction (blood vessels narrowing).
3. Hyperventilation and respiratory alkalosis (blowing off too much carbon dioxide) — why: Rapid shallow breathing (hyperventilation) expels too much carbon dioxide, raising blood pH (respiratory too little acid in the blood (alkalosis), blood too basic). This shifts calcium binding and lowers ionized calcium, causing tingling in fingers, lips, and face and lightheadedness.
4. Chest pain and shortness of breath — why: Intercostal muscle tension (muscles between the ribs tightening), hyperventilation, and heightened awareness create chest tightness and a sensation of suffocation, mimicking cardiac starved blood flow (ischemia) (heart not getting enough blood).
5. Catastrophic misinterpretation — why: The patient interprets these sensations—racing heart, chest pain, dizziness—as proof of a heart attack or impending death, which amplifies fear and further activates the amygdala, creating a positive feedback loop (each symptom worsens fear, which worsens symptoms).

6. Peak intensity in 10 minutes, then gradual resolution — why: Catecholamine levels peak quickly but are metabolized (broken down) within 20–30 minutes. As hormones clear and the parasympathetic nervous system (rest-and-digest branch) reactivates, heart rate and breathing slow, and symptoms resolve, leaving the patient exhausted but physically unharmed.
7. Anticipatory anxiety and avoidance — why: After one or more attacks, the patient develops constant worry about the next attack and begins avoiding places or situations where escape feels hard (crowds, driving, public transit). This avoidance reinforces the fear and prevents the patient from learning that the sensations are not dangerous, perpetuating the disorder.

Spot it — what you see, and why

- Palpitations or pounding heart: Your body dumps epinephrine (the main stress hormone, also called adrenaline) into your blood. Epinephrine tells your heart to beat faster and squeeze harder. You feel your heart race or pound in your chest, even though nothing is actually wrong with your heart.
- Sweating: Your sympathetic nervous system (the body's fight-or-flight alarm) switches on. It tells your sweat glands to make watery sweat, as if you are about to run or fight. But you are not actually moving, so you just feel sweaty and clammy.
- Trembling or shaking: Epinephrine tells your muscles to tense up and get ready to move. This tension makes your hands, legs, or whole body shake. Your muscles are prepared for danger, even though there is no real danger.
- Shortness of breath or feeling smothered: You breathe too fast and too shallow (called hyperventilation). The muscles between your ribs also tighten. Together these make you feel like you cannot get enough air, even though your blood oxygen is normal or even high.
- Chest pain or discomfort: The muscles between your ribs (intercostal muscles) tighten. Fast breathing and paying very close attention to your body make your chest feel tight or sharp. It can feel like a heart attack, but your heart is not damaged.
- Nausea or stomach pain: Your body sends blood away from your stomach and intestines to your muscles. Your digestion slows down or stops. This causes nausea, cramping, or the urge to throw up or have a bowel movement.

Red flags — act now

- Chest pain with abnormal ECG (heart tracing), high troponin (a blood test that shows heart muscle damage), or risk factors for a real heart attack (such as diabetes, high blood pressure, smoking, or family history)

- Sudden shortness of breath with low oxygen (hypoxia), unequal breath sounds on exam, or risk for a blood clot in the lung (pulmonary a traveling clot lodging in a vessel (embolism), especially after surgery, long flight, or leg swelling)
- First panic attack ever in someone over 45 with no history of anxiety—must first rule out heart disease, thyroid problems, or medication or drug causes
- Thoughts of suicide or a plan to hurt yourself, especially if panic disorder happens together with major depression or alcohol or drug use
- Cannot leave home, lost job, or life is severely limited by fear of having another attack (called agoraphobia)—needs urgent referral to a psychiatrist or therapist

Treat it — in this order

1. Controlled breathing technique: slow to 6 breaths per minute (inhale through nose for 4 seconds, exhale through mouth for 6 seconds) during acute attack → Reduces hyperventilation, which raises carbon dioxide back toward normal and reverses respiratory alkalosis (blowing off too much carbon dioxide) (blood pH too high from low carbon dioxide). This stops dizziness and tingling. Activates the parasympathetic nervous system (the body's calming brake), which lowers heart rate and tells the amygdala (the brain's alarm center) that no real danger exists.
2. Selective serotonin reuptake inhibitor (SSRI) such as sertraline 25 to 50 mg daily, paroxetine 10 to 20 mg daily, or escitalopram 5 to 10 mg daily, started low and increased gradually over 2 to 4 weeks → Increases serotonin (a brain messenger chemical that regulates mood and anxiety) in the prefrontal cortex and quiets the amygdala over 4 to 6 weeks. This corrects the brain-chemistry imbalance that allows spontaneous panic attacks to happen. The American Psychiatric Association lists SSRIs as first-line medication for panic disorder (APA Practice Guideline for Panic Disorder, 2009).
3. Cognitive-behavioral therapy (CBT) with interoceptive exposure: patient deliberately triggers panic sensations (rapid breathing, spinning to create dizziness) in a safe setting, then practices staying calm and reinterpreting the sensations as harmless → Teaches the patient to reinterpret body sensations (racing heart, fast breathing) as not dangerous. Repeated exposure without running away extinguishes (erases through learning) the fear response. The amygdala learns that these body sensations do not predict death or disaster. The American Psychiatric Association lists CBT with exposure as first-line talk therapy for panic disorder (APA Practice Guideline for Panic Disorder, 2009).
4. Benzodiazepine such as lorazepam 0.5 to 1 mg or alprazolam 0.25 to 0.5 mg as needed for severe attacks, or short-term bridge (1 to 4 weeks) while waiting for SSRI to start working → Enhances GABA (gamma-aminobutyric acid, the brain's main calming chemical) activity, which rapidly reduces central nervous system arousal and stops the panic attack within 20 to 30 minutes. Provides immediate relief when distress is unbearable.

5. Psychoeducation: explain to patient that panic attacks are not dangerous, cannot cause heart attack or death, and will always pass within 20 to 30 minutes → Reduces catastrophic misinterpretation of body sensations (thinking 'I am dying' when heart races). When the patient understands the physiology (how the sympathetic nervous system works and why the body triggers fight-or-flight), fear of the next attack decreases. This breaks the fear-of-fear cycle that perpetuates panic disorder.

Your top priorities at the bedside

1. Place patient on continuous pulse oximetry (oxygen level monitor) and cardiac monitor, obtain 12-lead ECG within 10 minutes of arrival, and notify provider immediately if chest pain is present. — why: Chest pain is the most common symptom shared by both panic attack and heart attack (myocardial tissue death from blocked blood flow (infarction)), so life-threatening cardiac causes must be ruled out first before diagnosing panic disorder.
2. Assess oxygen saturation and apply 2 to 4 liters of oxygen by nasal cannula if SpO₂ (oxygen level) is below 94 percent. — why: Hyperventilation (rapid breathing) during panic causes the patient to feel short of breath, but true low oxygen (hypoxia) (low oxygen) signals pulmonary embolism (a clot lodging in a lung artery), pneumothorax (collapsed lung), or heart failure instead of panic.
3. Move patient to a quiet, low-stimulation room with dimmed lights and minimal staff traffic. — why: The amygdala (fear center in the brain) is overactive during panic attacks, and reducing sensory input helps calm the sympathetic nervous system (fight-or-flight response) that drives the racing heart and sweating.