

FAST FACTS AND CONCEPTS #221
TREATMENT OF PAIN IN PATIENTS TAKING BUPRENORPHINE FOR OPIOID ADDICTION

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Background This *Fast Fact* discusses treating pain in patients using buprenorphine for opioid addiction. Buprenorphine is a mixed opioid agonist/antagonist, available in the United States in the sublingual form as 'Subutex,' and formulated with naloxone as 'Suboxone' (and other brand names). Such use is restricted to qualified physicians, nurse practitioners, and physician assistants who have received training and a waiver to practice medication-assisted opioid addiction therapy. Thousands of clinicians have been approved to use buprenorphine for opioid addiction. Given this, clinicians are likely to encounter patients on buprenorphine therapy for opioid addiction who also require treatment for pain. **Note:** buprenorphine is also approved in the US as an analgesic where it is available as an IV solution and a transdermal system (Butrans). When used for analgesia, only proper DEA registration for a controlled III substance is necessary to prescribe buprenorphine. Currently it is more commonly used in Europe than the US as an analgesic. In this *Fast Fact* 'buprenorphine' refers to all sublingual products.

Pharmacology Buprenorphine binds to mu-opioid receptors tightly but with low intrinsic activity, providing some analgesic effects but effectively preventing other opioids from binding. This 'blocks' the analgesic and euphoric effects of other opioids, leading to its effectiveness in opioid addiction therapy. Buprenorphine's effect at the mu-opioid receptor lasts 24 to 60 hours, and can lengthen even further with increasing doses. The duration of sublingual buprenorphine's analgesic effects is shorter than its occupation of the receptor – between 6 and 12 hours. Naloxone has minimal sublingual bioavailability and is included in Suboxone only to prevent abuse by intravenous injection

Pain Management Strategies There has been concern that the interaction of buprenorphine with opioid receptors can limit other opioids' analgesic effectiveness. While there are no well-powered, controlled trials addressing how to treat pain in patients taking buprenorphine for opioid addiction, the following strategies are derived from expert opinion, animal studies, federal guidelines, case studies, and international experience. Care strategies should be chosen and implemented in close collaboration with the clinician treating the patient's opioid addiction.

- When possible (e.g. scheduled medical intervention or procedure), anticipate pain flares and pain severity.
- For all elective surgical procedures, non-opioid adjuvant analgesics and non-pharmacologic therapies such as nerve blocks should be provided if safe, available and likely to work.
- When mild to moderate acute pain is anticipated for a short period of time (e.g. dental extraction), consider treating the pain with buprenorphine and nonopioid analgesics such as NSAIDs. The total daily dose of buprenorphine can be increased (to a maximum of 32 mg sublingual/day); it should be given in divided doses every 6-8 hours.
- When opioid analgesic therapy is expected to be required for a short period of time for moderate to severe pain, federal guidelines recommend holding the buprenorphine and starting short acting opioid agonists. While the buprenorphine's effects diminish (20-60 hours), the patient should be monitored carefully for the first several days as higher opioid doses may be needed to compete with the presence of buprenorphine on mu-opioid receptors. Before restarting buprenorphine, the patient should be opioid-free for 12-24 hours, otherwise the reinitiation of buprenorphine could precipitate withdrawal. This process should be overseen by an approved buprenorphine provider.
- Another option is to continue buprenorphine and use short-acting opioid agonists at high enough doses to overcome buprenorphine's partial agonism. One retrospective chart review found decreased opioid requirements in patients who were continued on buprenorphine during and after surgery. Opioids that have a higher intrinsic activity at the mu-opioid receptor, including morphine, fentanyl, or hydromorphone, are all options, while opioids with less efficacy such as hydrocodone or codeine should be avoided.
- If a patient is expected to have an ongoing, long-term need for opioid analgesia (e.g. cancer progression), consider replacing buprenorphine with methadone. Then, other as needed 'full' mu-opioid receptor agonists can be added for breakthrough pain without problems related to use of a partial opioid agonist.
- Patients who have life-limiting illnesses that are expected to cause significant pain are not good candidates for ongoing buprenorphine therapy for addiction. A collaborative approach,

including patient preference and discussion with both addiction and pain or palliative care specialists, will best identify a therapeutic plan to achieve adequate pain relief and maintain recovery from addiction.

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