Rapid Induction Therapy for Opioid-Use Disorder Using Buprenorphine Transdermal Patch: A Case Series

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ABSTRACT

Introduction: Opioid dependency is a major epidemiologic problem with profound morbidity and mortality. Despite the availability of effective treatments, there are often overwhelming barriers to those treatments.

Case Presentations: We present a case series involving a novel approach to the induction phase of buprenorphine or buprenorphine-naloxone therapy using transdermal buprenorphine. This approach has been demonstrated in inpatient settings but has not been widely explored in the outpatient setting. We demonstrated that a range of patients, from the highly medically complex to relatively straightforward cases, benefited from this approach.

Discussion: We believe that this approach can be used in a wide range of patients to transition from opioid use to buprenorphine therapy without the patient having to experience withdrawal or wait to start treatment. This should reduce the risk of lack of return for follow-up as well as decrease the dropout rate caused by patients being unable to tolerate withdrawal symptoms.

INTRODUCTION

Opioid dependency is a serious, life-threatening, and costly problem. There are highly effective tools for treating and managing opioid dependency, but there are major barriers to getting patients to a stable regimen of treatment. One of the best approaches for many opioid-dependent individuals is buprenorphine or buprenorphine-naloxone maintenance therapy.[1]

Buprenorphine is a partial agonist with a high affinity at the μ receptor. As such, if a person is currently intoxicated with opioids and ingests buprenorphine, that individual will go into precipitated withdrawal. This is a particularly acute problem in those who are using longer-acting opioids such as methadone.[2] Precipitated withdrawal symptoms are not only uncomfortable but also often scare the patient away from further treatment with buprenorphine-naloxone and eliminate this viable path to a greatly improved life.[3] There is also concern on the part of clinicians that they will have to manage precipitated withdrawal, affecting the likelihood that they will offer buprenorphine to their patients. To avoid this phenomenon, patients must be no longer taking opioids or be in substantial withdrawal before starting buprenorphine therapy.

Often, during the attempt to have the patient enter moderate opioid withdrawal to be induced with buprenorphine-naloxone therapy, the severity of opioid withdrawal symptoms leads to opioid relapse. The relapse event has a high risk of accidental overdose.[4] Paradoxically, the attempt to treat the condition may actually increase the mortality risk. Hence, a more reliable and safe method for induction therapy is needed.

Kornfeld and Reetz[5] published the idea of using a buprenorphine transdermal patch to "induce" patients in the inpatient setting to buprenorphine treatment. There is an additional case report on inpatient induction therapy with transdermal buprenorphine by Raheemullah and Lembke[6] in 2019. We have used variants of these protocols in a number of cases in both the inpatient and outpatient settings.

The following is a summary of 5 of those cases. Our goal in presenting these cases is to encourage the use of this approach. It is our belief that this approach to induction obviates the need to have a patient in withdrawal to start buprenorphine treatment. It also opens the possibility of starting a buprenorphine regimen at the point of intake even if the patient has used opioids in the parking lot on the way into the clinic. This approach will allow a more comfortable transition, will decrease the likelihood of patients avoiding the withdrawal process and not attempt to get on a buprenorphine-naloxone regimen, and will allow us to treat individuals who cannot emotionally or physically tolerate withdrawal. Furthermore, it will allow induction therapy to start immediately after the patient presents to the physician regardless of the patient's withdrawal status.

The goals of the approach are as follows:

- more successful buprenorphine-naloxone induction dosing
- reduced number of failed attempts for induction therapy
- reduced precipitated withdrawal symptoms during induction therapy
- reduced risk of precipitated withdrawal relapse and accidental overdose.

This report is important because it presents this approach to buprenorphine induction therapy in both the inpatient and outpatient settings. Most inductions of buprenorphine treatment are performed in the outpatient setting.

CASE PRESENTATIONS

Case 1

A 63-year-old woman with spinal muscle atrophy was bedbound, had a tracheostomy, and used a percutaneous endoscopic gastrostomy (PEG) tube for feeding. She was dealing with a bedsore and associated osteomyelitis that had not healed because of her lack of mobility. The patient was receiving hydromorphone,

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4 mg every 3 hours, via the PEG tube and fentanyl, 100 µg/d, via a patch to manage her ongoing pain. However, the palliative care team noted that she was overusing her opioids and had at times in the past had multiple practitioners supplying opioids, and the team members realized she had an opioid-use disorder. On a deeper review of the medical record, it was noted in 2003 that the patient had a history of "alcohol abuse" (term used by the patient at the time) resulting in liver damage. Also noteworthy was that in 2003 she was assaulted by her reportedly intoxicated husband while she was wheelchair bound.

The treatment team (palliative care, addiction specialists, and a standing group that reviews cases) convened and then met with the patient to offer a pain management plan that would be safer in opioid exposure and less likely to cause continuing and increasing opioid tolerance. It was clear that she had a substantial opioid-use disorder. Furthermore, in the case of a patient who may ultimately die of respiratory failure, ongoing full-agonist opioids are not an optimal approach. The team implemented the management plan in the hospital (Table 1).

In this case we used a relatively high-dose buprenorphine patch (20 µg), beginning on day 2, because the patient was on a notably high morphine milligram equivalent at the start of the induction phase. The patient's dose of hydromorphone was reduced on day 2 to 4 mg every 4 hours and continuously tapered every day thereafter. Sublingual buprenorphine was added to the regimen on day 4. By day 8, the patient was able to remove the buprenorphine patch and to discontinue hydromorphone therapy. The patient remained stable on a regimen of buprenorphine-naloxone sublingual film and tapered the dose from 16 mg to 12 mg at 6 months after induction.

This patient did remarkably well over the longer term. One of her home care physicians noted:

Table 1. Timeline for case 1

Relevant medical history and interventions
A 63-year-old woman presented with a history of alcohol- and opioid-use disorders and spinal muscle atrophy. She was bedbound with bedsores and associated osteomyelitis; tracheostomy and PEG tube feeding. She had been receiving hydromorphone, 4 mg every 3 h, via PEG tube and transdermal fentanyl, 100 µg/d.

Date	Summaries from initial and follow-up visits	Diagnostic testing	Interventions
3/18/2018	Patient was admitted to the hospital	ALT, 11 U/L; AST, 14 U/L; ALP, 70 U/L	None
3/19/2018	Patient was seen by the addiction medicine group. Patient agreed to start buprenorphine maintenance therapy using buprenorphine transdermal patch	None	None
3/20/2018	None	None	Discontinued use of fentanyl patch; continued IV hydromorphone treatment, 4 mg every 3 h
3/21/2018	Patient reported no nausea and vomiting and was getting tube feedings. Patient asked for more pain medication	None	Started transdermal buprenorphine, 20 µg; decreased hydromorphone dosing frequency to 4 mg every 4 h IV
3/22/2018	Patient requested discharge from hospital and was discharged. Attending physician noted: *"Her pain is surprisingly under control despite being off fentanyl patch and weaned [off] her Dilaudid [hydromorphone]."*	None	Continued buprenorphine 20-µg transdermal; decreased hydromorphone to 4 mg every 5 h IV
3/23/2018	In outpatient setting patient had excessive saliva accumulation with sublingual buprenorphine (Subutex) pills because of underlying swallowing impairment. She was switched to a regimen of buprenorphine-naloxone (Suboxone) sublingual film, 2 mg twice daily.	None	Continued buprenorphine 20-µg transdermal patch. Decreased hydromorphone to 4 mg every 6 h IV; started buprenorphine-naloxone, 2 mg, sublingually twice daily to determine if patient could tolerate sublingual regimen
3/24/2018	None	None	Continued buprenorphine 20-µg transdermal patch. Decreased hydromorphone to 3 mg every 6 h. Once patient tolerated buprenorphine-naloxone sublingually, received 4 mg twice daily
3/25/2018	None	None	Continued buprenorphine 20-µg transdermal patch; decreased hydromorphone to 2 mg every 6 h; once patient tolerated buprenorphine-naloxone sublingually at twice daily, received 4 mg 4 times daily
3/26/2018	None	None	Continued buprenorphine 20-µg transdermal patch; continued sublingual buprenorphine-naloxone, 4 mg 4 times daily; decreased hydromorphone dose to 2 mg every 12 h
3/27/2018	None	None	Once patient tolerated new sublingual buprenorphine regimen, received 4 mg 4 times daily and removed buprenorphine 20-µg transdermal patch. Discontinued use of hydromorphone
September 2018	Patient remained stable on regimen of buprenorphine-naloxone sublingual films	None	Tapered dose of buprenorphine-naloxone sublingual films from 16 mg/d to 12 mg/d

ALP = alkaline phosphatase; ALT = alanine aminotransferase; AST = aspartate aminotransferase; IV = intravenous; PEG = percutaneous endoscopic gastrostomy.

I am pleasantly shocked that she is doing so well. A social worker following her [up] from home health just checked in yesterday and notes a large difference in her well-being on buprenorphine-naloxone. [Another home care physician] was also equally shocked. I am so glad we did this.

Case 2

A 58-year-old married man with a history of alcohol addiction from his 20s to his 50s presented to our addiction medical clinic in 2012. He had an average daily intake of 20 to 23 of the hydrocodone-acetaminophen tablets (10/325 mg), which were prescribed for his foot and leg pain. We had him go through the standard withdrawal and induction protocol for buprenorphine-naloxone. He started at a daily dosage of 8 mg and 2 mg, respectively, but because he was taking carbamazepine (Tegretol) and likely was not getting enough effect from the buprenorphine-naloxone, the buprenorphine-naloxone dose was raised to 16 mg daily. He remained in remarkably stable condition for 5 years.

In late 2017, he fell off a ladder and fractured his foot. His foot required surgical repair with hardware placement, and the surgical team stopped his buprenorphine-naloxone maintenance therapy and went back to full-agonist opioid therapy. Subsequently, his physicians were unable to wean him off the morphine and oxycodone-acetaminophen for more than 6 months. The physicians managing his pain medications asked for our help. At the time the patient was taking 1 oxycodone-acetaminophen tablet (10/325 mg) daily and morphine at a dosage of 15 mg twice a day. He had been attempting to taper off the opioid regimen but was having too much pain and withdrawal.

The patient was given a buprenorphine transdermal patch (10 μg/h) on day 1. The opioid-tapering plan, which was to begin on day 2, is shown in Table 2. However, the patient did not take the full dose of morphine on day 1 as recommended and had uncomfortable withdrawal symptoms. Specifically, the patient reported in a message to the prescriber that he had chills, low energy, and poor appetite. By later that day, however, he had taken 15 mg of morphine and was feeling better.

Ultimately the patient returned to his original buprenorphine-naloxone dosage of 8/2 mg twice daily. After the transition back to buprenorphine-naloxone, the patient reported in a scheduled phone visit that he was having "an amazing day" and later emailed.

Just an update, the [buprenorphine-naloxone] is working great. My pain is less than when I was on the morphine and [oxycodone-acetaminophen]. It's unbelievable. My mood is better, and I can even walk better.

The patient continued to do well on buprenorphine-naloxone maintenance therapy and returned to his baseline in compliance. He continued to have mechanical issues and some pain in his foot but was not using opioids for more than 3 months. At that time, he had to return to the hospital for further surgery and was restarted on an opioid regimen.

Case 3

A 56-year-old man had a long history of opioid dependency. He had been in prison for 20 years and after his release returned to heroin use. He entered a methadone maintenance treatment program and was given up to 30 mg of methadone daily when he decided to try to take buprenorphine-naloxone instead. By that point he had been receiving methadone for 3 weeks. He entered our clinic about 48 hours after his last dose of methadone. On the intervening days he had been using kratom (*Mitragyna speciose*), which has similar effects to opioids.

Table 2. Timeline for case 2

Relevant medical history and interventions
A 58-year-old married man presented with a history of alcohol addiction and with average intake of hydrocodone-acetaminophen prescribed for foot and leg pain. He had previous induction and maintenance of buprenorphine-naloxone for 5 years until he injured his foot and required surgery and opioid analgesia. He was unsuccessful in weaning off morphine and oxycodone because of pain and withdrawal symptoms.

Day	Summaries from initial and follow-up visits	Diagnostic testing	Interventions
3/20/2018	Patient agreed to try using transdermal buprenorphine	None	Started use of buprenorphine 10-μg/h transdermal patch; continued morphine regimen at 15 mg twice daily; continued 1 oxycodone-acetaminophen (10/325 mg) tablet daily
3/21/2018	Patient messaged physician about pain, diarrhea, chills, low energy, and poor appetite	None	Continued transdermal buprenorphine patch; continued morphine, 15 mg twice daily; discontinued oxycodone-acetaminophen
3/22/2018	Patient reported "amazing day"; that morning took 2 mg of sublingual buprenorphine-naloxone (Suboxone) and was able to sleep. Pain was tolerable. He stated: *"Best it's been since September [6 months]."*	None	Continued transdermal buprenorphine patch; continued morphine, 15 mg, but once daily; started sublingual buprenorphine-naloxone, 8/2 mg twice daily
3/23/2018	None	None	Continued transdermal buprenorphine 10 μg/h patch; discontinued morphine; continued sublingual buprenorphine-naloxone, 8/2 mg twice daily
3/24/2018	Patient stated: "*The Suboxone is working great. My pain is less than when I was on morphine and Percocet [oxycodone-acetaminophen]. It's unbelievable. My mood is better, and I can even walk better."*	None	Continued buprenorphine 10-μg/h transdermal patch; continued sublingual buprenorphine-naloxone, 8/2 mg twice daily
3/25/2018	None	None	Discontinued buprenorphine 10-μg/h transdermal patch; continued sublingual buprenorphine-naloxone, 8/2 mg twice daily

On examination, he was in minimal withdrawal, so we believed that a standard sublingual induction dosing might induce precipitated withdrawal. He was given a buprenorphine transdermal patch, 10 µg/h, on day 1. During the next 2 days, he continued to use both kratom and heroin but by day 3 reported that he was not having any feelings of withdrawal. Three days after applying the buprenorphine patch, we added 8 mg of oral buprenorphine-naloxone to the transdermal regimen. He reported stopping use of other opioids, which was confirmed by his urine tests (of note, we cannot test for kratom). On day 4 after starting to apply the patch (day 7 off the methadone regimen), he removed the patch and reported no withdrawal symptoms or cravings from that point. He has successfully been maintained on a sublingual regimen of buprenorphine-naloxone, 8/2 mg daily, with no ongoing issues (Table 3). As of 1 year of treatment, regular urine toxicology results have confirmed no other drug use.

Case 4

A 34-year-old single woman with a history of ankylosing spondylitis diagnosed at age 16 years was referred to the addiction medicine recovery program from our chronic pain

Table 3. Timeline for case 3

Relevant medical history and interventions
A 56-year-old man presented with a long history of opioid dependence. He was in prison for 20 years and on release returned to heroin use. He entered a methadone maintenance program, tapering the dose to 30 mg/d until he decided to try buprenorphine-naloxone.

Date	Summaries from initial and follow-up visits	Diagnostic testing	Interventions
4/24/2018	Patient was in minimal withdrawal	None	On his own, patient had stopped methadone and started taking kratom (*Mitragyna speciose*) to manage symptoms of withdrawal from methadone
4/26/2018	Patient reported some insomnia but no other withdrawal symptoms. Reported that "patch works and was pretty painless"	None	Patient started using buprenorphine 10-µg/h transdermal patch. He continued kratom use until next day
4/29/2018	None	None	Started oral buprenorphine-naloxone, 8/2 mg daily
4/30/2018	None	None	Discontinued buprenorphine transdermal patch

Table 4. Timeline for case 4

Relevant medical history and interventions
A 34-year-old woman presented with a history of ankylosing spondylitis diagnosed at age 16 years. She was referred from chronic pain treatment program. She was prescribed opioids, and her dose had escalated over time to a maximum of fentanyl, 125 µg/d transdermally, and morphine, six 15-mg tablets daily. She was unable to follow tapering plan and was using cannabis. History revealed inhalant abuse starting at age 10, which possibly increased her risk of opioid-use disorder.

Date	Summaries from initial and follow-up visits	Diagnostic testing	Interventions
4/9/19	Addiction medicine recovery program ordered testing on the basis of a conversation with the chronic treatment program	Liver function test results within normal limits; pregnancy test was negative	None
4/10/19	Patient presented to addiction medicine recovery program. Laboratory test results were reviewed. She was cutting fentanyl patches in half to allow daily application; actual dose was 62.5 µg/d	None	Started using transdermal buprenorphine patch, 10 µg/h; continued morphine at 7.5 mg twice daily; left on fentanyl patches (62.5 µg/d)
4/11/19	None	None	Continued transdermal buprenorphine patch, 10 µ; morphine sulfate, 7.5 mg twice daily; fentanyl patch (62.5 µg/d)
4/12/19	Patient reported "pretty fine" mood with no withdrawal symptoms reported or on examination	None	Continued transdermal buprenorphine patch 10 µg, as well as morphine sulfate at 7.5 mg twice daily. Discontinued fentanyl patch
4/13/19	None	None	Continued buprenorphine transdermal patch, 10 µg; discontinued morphine sulfate. Patient took sublingual buprenorphine-naloxone tablet (2/0.5 mg) in office and another 2/0.5-mg tablet later that evening
4/14/19	None	None	Continued buprenorphine transdermal patch, 10 µg, as well as buprenorphine-naloxone sublingual tablet, 2.0 mg - 0.5 mg twice daily
4/15/19	Patient reported "a little bit" of tremors, restlessness, and decreased appetite with some pain of upper aspect of shoulder but milder pain than last time. Anxiety was less than "mild." On examination there were no physical symptoms of opioid withdrawal (no tremors or nystagmus, and pupils measured 3 mm)	None	Continued buprenorphine transdermal patch, 10 µg; removed at bedtime. Continued buprenorphine-naloxone sublingual tablet, 2.0 mg - 0.5 mg twice daily
4/16/19	None	None	Increased buprenorphine-naloxone sublingual tablet to 2.0 mg - 0.5 mg twice daily

treatment program. She had been started on opioid treatment after her ankylosing spondylitis diagnosis and had escalated her dose over time to a maximum regimen of fentanyl, 125 μg/d, transdermally and morphine, six 15-mg tablets daily. An attempt to taper her opioid doses was started at the pain treatment program, but the patient was not able to follow the plan. What triggered her referral to the addiction program was a pattern of inconsistent reports of her level of use, behaviors such as changing the fentanyl patches sooner than needed, and the use of cannabis. This pattern, combined with the team uncovering a history of inhalant abuse starting at age 10 years, indicated that she had a possible or likely substance use disorder.

We met with the patient and decided to offer her buprenorphine. During the meeting, the patient gave a more consistent picture of her actual use at the time, which was fentanyl, 62.5 μg (the patient was cutting patches in half to allow daily application) and morphine sulfate, 7.5 mg twice a day. She had, in fact, self-tapered her dose but was also running out of medication because she had not informed her physicians of her actual use pattern.

Even though she had been receiving fentanyl, it was at a lower dose than in the first case in this series, and we believed that 10 μg/h of transdermal buprenorphine would be a sufficient starting dose. We were aware that we might need to increase the dose, but determined did not need to (Table 4).

By day 4 the patient reported that she had some limited body aches but was feeling better than expected. She noted on day 14 that she was "doing great." On each of the subsequent appointments she noted that she was more energetic and could think more clearly than she had in a long time. To date, the patient is doing well in treatment and in her personal and professional life.

Case 5

A 72-year-old man with chronic abdominal pain had previously been in our buprenorphine-naloxone (Suboxone) maintenance program but decided to leave the program. He returned because he felt that he might have better pain relief from buprenorphine-naloxone. We had several discussions with the patient that we did not expect the buprenorphine-naloxone to relieve his abdominal pain unless it was caused by withdrawal. During his time away from our program, the patient was getting an opioid from an Internet supplier. We believe that the name and dose of the opioid was "tapentadol 100 mg." However, given its unregulated path to the patient, it is not clear what he was, in fact, taking. We discussed with the patient that the interaction between an unknown opioid and buprenorphine-naloxone would be hard to predict. It was our suspicion that, if this was actually tapentadol, it would have opioid properties and, when mixed with sublingual buprenorphine-naloxone, could result in precipitated withdrawal. The protocol we used is described in Table 5.

The patient continued to have abdominal discomfort, which was treated with ondansetron. He was able to discontinue his opioid use.

DISCUSSION

The common theme of these cases is that we avoided weaning the patients off their opioids until they were comfortably on a buprenorphine regimen. This could be accomplished by slowly introducing buprenorphine during the course of 24 to 48 hours via a buprenorphine transdermal patch. This approach is not novel, but this is the first known published report in which the technique is proposed as a general method independent of setting and medical complexity. The patch eliminates the risk of precipitated withdrawal because it essentially internally cross-tapers the patient from an opioid to the buprenorphine. Mechanistically this is most likely because of the higher affinity of the buprenorphine and the slow entry into the patient's body. As the buprenorphine diffuses through the skin, subdermal fat, into the bloodstream,

Table 5. Timeline for case 5

Relevant medical history and interventions
A 72-year-old man who presented with chronic abdominal pain, had left a buprenorphine-naloxone (Suboxone) maintenance program in the past. He returned to treatment, thinking he would have better pain relief from buprenorphine-naloxone. The patient was getting opioids from an Internet supplier—"tapentadol 100 mg"—but the treatment team was uncertain if that was the actual medication and dose.

Date	Summaries from initial and follow-up visits	Diagnostic testing	Interventions
6/3/19	Patient had already taken his morning dose of "tapentadol." Before administration of transdermal buprenorphine patch, there were no subjective reports of withdrawal or physical symptoms of withdrawal	None	Started use of buprenorphine transdermal patch, 10 μg/h. At night took dose of "tapentadol"
6/4/19	None	None	Continued transdermal buprenorphine patch, 10 μg/h; reduced "tapentadol" dose by half
6/5/19	Patient noticed that transdermal buprenorphine patch fell off and taped it back on. Patient reported "good" mood and denied any withdrawal symptoms; physical examination findings revealed no physical symptoms of withdrawal	None	Continued buprenorphine transdermal patch, 10 μg/h; discontinued "tapentadol"
6/6/19	None	None	Continued transdermal buprenorphine patch 10 μg/h; started buprenorphine-naloxone, 8/2 mg, sublingually
6/7/19	Patient continued to have abdominal discomfort that was treated with ondansetron (Zofran), but his opioid use stabilized	None	Removed transdermal buprenorphine patch; continued sublingual buprenorphine-naloxone, 8/2 mg daily

into cerebrospinal fluid, and ultimately to the μ receptors, it slowly displaces the other opioids, occupies the receptor, and blocks further access to other opioids. By the time we taper the patient's hydromorphone, hydrocodone, and oxycodone doses, there is a limited number of receptors for the full-agonist agents to bind to.

The lethality of opioid-use disorders need not be stated. Opioid replacement therapies greatly reduce that mortality. However, the first weeks of trying to get on a buprenorphine regimen are notably at-risk times for death.[7]

In the future, the use of transdermal buprenorphine to transition people from full-agonist opioids to buprenorphine or buprenorphine-naloxone may open the door to multiple applications that were previously very challenging or off-limits. The most common use would be in the buprenorphine-naïve, opioid-dependent patient who presents with too high a blood level of opioid to perform an induction at the time of presentation. For many of these patients we postpone the induction phase and hope that they will return in withdrawal so that we can perform an induction. For patients who have received buprenorphine in the past, we sometimes send them home to self-induce when they get into enough withdrawal. This approach often fails because patients are not always a good judge of when to self-induce or they simply change their minds in the face of the early discomfort of withdrawal. The potential exists to simply apply the buprenorphine patch in the office and then follow-up in the next 24 to 48 hours to initiate sublingual treatment with buprenorphine or buprenorphine-naloxone. Even if the patient continues to use opioids on those first and second days, the buprenorphine will gradually enter the body and displace the full agonists. Not only is this potentially more humane, but it also should reduce the lack of return for follow-up, which is a major issue.

Certain groups of patients in particular can benefit from this approach. Patients with chronic pain who experience terrible pain flares when they are no longer taking opioids also do not need to go through withdrawal to transition to buprenorphine treatment. This population is particularly sensitive to withdrawal and rebound hyperalgesia.

Future applications could also include opioid-dependent pregnant women who, to date, have typically been sent to a methadone clinic. Buprenorphine has been shown to be as good or better than methadone for the mother and newborn.[8,9] However, the withdrawal experience in pregnant women is considered a risk for fetal distress. Although we found nothing in the literature about this to date, it is logical that transdermal buprenorphine could be used to transition from full-agonist opioids because this approach does not require a withdrawal phase. This could be a radically improved approach and would limit the risk of the transition of the patient to a methadone clinic. Often methadone is administered at a self-standing outside clinic so there is the risk of patients not presenting for follow-up. Starting buprenorphine in the clinic at the point of diagnosis would clearly improve compliance and reduce barriers to treatment.

CONCLUSION

The use of transdermal buprenorphine is not novel. We present an expanded approach to its use in a wide range of settings and with patients who range in medical complexity. Our cases demonstrate that the approach is generalizable to many different clinical situations. It is our hope that the approach described will lower barriers and increase access to a potentially life-saving and quality-of-life-improving treatment. ❖

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References

1. Volkow ND, Jones EB, Einstein EB, Wargo EM. Prevention and treatment of opioid misuse and addiction: A review. JAMA Psychiatry 2019 Feb 1;76(2):208-16. DOI: https://doi.org/10.1001/jamapsychiatry.2018.3126 PMID:30516809
2. Lintzeris N, Monds LA, Rivas C, et al. Transferring patients from methadone to buprenorphine: The feasibility and evaluation of practice guidelines. J Addict Med 2018 May/Jun;12(3):234-40. DOI: https://doi.org/10.1097/adm.0000000000000396 PMID:29509558
3. Whitley SD, Sohler NL, Kunins HV, et al. Factors associated with complicated buprenorphine inductions. J Subst Abuse Treat 2010 Jul;39(1):51-7. DOI: https://doi.org/10.1016/j.jsat.2010.04.001 PMID:20682186
4. Chang DC, Klimas J, Wood E, Fairbairn N. A case of opioid overdose and subsequent death after medically supervised withdrawal: The problematic role of rapid tapers for opioid use disorder. J Addict Med 2018 Jan/Feb;12(1):80-3. DOI: https://doi.org/10.1097/ADM.0000000000000359 PMID:28930773
5. Kornfeld H, Reetz H. Transdermal buprenorphine, opioid rotation to sublingual buprenorphine, and the avoidance of precipitated withdrawal: A review of the literature and demonstration in three chronic pain patients treated with transdermal buprenorphine. Am J Ther 2015 Jun;22(3):199-205. DOI: https://doi.org/10.1097/MJT.0b013e31828bfb6e PMID:23846520
6. Raheemullah A, Lembke A. Initiating opioid agonist treatment for opioid use disorder in the inpatient setting: A teachable moment. JAMA Intern Med 2019 Mar 1;179(3):427-8. DOI: https://doi.org/10.1001/jamainternmed.2018.6749 PMID:30640372
7. Sordo L, Barrio G, Bravo MJ, et al. Mortality risk during and after opioid substitution treatment: Systematic review and meta-analysis of cohort studies. BMJ 2017 Apr 26;357:j1550. DOI: https://doi.org/10.1136/bmj.j1550 PMID:28446428
8. Debelak K, Morrone WR, O'Grady KE, Jones HE. Buprenorphine + naloxone in the treatment of opioid dependence during pregnancy-initial patient care and outcome data. Am J Addict 2013 May-Jun;22(3):252-4. DOI: https://doi.org/10.1111/j.1521-0391.2012.12005.x PMID:23617867
9. Jones HE, Kraft WK. Analgesia, opioids, and other drug use during pregnancy and neonatal abstinence syndrome. Clin Perinatol 2019 Jun;46(2):349-66. DOI: https://doi.org/10.1016/j.clp.2019.02.013 PMID:31010564