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Is Tramadol Safe? What the Latest Evidence Says

Analysis by Dr. Joseph Mercola | February 18, 2026

STORY AT-A-GLANCE

- Tramadol is widely prescribed for chronic pain because it's perceived as "safer" than other opioids but more effective than other over-the-counter pain relievers, yet newer evidence challenges both its effectiveness and long-term safety
- A 2025 BMJ Evidence-Based Medicine analysis found tramadol reduced pain by less than one point on a 10-point scale, a change unlikely to meaningfully improve daily function
- The same analysis linked tramadol to more than double the risk of serious adverse events, including cardiovascular complications, while also causing frequent side effects that disrupt normal activity
- Beyond health risks, opioid medications like tramadol impair driving ability and have been increasingly detected in fatal car crashes, contributing to roadway deaths even when taken as prescribed
- Safer pain management focuses on nondrug strategies such as acupuncture, physical therapy, massage, targeted nutrition, and stress reduction, which address pain drivers without exposing you to opioid-related harm

Tramadol, a synthetic opioid, is one of the most widely prescribed pain medications in the U.S., with more than 30 million prescriptions written each year. It's often considered "safer" than stronger opioids like oxycodone or morphine, yet more effective than over-the-counter options such as Tylenol or ibuprofen. That "middle ground" reputation has made it a routine part of care for people with chronic pain.[1]

For years, tramadol has been handed out in emergency rooms, pain clinics, and primary care offices with relatively little hesitation. But that long-standing trust is starting to shift. An analysis conducted by a research team in Denmark has called its safety and effectiveness into question, raising concerns about how well it really works and at what cost.[2] If you're currently using tramadol, or it's been recommended to you, it's worth examining the evidence more closely.

What Is Tramadol and How Does It Work?

Tramadol was first developed in the early 1960s in Germany and later approved for use in the United States in the mid-1990s. It entered the U.S. market as a non-scheduled medication, meaning it was not initially classified as a controlled substance. This designation reflected the belief that tramadol carried a lower risk of misuse compared to other opioids.[3,4,5]

- **Reclassified after rising reports of misuse —** In 2014, after growing reports of abuse and dependency, the U.S. Drug Enforcement Administration reclassified it as a Schedule IV controlled substance, a category that recognizes medical use but acknowledges risk of abuse and dependence and imposes prescribing and refill restrictions. However, by that point, tramadol was already widely embedded in pain management.

- **Unlike traditional opioids, tramadol works through a dual mechanism —** It binds to the same opioid receptors in the brain as drugs like morphine or oxycodone, which helps dull the sensation of pain. But it also inhibits the reuptake of two neurotransmitters — serotonin and norepinephrine — which are involved in mood regulation and the body's natural pain control pathways.

  Think of neurotransmitters as chemical messengers that travel between nerve cells. Normally, after delivering their message, they're recycled back into the sending cell — that's "reuptake." Tramadol blocks this recycling process for serotonin and norepinephrine, leaving more of these mood- and pain-regulating chemicals active in your nervous system.

This second mechanism is similar to how some antidepressants work, which is why tramadol is sometimes referred to as an SNRI-like opioid. That dual action is part of what sets it apart early on and led to the perception that it was both effective and less likely to lead to addiction, respiratory depression, or overdose.

- **Tramadol is prescribed for a wide range of pain conditions —** It's often used for moderate to moderately severe pain, either alone or in combination with other nonsteroidal anti-inflammatory drugs (NSAIDs). It has been commonly prescribed for chronic conditions such as osteoarthritis, fibromyalgia, chronic low back pain, and even for premature ejaculation.

- **Some people misuse tramadol for its opioid effects —** Although it is classified as a Schedule IV drug with lower misuse potential, its label still warns of risks involving misuse and addiction. Its effects may include euphoria and feelings of relaxation, often referred to as a "tramadol high."

  According to the 2022 National Survey on Drug Use and Health, roughly 14.6 million people aged 12 and older used tramadol in the past year, and about 9.4% of them reported using it in ways not directed by a clinician. In that same age group, an estimated 6.1 million individuals were living with an opioid use disorder during the past year.[6]

While tramadol is less potent than many opioids, that does not make it inherently safer. Lower potency refers to the drug's ability to produce analgesia at a given dose, not to the likelihood of side effects, complications, or dependency. Newer evidence shows that even at these lower potency levels, tramadol can still carry meaningful risks.

What Did the New Evidence Find About Tramadol's Benefits vs. Harms?

A 2025 systematic review and meta-analysis published in BMJ Evidence-Based Medicine evaluated the effectiveness and safety of tramadol for chronic pain by analyzing 19 randomized placebo-controlled clinical trials conducted between 1998 and 2024, involving 6,506 adults with a range of chronic pain conditions.[7]

- **Tramadol produced only a slight reduction in pain intensity —** Across the included studies, tramadol lowered pain scores by an average of 0.93 points on a 10-point scale compared with placebo. Although statistically significant, this fell short of the researchers' predefined minimal important difference of 1 point. This means the average change was unlikely to be noticeable or meaningful for most patients.

- **Even this modest benefit was based on low-certainty evidence —** The researchers described tramadol's effect as "slight," and nearly all trials were judged to be at high risk of bias. Design flaws and inconsistencies raised the possibility that benefits were overstated or harms underreported, further weakening confidence in the findings.

- **Trials showed no meaningful improvement in daily function or quality of life —** Chronic pain treatment aims to improve how you function day to day, including mobility, energy, and overall quality of life. In this analysis, the available trial data were insufficient to demonstrate functional or quality-of-life improvements in people taking tramadol, limiting the clinical relevance of its small reduction in pain scores.

- **Serious adverse events were significantly more common with tramadol —** The analysis showed that people taking tramadol were more than twice as likely to experience a serious adverse event compared with those receiving a placebo, with cardiovascular outcomes such as chest pain, coronary artery disease, and congestive heart failure accounting for most of the increased risk.

- **Non-serious side effects were frequent and disruptive —** Nausea, dizziness, constipation, and drowsiness occurred more often with tramadol. Although labeled "non-serious," these effects commonly interfere with normal functioning and may

require additional treatment.

- **Researchers noted a higher risk of neoplasms —** Neoplasms are abnormal cell growths that may be benign or cancerous. However, because the trials were short in duration, this finding was flagged as uncertain. Longer studies would be needed to determine whether tramadol contributes to cancer risk over time.

Overall, the study concluded that tramadol's benefits for chronic pain are minimal, while its risks — both serious and non-serious — are significant enough to outweigh those benefits. The study's authors called for minimizing the use of tramadol and urged clinicians to consider alternative treatments before prescribing it. See the table below for a quick summary of the study's findings:

Evidence Snapshot: Tramadol vs. Placebo

Outcome	Tramadol vs. Placebo	Notes
Pain reduction	Average reduction of 0.93 points on a 10-point scale	Below the 1-point threshold for minimal clinically important difference
Serious adverse events	More than 2x higher with tramadol	Increased risk of cardiac events, including chest pain, heart disease, and heart failure
Common side effects	Higher rates of nausea, dizziness, constipation, and drowsiness	Frequently disruptive to daily functioning; labeled “non-serious” but clinically relevant

Other Tramadol Side Effects to Watch For

Tramadol's side effects go well beyond occasional nausea or stomach upset. Because it affects multiple systems in your body, it can produce a wide range of adverse events that may influence your safety, quality of life, and even long-term health, such as:[8,9,10]

1. **Seizures —** Tramadol is associated with an increased risk of seizures, especially at higher doses or when combined with other medications that lower the seizure threshold (the level of stimulation at which the brain is more likely to trigger a seizure), such as certain antidepressants or antipsychotics. This makes it a higher-risk option for anyone already vulnerable to neurological instability.

2. **Serotonin syndrome —** Because tramadol influences serotonin levels in the brain, it can contribute to serotonin syndrome when taken with other drugs that affect serotonin, such as selective serotonin reuptake inhibitors (SSRIs). Serotonin syndrome is a serious condition marked by agitation, rapid heart rate, sweating, muscle stiffness, tremor, and confusion.

   If left unaddressed, it can lead to high fever, seizures, or loss of consciousness. For this reason, people already taking psychiatric medications need to avoid tramadol.

3. **Respiratory depression —** Opioids like tramadol can slow breathing by acting on the brain's respiratory centers. This effect is more likely when tramadol is taken at higher doses or alongside other central nervous system (CNS) depressants such as benzodiazepines, barbiturates, or alcohol. In severe cases, respiratory depression can be life-threatening and may necessitate emergency care.

4. **Mood, cognitive, and neuropsychiatric effects —** Tramadol's action on central neurotransmitter systems has been associated with a broad range of mental and behavioral changes. Reported effects include emotional blunting, increased anxiety, episodes of euphoria, agitation, restlessness, hallucinations, abnormal dreams, and uncontrolled excitement.

   Cognitive effects such as impaired concentration, memory lapses, and slowed thinking have also been documented, along with more severe psychiatric reactions, including suicidal thoughts or behavior, particularly in people with preexisting

mental health conditions or those taking other psychoactive medications.

5. **Urinary and kidney-related effects —** This may include decreased urine output, painful or difficult urination, blood in the urine, and fluid retention with swelling of the hands, ankles, or feet. These effects are more concerning in people with pre-existing kidney disease.

6. **Dependence and withdrawal —** With ongoing use, your body may adapt to tramadol's presence, leading to physical dependence. If tramadol is reduced abruptly or stopped, withdrawal symptoms can occur, which include anxiety, sweating, tremors, sleep disturbances, irritability, and flu-like sensations.

7. **Overdose —** Tramadol overdose is possible and carries the same fundamental danger seen with other opioids, including slowed or stopped breathing, loss of consciousness, coma, and death. The U.S. age-adjusted death rate involving synthetic opioids like tramadol rose sharply from 0.5 deaths per 100,000 in 2003 to over 22 per 100,000 by 2021.[11]

   Deaths attributed specifically to tramadol poisoning have also been reported in peer-reviewed case series documenting hundreds of fatal tramadol-associated deaths in the medical literature, often involving mixed drug toxicity with other CNS depressants.[12]

For a deeper look at the risks linked to opioid use, including outcomes that extend beyond overdose, read "**Opioid Deaths Continue to Rise Despite Drop in Prescriptions**." For a quick reference, the table below summarizes common tramadol side effects alongside those that carry more serious or life-threatening risks:

Common vs. Serious Tramadol Side Effects

More common side effects	Serious side effects
Headache	Seizures

Common vs. Serious Tramadol Side Effects

More common side effects	Serious side effects
Dry mouth	Serotonin syndrome
Sweating	Respiratory depression
Fatigue	Overdose
Sleep disturbances	Cardiac complications (e.g., chest pain, heart failure)
Mild confusion or disorientation	Severe neuropsychiatric effects (hallucinations, suicidal thoughts)
Urinary retention or difficulty urinating	Acute kidney complications or fluid overload
Emotional changes (irritability, mood shifts)	Physical dependence and severe withdrawal

How Are Opioids Linked to Fatal Car Crashes?

The danger of opioids extends beyond the risk of side effects or overdose. Since these medications slow reaction time, dull alertness, and affect coordination, they make it harder to stay in your lane while driving, respond to traffic changes, or avoid hazards. These effects are present even at therapeutic doses and are especially concerning when they're combined with alcohol or other medications that affect the CNS.

- **Drug involvement in fatal crashes surpasses alcohol in some data sets —** Data compiled by the Governors Highway Safety Association and the Foundation for Advancing Alcohol Responsibility show that in 2015, drugs were involved in 43% of

fatal car crashes, a rate higher than the 37% of fatal crashes involving illegal amounts of alcohol. Prescription painkillers are part of that drug-related share.[13]

- **Opioid-positive drivers in fatal crashes increased sharply over two decades —** Research has documented a sevenfold rise from 1995 to 2015 in the proportion of drivers killed in crashes who tested positive for opioids. Among male drivers killed, the presence of narcotic pain relievers increased from 1% to 5%, and among women from 1% to 7% over the same period.[14]

- **Prescription opioid use is strongly associated with initiating fatal crashes —** A 2019 analysis of more than 18,000 fatal two-vehicle crashes found a significant link between prescription opioid use and crash initiation. The most common driving error was failing to stay in the proper lane. This pattern was consistent across ages and both genders, emphasizing how opioid impairment affects driving performance.[15]

- **Declines in prescribing did not eliminate the risk —** Although opioid prescribing has decreased, dangers behind the wheel remain. Yale researchers found that nonfatal crashes involving prescription opioids declined by nearly half between 2014 and 2018, yet fatal crashes did not drop accordingly. This suggests that when opioids are involved in deadly incidents, impairment may be more severe or compounded by other factors.[16]

For your safety and the safety of others, avoid getting behind the wheel if you're using opioids, especially when starting a new medication, adjusting your dose, or combining it with other substances. Beyond the dangers for people who may need to drive, there are specific demographics that carry greater vulnerability to tramadol's harm and warrant added caution.

Who Faces the Highest Risk from Tramadol?

Safety guidance and clinical warnings show that tramadol poses unacceptable risk for certain groups, even when taken exactly as prescribed. In these situations, the likelihood of serious harm is high enough that tramadol should not be used. These include:[17]

- **People with significant breathing problems —** Tramadol should be avoided in people with severe asthma, chronic obstructive pulmonary disease, sleep apnea, or other conditions that impair breathing. Because tramadol can suppress respiratory drive, baseline breathing vulnerability increases the risk of dangerous oxygen deprivation, particularly during sleep.

- **Children and adolescents in specific settings —** Tramadol is not recommended for children below 12 years of age and should not be taken by anyone under 18 following tonsil or adenoid surgery. Serious breathing problems and deaths have been reported in these groups, leading to explicit safety restrictions in prescribing guidance.

- **Pregnant or breastfeeding individuals —** Use during pregnancy can lead to neonatal opioid withdrawal syndrome, with symptoms such as abnormal crying, tremors, feeding difficulties, and poor weight gain in newborns. During breastfeeding, tramadol use is discouraged because the drug and its active metabolites can pass into breast milk and cause life-threatening effects in infants.

- **People with liver or kidney disease —** Tramadol is processed by the liver and eliminated through the kidneys, and impaired function in either organ can cause the drug to accumulate. This raises the likelihood of adverse reactions even at standard doses.

- **Individuals with a history of seizures or head injury —** Because tramadol lowers seizure threshold, prescribing guidance advises caution or avoidance in people with epilepsy, prior seizures, brain injury, or conditions that increase intracranial pressure. Risk increases further when other neurologically active medications are present.

- **People taking multiple medications that affect the CNS —** Taking tramadol alongside sedatives, tranquilizers, antidepressants, antipsychotics, or other psychoactive drugs increases the risk of dangerous interactions.

- **Individuals with a history of substance use disorder —** Tramadol carries the same misuse and dependence risks as other opioids, and prescribing guidance highlights increased danger in people with prior drug or alcohol misuse. In these cases, exposure can escalate more quickly and be harder to reverse safely.

- **People with certain hormonal or metabolic conditions —** Conditions affecting adrenal function, blood sugar regulation, or electrolyte balance warrant caution, as tramadol has been linked to disruptions in these systems during treatment.

Taken together, these precautions show that tramadol requires individualized assessment rather than routine prescribing. For people who fall into these categories, alternative pain management strategies deserve careful consideration before tramadol enters the picture.

What Are Safer Alternatives for Pain Relief?

Given the limited benefits shown in clinical trials and the breadth of documented risks, nondrug and non-opioid approaches deserve consideration for anyone managing chronic pain, not only those at highest risk from tramadol. In many cases, changes in diet, movement, and targeted therapies can meaningfully reduce pain while avoiding the cumulative risks associated with long-term medication use. Here are some safe and effective options you can consider:

1. **Acupuncture —** This traditional practice involves inserting thin needles into specific points on the body to help regulate pain signals and restore balance in the nervous system. Clinical studies show acupuncture can reduce chronic pain from conditions like back pain, osteoarthritis, and fibromyalgia.[18]

It's also been found to stimulate the release of endorphins and modulate inflammatory pathways. When used consistently, acupuncture may lower the need for medication and improve quality of life.[19]

2. **K-Laser therapy —** This high-intensity infrared laser penetrates deep into soft tissues, helping to reduce inflammation, stimulate blood flow, and accelerate healing. It's commonly used for injuries, joint pain, and nerve-related conditions, and has been shown to help reduce reliance on painkillers when used as part of a broader recovery plan.[20]

3. **Physical therapy and posture correction —** Guided movement programs that include stretching and **strengthening exercises** help improve joint function, reduce inflammation, ease strain on overworked tissues, and support healthier movement patterns. Therapists often use diagnostic techniques to pinpoint imbalances and tailor interventions that support long-term healing.[21]

4. **Massage therapy —** A comprehensive review in Pain Medicine[22] found that massage consistently reduced pain from a range of sources, including musculoskeletal pain, fibromyalgia, and headaches. It performed better than no treatment, and held up well even compared to physical therapy and acupuncture. Massage was also linked to lower anxiety and improved overall well-being, with minimal risk of side effects.

5. **Herbal options —** Many plant-based compounds have demonstrated anti-inflammatory, analgesic, and antioxidant properties. These include:

    - Willow bark
    - Ginger
    - Turmeric (Curcumin)
    - Rose hips
    - Devil's claw

- Boswellia (Frankincense)
- Feverfew
- Ashwagandha
- Black cohosh
- Corydalis
- Rosemary
- Thunder God vine

For a deeper dive into how these herbs work, check out my article "An Herbal Guide to Natural Pain Relief," where I discuss in detail how these herbs can help ease your symptoms.

6. **Nutritional support —** Several key nutrients support musculoskeletal health and the body's anti-inflammatory and pain-modulating systems:
    - **Magnesium —** Helps relax muscles, support nerve function, and reduce pain sensitivity.
    - **Vitamin D —** Plays a role in immune balance and bone health; low levels are linked to heightened pain perception.
    - **Choline —** Supports healthy nerve signaling and neurotransmitter balance. Deficiency may worsen chronic pain symptoms, especially in athletes, vegans, and postmenopausal women.
7. **Stress-reducing practices —** Chronic stress increases pain by activating the sympathetic nervous system and heightening inflammation.[23] Techniques such as mindfulness meditation, breathing exercises, yoga, and tai chi have been shown to ease physical discomfort by calming the nervous system and improving body awareness.

Some approaches focus on helping your body and mind respond more calmly to pain and stress. Biofeedback uses real-time monitoring of signals like heart rate and muscle tension to help you recognize and consciously regulate physical stress responses.[24] Cognitive behavioral therapy (CBT) helps you identify unhelpful thought patterns and replace them with strategies that reduce distress and improve coping.[25]

Emotional freedom techniques (EFT) take a more hands-on approach. The practice involves gently tapping on specific acupuncture meridian points with your fingertips while speaking affirmations. This process helps release emotional tension, calm the nervous system, and restore balance to the body's energy flow.

8. **Daily habits that support pain relief —** Small shifts in how you eat, move, and manage stress help lower inflammation, reduce discomfort, and create routines that support steadier, longer-term improvement. These include:

    - Keeping daily **linoleic acid** (LA) intake under 5 grams. That means avoiding industrial seed oils like soybean, corn, canola, safflower, and sunflower oil, and choosing stable saturated fats such as butter, ghee, tallow, or coconut oil.
    - Avoiding processed foods made with LA-rich oils, restaurant foods cooked in them, as well as nonorganic chicken and pork. These meats tend to be high in LA thanks to the animals being fed LA-rich grain feed.
    - Cutting back on grains and refined sugars to lower inflammation and reduce pain triggers.
    - Adding high-quality omega-3 fats like krill oil or wild-caught fish, like Alaskan salmon, into your diet to support anti-inflammatory processes.
    - Getting daily sun exposure to maintain healthy vitamin D levels and support immune and neurological health. For safe exposure guidance, review my recommendations in this **article**.

Tramadol's risks are often downplayed, but the evidence shows they're real — and for many people, they outweigh the drug's modest benefits. Whether you're managing pain from a chronic condition or recovering from an injury, safer options exist. Staying informed, asking better questions, and making steady changes to how you approach pain can help you avoid unnecessary harm.

Frequently Asked Questions (FAQs) About Tramadol's Safety

Q: Is tramadol safe for chronic pain?

A: Tramadol is often prescribed for chronic pain, but new research found it only provides a slight reduction in pain scores, falling short of what most people would consider meaningful relief. At the same time, the risk of serious side effects was more than twice as high compared to placebo. For many people, the risks may outweigh the modest benefit, especially when used long-term.

Q: Does tramadol increase heart disease risk?

A: Yes. The BMJ Evidence-Based Medicine meta-analysis found that tramadol was linked to a significantly higher rate of serious cardiovascular events, including chest pain, coronary artery disease, and congestive heart failure. These effects were among the most common serious harms reported across the studies.

Q: Can tramadol cause serotonin syndrome if I'm on SSRI?

A: Yes. Tramadol increases serotonin levels in the brain and can trigger serotonin syndrome when combined with other serotonergic drugs, including SSRIs and certain migraine or psychiatric medications. This serious condition involves agitation, muscle stiffness, rapid heartbeat, confusion, and high fever.

Q: Can I drive after taking tramadol?

A: You should avoid driving while taking tramadol, especially during the early stages of treatment or when your dose changes. Like other opioids, tramadol impairs reaction time, coordination, and alertness. Opioid use has been linked to a sharp rise in fatal car crashes, and tramadol is included in that risk category.

Q: Who should avoid tramadol?

A: Tramadol poses elevated risks for people with certain health conditions or medication use. This includes anyone with:

- Breathing problems
- Liver or kidney disease
- A history of seizures or brain injury
- Mental health conditions or substance use disorder
- Pregnancy or breastfeeding
- Current use of other CNS depressants or serotonergic drugs
- Children and adolescents in specific settings

Q: What are common vs. serious tramadol side effects?

A: Common side effects of tramadol include headache, nausea, dry mouth, sweating, dizziness, fatigue, constipation, and mild confusion. More serious reactions may involve seizures, respiratory depression, serotonin syndrome, overdose, hallucinations, suicidal thoughts, cardiac events, kidney dysfunction, and severe withdrawal symptoms.

Q: Is tramadol less addictive than other opioids?

A: Tramadol is often considered lower risk, but that perception is not strongly supported by evidence. It still activates opioid receptors and can lead to dependence, misuse, and withdrawal symptoms. People with a history of addiction or mental health instability are especially vulnerable.

Q: What are safer alternatives to tramadol for long-term pain?

A: Nondrug therapies like acupuncture, K-Laser therapy, physical therapy, and massage have been shown to relieve chronic pain without the risks of opioids. Nutrients such as magnesium, vitamin D, and choline support nerve and muscle function, while herbal remedies help reduce inflammation naturally. Stress-management tools also play a role in reducing pain perception and improving daily function.

Q: Can I stop taking tramadol suddenly, or do I need to taper off?

A: Tramadol should not be stopped abruptly, especially if you've been using it regularly for more than a few weeks. Sudden discontinuation can trigger withdrawal symptoms such as anxiety, sweating, tremors, sleep disturbances, irritability, nausea, and flu-like sensations. To reduce these effects and avoid unnecessary discomfort, clinicians typically recommend gradually tapering the dose under medical supervision.

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