

PTSD and Trauma Symptoms

PTSD locks fear memories in the present so the brain's alarm center (amygdala) keeps firing even when the danger is long gone.

THE ONE-LINE TRUTH

Trauma-focused CBT, EMDR, and prolonged exposure are the first-line treatments that work best.

The chain — how it unfolds

1. Trauma overwhelms the brain's fear system. — why: The amygdala (alarm center) fires so intensely during the trauma that the hippocampus (memory librarian) cannot process the event normally—it gets stored as fragments (sights, sounds, smells, body sensations) without a clear time stamp or narrative.
2. The hippocampus shrinks under chronic stress hormones. — why: Cortisol (the body's main stress hormone) floods the brain during and after trauma; high cortisol damages hippocampus cells, so it loses the ability to file memories as 'past'—they intrude as vivid, present-tense flashbacks.
3. The prefrontal cortex weakens and loses control over the amygdala. — why: Chronic stress and high cortisol also weaken the prefrontal cortex (the calm-down center at the front of the brain), so it cannot send the 'all clear' signal to the amygdala—the alarm keeps ringing even when the person is safe.
4. Intrusions, nightmares, and flashbacks crash in without warning. — why: Because the hippocampus cannot label the memory as 'over,' the amygdala treats any reminder—a sound, a smell, a place—as if the trauma is happening right now, flooding the body with adrenaline and norepinephrine (the wake-up and panic chemicals).
5. Avoidance becomes the main coping strategy. — why: The brain learns that facing reminders triggers unbearable panic, so it pushes the person to avoid anything connected to the trauma—but avoidance prevents the brain from learning the danger is over, so the fear grows stronger.
6. Negative thoughts and mood changes take hold. — why: Avoidance and numbing cut the person off from positive experiences and relationships; low serotonin (the mood-steadying chemical) and high cortisol drive guilt, shame, hopelessness, and emotional flatness.

7. The body stays locked in red-alert mode (hyperarousal). — why: The sympathetic nervous system (fight-or-flight system) never gets the signal to stand down, so norepinephrine stays high—muscles stay tense, sleep is broken, startle reflex is hair-trigger, and the person scans constantly for danger (hypervigilance).
8. Every symptom is the brain trying to survive a danger that is over. — why: Intrusions, avoidance, dark thoughts, and hyperarousal are not random—they are the brain and body working perfectly to protect against a threat that is no longer there. The system is not broken; it is stuck in the past, and therapy helps it catch up to the present.

Spot it — what you see, and why

- Flashbacks or intrusive memories: The amygdala (the brain's alarm center) stays hyper-alert after trauma and keeps replaying the danger signal even when the event is over, so the memory bursts in unwanted—like the alarm keeps ringing even though the fire is out.
- Nightmares or sleep problems: High cortisol (the body's main stress hormone) and an overactive amygdala disrupt normal sleep cycles and trigger scary dreams, because the brain is stuck in threat mode and cannot fully relax at night.
- Avoiding people, places, or things that remind you of the trauma: The brain tries to protect you by steering clear of anything that could re-trigger the fear alarm, so you skip places or conversations that feel connected to the bad event—like ducking away from a hot stove after you got burned.
- Feeling numb, detached, or unable to enjoy things: The prefrontal cortex (the front part of the brain that manages feelings) gets overwhelmed and turns down emotional volume to stop the flood; serotonin (a brain messenger that steadies mood) also drops, so you feel flat or disconnected from people and hobbies you used to love.
- Being jumpy, easily startled, or always on edge: The amygdala stays in high-alert mode and the body pumps extra adrenaline and cortisol, so your nervous system reacts to small sounds or movements as if they were real danger—like a smoke detector that goes off every time you toast bread.
- Anger outbursts or irritability: Chronic stress keeps cortisol and norepinephrine (a brain signal for fight-or-flight) high, and the prefrontal cortex that normally pumps the brakes on big feelings is weakened, so frustration boils over fast.

Red flags — act now

- Thoughts of suicide or plans to hurt yourself
- Severe dissociation (feeling completely disconnected from your body or reality)
- Psychotic symptoms like hearing voices or seeing things that are not there
- Inability to care for yourself (not eating, bathing, or getting out of bed)

- Violent behavior toward others

Treat it — in this order

1. Trauma-focused cognitive behavioral therapy (TF-CBT) or Eye Movement Desensitization and Reprocessing (EMDR) → Rewires the broken fear memory by helping the person process the trauma safely, bit by bit, instead of avoiding it. This lets the prefrontal cortex (the brain's thinking and braking center) talk to the amygdala (the alarm center) again and finally mark the trauma as 'done and over.'
2. SSRI antidepressant — sertraline or paroxetine (FDA-approved for PTSD) → Boosts serotonin (a brain messenger that steadies mood and puts the brakes on fear) so the prefrontal cortex gets stronger chemical fuel to calm down the amygdala's alarm. Makes therapy stick better and lowers intrusions and hyperarousal.
3. Prazosin (an alpha-blocker) for nightmares → Blocks norepinephrine (adrenaline's cousin) at night so the body stops jolting awake in fight-or-flight mode. Better sleep means the brain can heal and file memories during rest.
4. Safety, housing stability, and regular therapy access → A safe bed, a steady place to live, and scheduled therapy appointments tell the nervous system that the danger is actually over. The body can only learn that lesson if it feels safe enough to listen and the brain can predict that help is coming.
5. Avoid benzodiazepines (like lorazepam or clonazepam) for PTSD → Benzos boost GABA (the brain's main calming signal) and numb fear fast, but they stop the brain from processing the trauma memory. They also raise the risk of dependence, overdose when mixed with alcohol or opioids, and make PTSD worse over time.

Your top priorities at the bedside

1. Complete suicide risk assessment using a validated tool like the Columbia Suicide Severity Rating Scale and create a written safety plan with the patient — why: The amygdala (fear center) and prefrontal cortex (decision-making area) are dysregulated in PTSD, increasing impulsive self-harm risk. PTSD patients have 4 to 6 times higher suicide attempt rates than the general population.
2. Establish a calm, predictable environment with controlled lighting, minimal noise, and clear explanations before any physical touch or procedures — why: The hyperarousal state in PTSD keeps the sympathetic nervous system (fight-or-flight response) chronically activated. Sudden movements, loud noises, or unexpected touch can trigger the amygdala to respond as if the trauma is happening again, causing flashbacks or panic.

3. Screen for traumatic brain injury history, especially in patients with combat or assault trauma, using questions about loss of consciousness or confusion after head impact — why: TBI (traumatic brain injury) and PTSD share overlapping symptoms like irritability, sleep problems, and concentration difficulties but need different treatments. The hippocampus (memory center) may be damaged by both physical injury and chronic cortisol (stress hormone) exposure.