



Opioid Medications & Chronic Pain

PATIENT INFORMATION & EDUCATION GUIDE

Why We Are Having This Conversation

Opioids — also called narcotics — include hydrocodone (Norco), oxycodone (Percocet, OxyContin), morphine, hydromorphone (Dilaudid), fentanyl, methadone, and tramadol. These are legitimate, valuable medications for **short-term severe pain**: after surgery or major injury, and in cancer and end-of-life care.

The evidence for taking them **every day, indefinitely, for chronic pain** is a different question with a different answer. This handout explains what these drugs do to the nervous system over time, and why long-term daily use is not recommended for chronic non-cancer pain.

How Opioids Act on the Nervous System

- **They bind a specific receptor.** Opioids attach to **mu-opioid receptors** on nerve cells in the spinal cord, brainstem, and brain, quieting transmission of the pain signal as it travels toward and within the brain.
- **They do not treat the source of the pain.** An opioid does not repair a disc, shrink a bone spur, restore cartilage, heal a tendon, or decompress a nerve root. The tissue problem generating the signal is unchanged; only the perception of it is altered.
- **The same receptor drives reward.** Mu receptors in the brain's midbrain reward circuit release **dopamine**. This is why opioids produce relief, calm, and sometimes euphoria — and why the brain reorganizes itself around the drug in a way that ibuprofen, gabapentin, or a nerve block never do.

What Repeated Daily Use Does: Neuroadaptation

A nervous system exposed to a drug every day does not stay the same. Three predictable changes occur, and they compound one another:

- **Tolerance.** Receptors are chemically tagged, pulled inside the cell, and become less responsive. The same dose produces less relief. Relief returns only by raising the dose — which restarts the cycle at a higher level of risk.
- **Physical dependence.** Nerve cells counteract the drug by ramping up opposing internal signals, so the nervous system now requires the opioid simply to feel normal. This develops in essentially everyone taking daily opioids beyond a few weeks. It is **not the same as addiction**, but it does mean the medication cannot be stopped abruptly without withdrawal.
- **Opioid-induced hyperalgesia.** With sustained exposure, immune (glial) cells in the spinal cord activate, NMDA receptors are recruited, and the brainstem begins to **amplify** rather than dampen incoming signals. The nervous system becomes more sensitive to pain, not less — pain becomes more widespread, more diffuse, and less clearly tied to the original injury.

The combined result is the pattern seen repeatedly in clinic: **the dose climbs, the pain does not improve, function does not improve, and every risk listed on the reverse of this page rises with each increase.**

Why Acute Pain and Chronic Pain Are Not the Same Problem

- **Acute pain is an alarm.** Tissue is damaged, the alarm sounds, and it switches off as the tissue heals. Muting that alarm briefly with an opioid is reasonable and effective.
- **Chronic pain is a sensitized alarm system.** The signal persists after tissue has healed as far as it will, because the spinal cord and brain have become better at transmitting and amplifying it. The problem now lives in the processing system itself.
- **Opioids make that specific problem worse.** They act on the very system that has become sensitized and, through tolerance and hyperalgesia, sensitize it further. This is why a drug that works well for three days after surgery works against you at three years.

What the Research Actually Shows

- **Head-to-head trial (2018, 12 months).** Patients with chronic back, hip, or knee pain were randomized to opioids versus non-opioid medications. Function was **no better** with opioids, pain intensity was slightly **worse**, and side effects were significantly more common.
- **Pooled analysis of 96 trials, ~26,000 patients.** Average pain improvement versus placebo was **less than one point on a ten-point scale** — below what most patients perceive as meaningful — and no better than anti-inflammatories or certain antidepressants.
- **New-onset back and neck pain (2023).** Opioids were **no better than placebo** at six weeks, and the group given opioids reported **worse pain at one year** along with higher rates of medication misuse.

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Abilene Pain Locations

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Breathing & Overdose

Mu receptors in the brainstem blunt the reflex that makes you breathe when carbon dioxide rises. This risk is **dose-dependent** and climbs sharply at higher daily doses. A large minority of long-term users develop **central sleep apnea** — the brain pauses breathing during sleep — which is often silent.

Combinations multiply this risk. Benzodiazepines (Xanax, Ativan, Valium, Klonopin), sleep medications, muscle relaxants, gabapentin or pregabalin, and alcohol each suppress breathing through separate pathways. Taking an opioid with a benzodiazepine **multiplies the risk of fatal overdose several-fold**, which is why this combination carries an FDA boxed warning.

Hormones

- Opioids suppress the hypothalamic signal that drives the sex hormone axis, lowering **testosterone and estrogen**. This is common with long-term use.
- Consequences: fatigue, low libido, erectile dysfunction, infertility, irregular or absent periods, low mood, muscle loss, and **loss of bone density**.
- A subset develop **low cortisol** (adrenal suppression) — fatigue, low blood pressure, and a poor response to physical stress or illness.

Bones, Balance & Falls

- Sedation and dizziness combined with hormone-driven bone loss **roughly doubles fracture risk** in older adults.
- Risk is **highest in the first two weeks** after starting a new opioid or increasing a dose.
- A hip fracture in an older adult carries substantial one-year mortality — this is not a minor side effect.

Digestive System

- Opioid receptors line the gut wall. Motility slows and **constipation affects the majority** of long-term users.
- Unlike pain relief, constipation **does not fade with time** — the gut never develops tolerance to it.
- It can progress to impaction and bowel obstruction. In some patients, escalating doses produce **paradoxical worsening abdominal pain** (narcotic bowel syndrome).

Dependence, Misuse & Opioid Use Disorder

- **Physical dependence is universal** with daily use — expected, not a character flaw.
- Among patients on long-term opioid therapy, roughly **one in four** misuse the medication at some point, and approximately **8 to 12 percent** develop opioid use disorder — true addiction.
- This is **not predicted by willpower or character**. It is driven by dose, duration of exposure, genetics, personal or family history of substance use, and untreated depression or anxiety. Every patient on long-term opioids carries some measure of this risk.

Overall Survival

Patients treated with long-term opioids for chronic non-cancer pain have a **higher all-cause death rate** than comparable patients treated with non-opioid medications. Critically, the excess deaths are **not only overdoses** — cardiovascular and respiratory deaths are also increased.

If You Are Currently Taking Opioids

Do not stop or reduce them on your own. Abrupt discontinuation after sustained use causes withdrawal and can be genuinely dangerous. Any change in an opioid regimen should be planned, gradual, and supervised. Bring this handout to your next visit and we will discuss your specific situation.

Immune Function

- Immune cells carry opioid receptors. Long-term exposure suppresses **natural killer cell activity** and lymphocyte function.
- Long-term opioid use is associated with a measurably **higher risk of pneumonia** and serious invasive infection.

Brain, Mood & Sleep

- Impaired attention, short-term memory, and reaction time. **Driving is measurably impaired**, especially in the first weeks and after any dose change.
- Risk of **new-onset depression** rises with both dose and duration of use.
- Opioids suppress deep and REM sleep. Poor sleep independently **lowers the pain threshold**, feeding the cycle.

Also Commonly Seen

- Nausea, itching, sweating, ankle swelling, and urinary retention.
- **Dry mouth leading to rapid dental decay.**
- Methadone can prolong the heart's electrical cycle (QT interval) and trigger dangerous rhythms.

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