JOURNAL OF PALLIATIVE MEDICINE
Volume 26, Number 1, 2023

DOI: 10.1089/jpm.2022.0399

Palliative Care Specialists Series

Featured Editors: Christopher A. Jones and Arif H. Kamal

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Top Ten Tips Palliative Care Clinicians Should Know About Buprenorphine

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Abstract

Pain management in palliative care (PC) is becoming more complex as patients survive longer with life-limiting illnesses and population-wide trends involving opioid misuse become more common in serious illness. Buprenorphine, a generally safe partial mu-opioid receptor agonist, has been shown to be effective for both pain management and opioid use disorder. It is critical that PC clinicians become comfortable with indications for its use, strategies for initiation while understanding risks and benefits. This article, written by a team of PC and addiction-trained specialists, including physicians, nurse practitioners, social workers, and a pharmacist, offers 10 tips to demystify buprenorphine use in serious illness.

Keywords: addiction; buprenorphine; opioid use disorder; palliative care

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Accepted August 2, 2022.

Introduction

THE MANAGEMENT OF PAIN in patients with serious illness is an integral part of palliative care (PC). Opioids are a cornerstone of therapy but several historical factors have recently led to prescribing concerns. The opioid overdose epidemic continues to kill tens of thousands of Americans, having increased sixfold since 1999.[1] The cancer survivorship cohort is growing nationally with over one third having attendant chronic pain.[2] PC has moved ''upstream'' earlier in disease courses leading to more patient encounters and potentially long-term opioid prescribing.[3]

Long-term opioid therapy is associated with myriad risks, including sleep disordered breathing, tolerance, opioid dependence, dysphoria, allodynia, hyperalgesia, and the development of opioid use disorder (OUD).[4] Opioid tolerance and dependence, physiologic adaptations that occur from chronic opioid use, are a reality of opioid treatment; however, the risk of developing OUD may also be as high as 10% for some patients over 10 years of prescribed opioid therapy for nonmalignant pain.[5] There is substantial evidence that long-term opioid therapy, especially in combination with benzodiazepines, gabapentinoids, and other sedative hypnotics, is associated with increased mortality.[6]

In addition to these potential opioid-related harms, PC clinicians are encountering more people with preexisting OUD.[7,8] A recent systematic review found the prevalence of OUDs among individuals with cancer to be ~8%.[9] These individuals are more likely to develop chronic, life-threatening conditions with a high symptom burden that need palliative support.[10]

It is therefore surprising that as recently as 2015, one study reported that half of ambulatory palliative clinics felt opioid misuse, the use of nonprescribed opioids or use differently than prescribed, was a concern for their practice.[11] This likely reflects low confidence among palliative clinicians in assessing and treating opioid misuse and comorbid chronic pain.[12,13]

Buprenorphine offers a potential way forward. It is a synthetic opioid that provides effective analgesia with a favorable adverse effect profile and has many advantages over full agonist opioids when treating patients with comorbid pain and opioid misuse or OUD. Despite these benefits, buprenorphine is underutilized.[14] This article aims to demystify buprenorphine and empower clinicians to use this medicine to safely and effectively treat both pain and OUD.

Tip 1: Buprenorphine Is an Opioid with Unique Pharmacology and Fewer Adverse Side Effects Compared to Full Agonist Opioids

Buprenorphine is a Schedule III partial opioid agonist initially developed as an analgesic and later as a treatment for OUD.[15,16] Buprenorphine has a high affinity for and slow dissociation from the mu-opioid receptor (MOR).[17] The labeling of buprenorphine as a ''partial'' opioid agonist is based on a comparison of MOR G-protein activation to other potent opioid agonists in *in vitro* studies.[15] This ''partial'' agonism refers only to G-protein activation; it should not be clinically equated to partial analgesia.[18] Buprenorphine is a 6-transmembrane MOR agonist that induces phosphorylation of specific opioid G-protein subunits without significantly recruiting beta-arrestin proteins. The lack of beta-arrestin activity causes less receptor internalization and down-regulation of the MOR. These pharmacodynamics may explain how it provides analgesia with a more favorable opioid adverse effect profile, including less withdrawal, less tolerance, and a ceiling effect on respiratory depression.[19–23]

Buprenorphine has been reported to have full agonism at the opioid receptor-like 1 (ORL-1), but interactions only occur with doses higher than may be achieved clinically.[24] Buprenorphine is a kappa receptor antagonist, which accounts for its antidepressant activity and blunted opioid craving.[15,25–29] Antagonist activity at the kappa and delta-opioid receptors appears to lessen misuse, sedation, and dysphoria.[30] In addition, kappa antagonism may result in improved stability of comorbid mental health conditions such as anxiety and depression.[30,31]

Tip 2: Buprenorphine Can Be an Effective Analgesic and May Be the Preferred Initial Opioid Analgesic in Selected Patient Populations

The Department of Health and Human Services encourages that buprenorphine be considered before scheduled II opioids (e.g., oxycodone, morphine) in the management of chronic pain.[32] Analgesic efficacy is equivalent if not greater than oxycodone, fentanyl, hydromorphone, hydrocodone, and morphine.[33–39] Individuals on high-dose schedule II opioids who are unable to taper due to worsening pain and/or function, sometimes referred to as complex persistent opioid dependence, may benefit from buprenorphine.[40–42] The unique pharmacology of buprenorphine allows analgesia with reduced risk of respiratory depression and misuse liability relative to oxycodone, morphine, and fentanyl and hence is the analgesic of choice for someone with pain and at risk for OUD (Tip 5).[43,44]

Buprenorphine pharmacokinetics are unchanged in older adults.[45] Buprenorphine causes less hypogonadism in men compared with methadone and is less immunosuppressive than fentanyl or morphine.[46,47] Immunosuppression with opioids is becoming an important issue in patients on checkpoint inhibitors for their cancer therapy.[48] Although buprenorphine is associated with prolongation of the QTc interval, it does not interfere with human Ether-à-go-go-Related Gene (hERG) nor L-type calcium channels and has not been associated with Torsades de Pointes. Consequently, it does not require electrocardiogram (EKG) monitoring, unlike methadone, and is safe in heart failure and in individuals with prolonged QTc.[49]

Buprenorphine has antidepressant activity but does not block monoamine reuptake and hence is safe to use in those on antidepressants without a risk for precipitating a serotonin syndrome.[50,51] Buprenorphine pharmacokinetics are unchanged in renal failure and it is a relatively safe opioid to use in hepatic failure.[18,28,52] Buprenorphine has a long-acting sublingual (SL) or buccal formulation making it a favorable choice when patients cannot swallow.[18]

Tip 3: Multiple Buprenorphine Formulations Are Available for the Treatment of Pain and/or OUD; Product Selection Is Determined by Several Factors Including Opioid Tolerance, Clinical Indication, Patient Preference, Insurance Factors, and Exposure to a Full Agonist

Buprenorphine is available in multiple formulations and is FDA approved for either chronic pain or OUD.[20] Table 1

Table 1. Buprenorphine Formulations

Name	*Route*	*Dose range*	*FDA indication*	*Off label indication*	*Considerations*
Low-dose buprenorphine products[a]					
Butrans®	TD patch	Dose range 5–20 μg/hour every seven days	Chronic pain	Low-dose initiation for treatment of OUD	Low to moderate doses can be initiated in persons who are opioid naïve
Belbuca®	Transmucosal film	Dose range 75–900 μg every 12 hours	Chronic pain	Low-dose initiation for treatment of OUD	Low to moderate doses can be initiated in persons who are opioid naive
Buprenex®	IV or intramuscular	300 μg IM/IV q6–eight hours PRN	Acute moderate—severe pain	Low-dose initiation for treatment of OUD	Can be used in opioid tolerant or naive persons
Moderate-high-dose buprenorphine products[b]					
Suboxone® Zubsolv®	SL transmucosal	Available products from 2 mg buprenorphine /0.5 naloxone to 12 mg buprenorphine/3 mg naloxone	OUD	Chronic pain	Buprenorphine dose for OUD is typically 12–24 mg/daily For pain give in split doses (every 6, 8 or 12 hours)
Subutex®	SL transmucosal	Buprenorphine 2–8 mg	OUD	Chronic pain	Dose for OUD is typically 12–24 mg/daily Limited to use in pregnancy, naloxone allergy, or end-stage liver disease

[a]A diagnosis of pain is required to prescribe low-dose buprenorphine formulations outside of the hospital.
[b]DEA X waiver required for OUD indication.
IV, intravenous; OUD, opioid use disorder; SL, sublingual; TD, transdermal.
Source: Jones,[16] Hickey et al,[20] Degnan and Mousa,[57] Cohen et al,[60] Gudin and Fudin.[61]

provides a comprehensive overview of potency, route, and relevant considerations. Low-dose buprenorphine products in micrograms, including transdermal (Butrans®) or buccal (Belbuca®), are FDA approved for chronic pain but have been described for use during low-dose buprenorphine initiations (see Tip 6).[35,38,53] Moderate to high-dose transmucosal or SL buprenorphine is available as a mono-product (Subutex®) or in combination with naloxone (Suboxone®, Zubsolv®).[20] Naloxone coformulation minimizes the risk for tampering as it becomes active if injected, although no formulation of buprenorphine is resistant to misuse.[54]

Importantly, moderate- to high-dose buprenorphine products can be used off-label for chronic pain in people who are opioid-tolerant.[15,55] These products are typically dosed once daily for OUD treatment, but the total dose can be divided, as frequently as every six hours, to optimize analgesia.[16,56,57] The mono-product buprenorphine (Subutex) for treatment of OUD is limited to use in pregnant individuals, those with a naloxone allergy, or with end-stage liver disease when naloxone may have increased bioavailability; these limitations do not exist when used off label for the treatment of chronic pain.[58] Notably, treating pain with high-dose buprenorphine products off-label, without use of an X-waiver, may be subject to increased scrutiny by insurers, institutions, and pharmacies; therefore, all clinicians are encouraged to obtain an X-waiver (see Tip 4).[31,55,59]

Tip 4: Buprenorphine Is a Highly Effective, First-Line Medical Therapy for Treatment of OUD

Moderate to high-dose buprenorphine is a lifesaving treatment for individuals with OUD.[62] Buprenorphine treats opioid withdrawal, reduces opioid cravings, reduces opioid use, reduces all cause and overdose-related mortality, and promotes patient recovery.[63] Therapeutically dosed buprenorphine is as effective as methadone for these outcomes.[64] Its use improves patient retention in OUD treatment compared to placebo.[65] Buprenorphine is associated with a 37% reduction of all-cause mortality after overdose.[66]

Despite these benefits, buprenorphine regulations have frustratingly limited its utilization.[67] These regulations recently became less onerous. In April 2021, the Department of Health and Human Services exempted eligible physicians and advanced practice providers from training requirements to obtain the X-waiver license to treat up to 30 patients with buprenorphine for OUD.[68] The X-waiver application now takes approximately five minutes and waivers are typically granted in one to two weeks. Training is encouraged but no longer mandatory except in certain states.[69]

Buprenorphine initiation can be safely done in the office or at home with appropriate patient education and telephone support.[68] Home-based buprenorphine initiations are

increasingly common given logistical challenges in the office setting and patient-preference. In some states, buprenorphine treatment can now be offered by telehealth given regulatory changes related to COVID-19.[69,70] Buprenorphine treatment in combination with counseling can be more effective for some patients; however, buprenorphine should not be withheld from patients who do not wish to engage in counseling unless required by state regulations.[71]

Tip 5: Buprenorphine Has Less Risk of Opioid Overdose Compared to Full Agonist Opioids and Can Be a Useful Harm Reduction Tool

Several factors make buprenorphine a safer opioid for seriously ill individuals with an OUD. Buprenorphine has a ceiling effect on respiratory depression and its pharmacokinetics are not altered by renal impairment or advanced age.[72] Overdose deaths involving buprenorphine alone are rare and buprenorphine may even reduce the risk of overdose in individuals who continue to use nonprescribed opioids.[73,74] While overdoses with buprenorphine can occur, as with accidental ingestion by children or when combined with respiratory depressants, it remains a useful harm reduction tool and a life-saving intervention for patients with OUD. Overall, buprenorphine use reduces all-cause mortality in individuals who use drugs.[75]

As with any chronic disease treatment, some individuals taking buprenorphine for OUD continue to show signs of active disease. If a patient prescribed buprenorphine continues to use other nonprescribed opioids, providers should consider increasing other supports and buprenorphine treatment doses. In addition, many individuals with OUD use nonopioid substances such as stimulants or anxiolytics. In cases where the use of nonprescribed substances is problematic, buprenorphine should be continued while the clinician uses strategies such as motivational enhancement or referral to peer support groups to develop meaningful, patient-centered therapeutic goals that may or may not include abstinence.[71]

Examples of other substance use goals may include using less often, in a less risky manner (obtaining clean needles or not using alone), or achieving other life goals possibly affected by substance use. These examples are collectively called harm reduction and are an evidence-based strategy to keep people who use drugs alive and as healthy as possible.[76]

Tip 6: There Are Several Methods to Initiate Buprenorphine Therapy, Depending on Clinical Circumstances and Available Formulary

Moderate dose initiation (aka traditional approach)

Traditional initiation requires the patient to stop use of all full opioid agonists (8–12 hours for short-acting, 24 hours for long-acting, and at least 36 hours for methadone) and enter mild to moderate opioid withdrawal (clinical opioid withdrawal scale >8). Once achieved, buprenorphine is administered at 2–4 mg SL increments every one to two hours until withdrawal is relieved (maximum dose of 8 mg on day 1).[77,78] Buprenorphine is then titrated by 2–4 mg SL every two hours as needed to achieve effects for pain or OUD over the next few days (day 2 max 16 mg SL). Further adjustments typically occur after steady state is reached in three to seven days (therapeutic goal in OUD is 16–24 mg SL).

In PC, this initiation method may be most appropriate for patients who are already presenting in a degree of opioid withdrawal.[79] Medications that treat distressing withdrawal symptoms—clonidine for noradrenergic hyperactivity, ibuprofen for muscle cramps, trazodone for insomnia, ondansetron for nausea, and loperamide for loose stools—should be used liberally as needed.

Low-dose initiation (aka Bernese method; microinduction)

For opioid tolerant patients, low-dose buprenorphine initiation involves continuing full agonist opioids while concurrently adding small doses of buprenorphine (typically <2 mg SL) over time with gradual increases in both the dose and frequency of buprenorphine until a threshold therapeutic dose is achieved.[23] This dosing strategy allows the buprenorphine to gradually occupy MORs in a way that minimizes the risk of precipitated withdrawal. The full agonist opioids are continued until a therapeutic dose of buprenorphine is reached, at which time they are stopped or tapered off.[4,80–82]

Low-dose initiation protocols have been described in both inpatient and outpatient settings and typically take place over 3–14 days depending on the setting (faster initiations are possible inpatient), clinical scenario, patient housing stability, and patient comfort with following multistep instructions.[83] Initiation protocols can be slowed or paused at any step if a patient experiences discomfort or lengthened for patients on high doses long-acting full MOR agonists such as methadone. Table 2 describes a variety of published protocols.

There are no published randomized trials to inform guidelines around low-dose initiation to date. Reassuringly, a number of case reports/series convincingly support the safety and tolerability of this approach.[4,84] Care should be taken regarding the speed of buprenorphine titration as well as whether and when to taper full agonist, usually when buprenorphine has reached 8–12 mg with comorbid pain and OUD versus 6 mg SL/day for pain only. When in doubt, reaching out to peers, mentors with experience, or colleagues in pain management or addiction care can be invaluable.

We recommend the low-dose approach for patients maintained on full MOR agonists, patients in the postoperative setting receiving full MOR agonists, patients with use of nonpharmaceutical fentanyl intravenous (IV), and patients who may have experienced or have a significant fear of precipitated withdrawal in the past.

Tip 7: Published Equianalgesic Conversions for Buprenorphine Formulations Are Not Reliable

Buprenorphine's unique pharmacokinetic and pharmacodynamic profile make comparisons to other opioids challenging given variability in published morphine equivalents with conversion factors ranging from 10 to 110. Buprenorphine no longer has a morphine milligram equivalents (MME) factor with the Centers for Disease Control as there is not the same dose-dependent overdose risk as seen with schedule II opioids.[89]

Table 2. Low-Dose Initiation Protocols Using Different Buprenorphine Formulations

Formulation	*TD*[a,85]	*TD*[b,85]	*Buccal film*[c,86]	*SL tab/ film*[d,87]	*SL tab/ film*[e,55]	*IV*[f,88]
Day 1	20 μg/hour TD—first patch	20 μg/hour TD	225 μg PO (75 + 150 μg film) once	0.5 mg SL[g] once	0.5 mg SL BID	0.15 mg IV Q6 hour
Day 2	20 μg/hour TD—second patch	1 mg SL BID	225 μg PO BID	0.5 mg SL BID	1 mg SL BID	0.3 mg IV Q6 hour
Day 3	1 mg SL once	1 mg SL TID	450 μg PO BID	1 mg SL BID	1 mg SL TID	0.6 mg IV Q6 hour
Day 4	1 mg SL BID	2 mg SL TID	2 mg SL BID	2 mg SL BID	2 mg SL TID[g]	4 mg SL Q6 hour
Day 5	2 mg SL BID	4 mg SL TID[g]	4 mg SL BID	3 mg SL BID	4 mg SL TID	8 mg SL BID[g]
Day 6	3 mg SL BID		4 mg SL TID	4 mg SL BID		
Day 7	4 mg SL BID		4 mg SL TID to 8 mg SL BID[g]	12 mg SL[g]		
Day 8	5 mg SL BID					
Day 9	6 mg SL BID					
Day 10	8 mg SL BID[g]					
Cost	$$		$$$	$		$$$$

Full agonist opioids are continued at the current dose until indicated.

[a]Remove TD patches as they expire in seven days and do not replace. TD patches should be written for FDA approved indication of ''pain'' only in the outpatient setting; any opioids can be used to treat withdrawal or OUD inpatient. Protocol in patients on high-dose methadone (80 mg daily).

[b]Remove TD patches as they expire in seven days and do not replace. Protocol in patient with concurrent acute pain. Full agonists were tapered starting on day 5.

[c]Buccal films in the outpatient setting can only be written for ''pain''; inpatient settings can use any opioid to treat OUD or opioid withdrawal.

[d]0.5 mg SL buprenorphine or buprenorphine-naloxone dose is achieved by cutting a 2 mg film into quarters. Protocol in patients with OUD.

[e]0.5 mg SL dose achieved by cutting 2 mg film or tablet into quarters. Protocol in patients with chronic pain, without OUD.

[f]0.15 mg IV is roughly equivalent to 0.5 mg SL. Protocol details a rapid initiation from full agonist in an inpatient setting.

[g]Day on which full agonist was stopped or tapered. In most protocols, buprenorphine dose was further adjusted to symptoms by 4–8 mg SL daily.

BID, twice daily; PO, per oral; TID, three times daily.

The original data used to develop a conversion factor came from a postsurgical pain study comparing intramuscular (IM) morphine to a version of SL buprenorphine no longer commercially available and with pharmacokinetics distinct from presently available options.[90,91] In addition, several studies comparing IV/IM buprenorphine to IM morphine had variable dosing strategies and measured outcomes, adding to the difficulty determining a consistent equianalgesic conversion factor.[92,93]

Other official guidance contradicts published evidence. The manufacturers of two buprenorphine formulations approved for pain, transdermal patch, and buccal film recommend a reduction or complete taper from other opioids when rotating to buprenorphine, which may no longer be necessary given new low-dose initiation strategies (Tip 6).[94] We advise clinicians to follow one of the described low-dose initiation strategies and titrate buprenorphine based on patient-reported withdrawal symptoms, indication (OUD or pain), and general sense of opioid tolerance (e.g., only low-dose products are recommended for opioid naive patients), rather than focusing on anticipated MME.

Multiple buprenorphine formulations are available (Tip 3). Table 3 accounts for their different bioavailabilities and offers approximate equivalencies.

Tip 8: Buprenorphine Therapy Should Be Continued for Acute Pain or in the Perioperative Period

Uncertainty on managing buprenorphine during acute pain episodes exists due to its unique pharmacology as well as mixed historical recommendations based largely on case reports.[95–98] These patients are at increased risk for poor pain control given higher relative opioid need and clinician opiophobia.[20,99] Achieving pain control is paramount due to risks of poorly controlled postoperative pain evolving into chronic pain, as pain is a primary risk factor for relapse in OUD.[100–102]

Table 3. Approximate Equivalencies between Various Buprenorphine Formulations

Formulation	*TD*[a]	*Buccal*	*SL*	*IV*
Bioavailability	~15%	46%–65%	~30%	100%
Equivalency	7.5 μg/hour	225 μg	0.5 mg	150 μg

[a]The TD patch delivers a much higher concentration to the skin to account for reduced bioavailability. Thus, the patch strength represents systemic effect, not merely what is delivered to the skin.

Source: Hickey et al.[20]

Current evidence no longer recommends discontinuing buprenorphine when treating acute pain.[103] Stopping buprenorphine contributes to logistical challenges, potentiating prolonged lengths of stay, while also increasing the risk for patient harm, including precipitated withdrawal, worse pain, and respiratory depression due to overcompensating for opioid debt with a full MOR agonist.[104] In addition, discontinuing buprenorphine is often unnecessary as sufficient MORs are available even at doses of 16 mg SL buprenorphine per day.[105] In summary, full agonist opioids are effective when treating acute pain in patients on buprenorphine for chronic pain or OUD.[106–112]

A consensus guideline by a working group representing pain management, addiction medicine, and pharmacy health services on buprenorphine management during the perioperative period as well as expert reviews on management during acute pain include the following recommendations[18,21,113–115]:

- Utilize multimodal analgesia by maximizing nonopioid adjuvants, including ketamine, and consider regional or neuraxial blocks for moderate-severe pain.
- Continue buprenorphine. If prescribed for OUD, then consider dividing doses and/or increasing dose. For chronic pain, consider temporarily reducing buprenorphine dose, as tolerated, to 12–16 mg SL per day to increase bioavailability of MOR if full opioid agonists are indicated, although this is not required in all patients.
- For uncontrolled pain despite maximizing adjuvant analgesics, use full agonist immediate release opioids with competitive binding at the MOR (hydromorphone, fentanyl) at higher doses as needed.
- Continue buprenorphine on discharge. If prescribing additional full opioid agonists, coordinate plan with outpatient clinician.

Tip 9: All Health Care Workers Should Be Prepared to Actively Dispel Misconceptions and Stigma Related to Buprenorphine Use

The following are evidence-based statements to counteract common misconceptions about buprenorphine.

- Buprenorphine does not replace one ''addiction'' for another.[116] OUD is underscored by the compulsive use of an opioid despite negative consequences on the individual's life. Buprenorphine is medication treatment for OUD that reduces cravings for other opioids, provides stability from the craving-withdrawal cycle, and helps patients reduce the risk of negative consequences of compulsive use.
- Newer low-dose buprenorphine initiation strategies limit the risk of significant withdrawal and pain. Patients who have tried nonprescribed buprenorphine may have experienced severe withdrawal if there was still a full agonist opioid in their system. Newer transition strategies minimize precipitated withdrawal potential (Tip 6).[117] In addition, the naloxone component is inactive except in severe hepatic impairment and does not cause withdrawal when taken as prescribed.
- Buprenorphine can effectively treat pain. Patients may believe that buprenorphine only treats OUD. There is overwhelming evidence supporting its use as an analgesic (Tip 2) in addition to its efficacy treating OUD. Also, buprenorphine does not block analgesic effects of additional full opioid agonists.
- Prescribing buprenorphine for OUD is within the realm of PC specialists. The ''X Waiver'' was created to expand treatment access beyond specialty care. In fact, the intent was to promote treatment by primary care. PC specialists possess skills that significantly overlap with primary addiction medicine and equip clinicians to treat concurrent OUD in patients with serious illness (Tip 10).
- Patients prescribed buprenorphine for OUD may still require additional opioids for pain. Prescribing additional opioids needs to be context specific and with appropriate safeguards. A blanket refusal to prescribe additional opioids risks undertreating pain in this vulnerable population, possibly leading to relapse and/or worse suffering.

Tip 10: Prescribing Buprenorphine to Treat OUD in Individuals with Serious Illness Is Essential to the Practice of PC Because It Addresses Suffering

Suffering, as defined by Eric Cassell, is ''the state of severe distress associated with events that threaten the intactness of the person,'' and ''extends beyond the physical.''[118] The suffering associated with active OUD includes cycles of withdrawal and craving, reduced quality of life, and difficulty maintaining important personal relationships, among other challenges. PC teams are well-suited to address OUD-related suffering and stigma because of our interdisciplinary team approach.[119] Palliative teams may alleviate physical suffering by treating craving, withdrawal, and pain with buprenorphine accompanied by psychosocial support. All members of the team can address the social-emotional, existential, trauma-based suffering that often accompanies addiction.

Indeed, the palliative social worker might address feelings of destabilization after losing employment and/or safe housing, thereby allowing the patient to attend to treatment of withdrawal and cravings. The PC chaplain can be instrumental in providing support for spiritual distress and acceptance of medication treatment that can be traditionally stigmatized by peer support organizations such as alcoholic anonymous.

Conclusion

Buprenorphine is an opioid that provides effective analgesia for patients with pain and serious illness, has a low adverse effect profile, and can be life saving for patients suffering from OUD. It should be an essential treatment for all palliative clinicians to understand and utilize.

Funding Information

No funding was received for this article.

Author Disclosure Statement

No competing financial interests exist.

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