The JOURNAL of the INDIANA DENTAL ASSOCIATION

Journal IDA

VOLUME 102
2023 ISSUE 3
WWW.INDENTAL.ORG

Opioid Abuse and Prevention 2023

2 HOURS OF OPIOID CE

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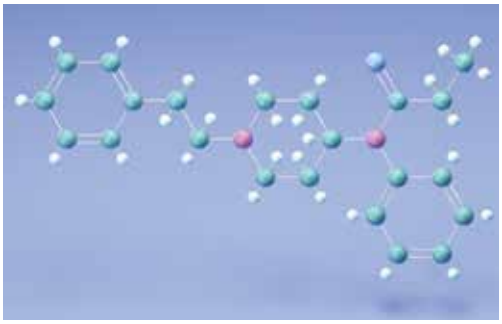

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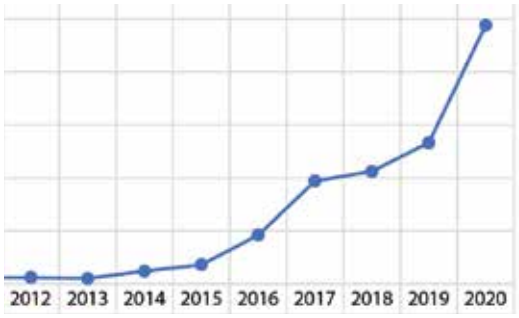

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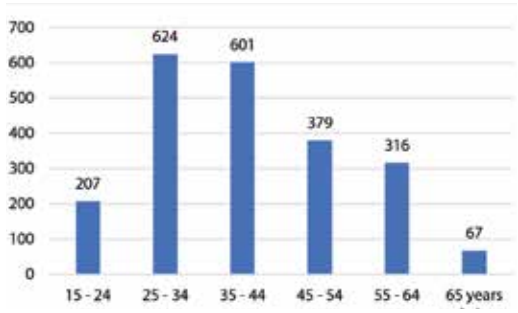

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The MATE Act and Required Opioid CE: What You Need to Know

IF YOU'RE reading this IDA Opioid CE Journal, it's likely that you're doing so at least in part because you have a DEA Registration and an Indiana Controlled Substance Registration. In December 2022, language in the Omnibus Bill stipulated that any medical practitioner with a DEA Registration must complete eight hours of training in opioid abuse and prevention before their next renewal. The requirement went into effect June 27, 2023. Below are some FAQs about the requirement and how it affects you as a dental professional.

When do I have to complete the eight hours of CE?

You must have completed the eight hours at your next DEA Registration renewal. This rule went into effect for all renewals taking place after June 27, 2023.

Is this a separate requirement from my Indiana CSR?

Yes, both state and federal requirements need to be fulfilled. Indiana requires dentists who hold a CSR to complete two hours of opioid abuse and prevention CE each licensure cycle. This requirement has been in effect since the 2018-2020 licensure cycle. The next Indiana dental license renewal date is March 1, 2024.

Can I use part of the eight hours of CE to also fulfill my Indiana requirement?

Yes. You can use part of these eight hours to fulfill your Indiana CSR renewal by March 1, 2024.

Do my Indiana CSR and DEA Registration renew at the same time?

No. All Indiana CSRs renew every March 1 on even numbered years. The next deadline for renewing is March 1, 2024. DEA Registrations renew every three years and are on a rolling basis, depending on when you received your registration initially.

Can I use previous opioid CE to fulfill the MATE Act requirements?

Yes. Past trainings can count towards a practitioner's eight-hour requirement, provided that eligible training was from one of the designated training organizations prior to the enactment of this new requirement on December 29, 2022. A certificate of completion is required as proof. There is no limit to how far back you can use these past training to satisfy the requirement, with the exception of relevant training in dental school. **Dental school training may only be used by those who are less than five years out of dental school.**

Will I have to complete the eight hours of opioid CE each time I renew my CSR?

No. The DEA has stated that this is a one-time requirement.

Can I use dental school coursework fulfill the MATE Act requirements?

If you graduated from dental school less than five years ago, relevant opioid dental school coursework will count toward the federally required opioid.

Does the MATE Act and required training apply to me if I don't have a DEA Registration or Indiana CSR?

No.

How can I check on my past opioid CE through the IDA?

Below are instructions for obtaining proof of past opioid CE.

On-demand webinars and live classes: If you participated in our on-demand opioid webinars or live classes at a past Midwest Dental Assembly, you should have received email confirmation of your participation. If you cannot find this confirmation, email Heather Smith at heather@indental.org.

Self-Study publications 2019 and 2021 with paper quiz: If you read the 2019 and 2021 opioid publications and opted to complete a paper quiz, email Keely Jones at keely@indental.org.

Self-Study publications 2019 and 2021 with online quiz: If you read the 2019 and 2021 opioid publications and took the online quiz, you can access a copy of your certificate by logging in to our website:

- Visit our website, www.indental.org.
- Click the LOGIN link on the top right of the website.
- After logging in, you will be directed to the WELCOME page.
- Click the My Certificates link. Any online classes you have taken through our website will appear there. You can download the certificates to your computer or phone and print them if you wish.
- If you have questions, email Kathy Walden at kathy@indental.org.

How to Receive Credit for this CE Issue

Thank you for taking the time to read this IDA self-study CE publication in opioid abuse and prevention. Any Indiana dentist who holds or applies for an Indiana CSR must obtain two hours of opioid abuse CE by the next license renewal date of **March 1, 2024**, and this can also be used to fulfill your required eight hours of opioid CE for your next DEA Registration renewal.

Once you have finished reviewing this publication, you will be ready to take the online quiz and receive two hours of CE credit. The cost of the quiz and certificate of completion is **$30 for member dentists** and **$200 for non-members**. To access the online quiz, visit our website:

www.indental.org/opioids

If you prefer a paper or PDF version of the quiz, email keely@indental.org. Regardless of how you choose to take the quiz, upon completion with a score of 80 percent or higher, you will receive a certificate from IDA. You may re-take the quiz up to two times if you are not satisfied with your score.

Use of this publication for CE purposes expires on October 31, 2025.

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What Is Fentanyl?

National Institute on Drug Abuse

FENTANYL IS a powerful synthetic opioid that is similar to morphine but is 50 to 100 times more potent.[1,2] It is a prescription drug that is also made and used illegally. Like morphine, it is a medicine that is typically used to treat patients with severe pain, especially after surgery.[3] It is also sometimes used to treat patients with chronic pain who are physically tolerant to other opioids.[4] Tolerance occurs when you need a higher and/or more frequent amount of a drug to get the desired effects.

In its prescription form, fentanyl is known by such names as Actiq®, Duragesic®, and Sublimaze®.[4,5] Synthetic opioids, including fentanyl, are now the most common drugs involved in drug overdose deaths in the United States.

What are opioids?

Opioids are a class of drugs naturally found in the opium poppy plant. Some opioids are made from the plant directly, and others, like fentanyl, are made by scientists in labs using the same chemical structure (semi-synthetic or synthetic).

How do people use fentanyl?

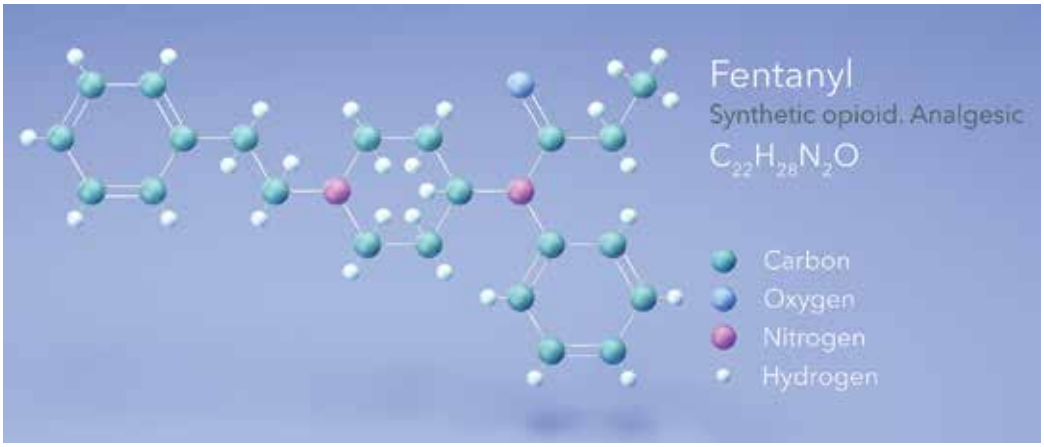
When prescribed by a doctor, fentanyl can be given as a shot, a patch that is put on a person's skin, or as lozenges that are sucked like cough drops.[6]

The illegally used fentanyl most often associated with recent overdoses is made in labs. This synthetic fentanyl is sold illegally as a powder, dropped onto blotter paper, put in eye droppers and nasal sprays, or made into pills that look like other prescription opioids.[7]

Some drug dealers are mixing fentanyl with other drugs, such as heroin, cocaine, methamphetamine, and MDMA. This is because it takes very little to produce a high with fentanyl, making it a cheaper option. This is especially risky when people taking drugs don't realize they might contain fentanyl as a cheap but dangerous additive. They might be taking stronger opioids than their bodies are used to and can be more likely to overdose. To learn more about the mixture of fentanyl into other drugs, visit the Drug Enforcement Administration's Drug Facts on fentanyl: **https://www.dea.gov/factsheets/fentanyl**

How does fentanyl affect the brain?

Like heroin, morphine, and other opioid drugs, fentanyl works by binding to the body's opioid receptors, which are found in areas of the brain that control pain and emotions.[8] After



taking opioids many times, the brain adapts to the drug, diminishing its sensitivity, making it hard to feel pleasure from anything besides the drug. When people become addicted, drug seeking and drug use take over their lives.

Fentanyl's effects include:

- Extreme happiness
- Drowsiness
- Nausea
- Confusion
- Constipation
- Sedation
- Problems breathing
- Unconsciousness

Can you overdose on fentanyl?

Yes, a person can overdose on fentanyl. An overdose occurs when a drug produces serious adverse effects and life-threatening symptoms. When people overdose on fentanyl, their breathing can slow or stop. This can decrease the amount of oxygen that reaches the brain, a condition called hypoxia. Hypoxia can lead to a coma and permanent brain damage, and even death.

How can a fentanyl overdose be treated?

As mentioned above, many drug dealers mix the cheaper fentanyl with other drugs like heroin, cocaine, MDMA and methamphetamine to increase their profits, making it often difficult to know which drug is causing the overdose. Naloxone is a medicine that can treat a fentanyl overdose when given right away. It works by rapidly binding to opioid receptors and blocking the effects of opioid drugs. But fentanyl is stronger than other opioid drugs like morphine and might require multiple doses of naloxone.

Because of this, if you suspect someone has overdosed, the most important step to take is to call 911 so they can receive immediate medical attention. Once medical personnel arrive, they will administer naloxone if they suspect an opioid drug is involved.

Naloxone is available as an injectable (needle) solution and nasal sprays (NARCAN® and KLOXXADO®).

People who are given naloxone should be monitored for another two hours after the last dose of naloxone is given to make sure breathing does not slow or stop.

What are Opioids?

Opioids are a class of drugs naturally found in the opium poppy plant. Some opioids are made from the plant directly, and others, like fentanyl, are made by scientists in labs using the same chemical structure (semi-synthetic or synthetic).

Some states have passed laws that allow pharmacists to dispense naloxone without a personal prescription. Friends, family, and others in the community can use the nasal spray versions of naloxone to save someone who is overdosing.

Can fentanyl use lead to addiction?

Yes. Fentanyl is addictive because of its potency. A person taking prescription fentanyl as instructed by a doctor can experience dependence, which is characterized by withdrawal symptoms when the drug is stopped. A person can be dependent on a substance without being addicted, but dependence can sometimes lead to addiction.

Addiction is the most severe form of a substance use disorder (SUD). SUDs are characterized by compulsive drug seeking and drug use that can be difficult to control, despite harmful consequences. When someone is addicted to drugs, they continue to use them even though they cause health problems or issues at work, school, or home. An SUD can range from mild to severe.

People addicted to fentanyl who stop using it can have severe withdrawal symptoms that begin as early as a few hours after the drug was last taken. These symptoms include:

- Muscle and bone pain
- Sleep problems
- Diarrhea and vomiting
- Cold flashes with goose bumps
- Uncontrollable leg movements
- Severe cravings

Continued on page 8

These symptoms can be extremely uncomfortable and are the reason many people find it so difficult to stop taking fentanyl. There are medicines being developed to help with the withdrawal process for fentanyl and other opioids. The FDA has approved lofexidine, a non-opioid medicine designed to reduce opioid withdrawal symptoms. Also, the NSS-2 Bridge device is a small electrical nerve stimulator placed behind the person's ear, that can be used to try to ease symptoms for up to five days during the acute withdrawal phase. In December 2018, the FDA cleared a mobile medical application, reSET®, to help treat opioid use disorders. This application is a prescription cognitive behavioral therapy and should be used in conjunction with treatment that includes buprenorphine and contingency management.

How is fentanyl addiction treated?

Like other opioid addictions, medication with behavioral therapies has been shown to be effective in treating people with a fentanyl addiction.

Medications for opioid use disorders—including fentanyl use disorder—are safe, effective, and save lives. These medicines interact with the same opioid receptors in the brain on which fentanyl acts, but they do not produce the same effects.

- Methadone, an opioid receptor full agonist, attaches to and activates opioid receptors to ease withdrawal symptoms and cravings.
- Buprenorphine, an opioid receptor partial agonist, attaches to and partially activates opioid receptors to ease withdrawal symptoms and cravings.
- Naltrexone, an opioid receptor antagonist, prevents fentanyl from attaching to opioid receptors, thus blocking its effects.

Counseling: Behavioral therapies for addiction to opioids like fentanyl can help people modify their attitudes and behaviors related to drug use, increase healthy life skills, and help them stick with their medication. Some examples include:

- Cognitive behavioral therapy, which helps modify the patient's drug use expectations and behaviors, and effectively manage triggers and stress.
- Contingency management, which uses a voucher-based system giving patients "points" based on negative drug tests. They can use the points to earn items that encourage healthy living.
- Motivational interviewing, which is a patient-centered counseling style that addresses a patient's mixed feelings to change.

These behavioral treatment approaches have proven effective, especially when used along with medicines.

Points to remember

- Fentanyl is a powerful synthetic opioid analgesic that is similar to morphine but is 50 to 100 times more potent. In its prescription form it is prescribed for pain, but fentanyl is also made illegally.
- Fentanyl and other synthetic opioids are the most common drugs involved in overdose deaths.
- Illegal fentanyl is sold in the following forms: as a powder, dropped on blotter paper like small candies, in eye droppers or nasal sprays, or made into pills that look like real prescription opioids.
- Illegal fentanyl is being mixed with other drugs, such as cocaine, heroin, methamphetamine, and MDMA. This is especially dangerous because people are often unaware that fentanyl has been added.

Fentanyl works by binding to the body's opioid receptors, which are found in areas of the brain that control pain and emotions. Its effects include extreme happiness, drowsiness, nausea, confusion, constipation, sedation, tolerance, addiction, respiratory depression and arrest, unconsciousness, coma, and death.

The high potency of fentanyl greatly increases risk of overdose, especially if a person who uses drugs is unaware that a powder or pill contains it. They can underestimate the dose of opioids they are taking, resulting in overdose. Naloxone is a medicine that can be given to a person to reverse a fentanyl overdose. Multiple naloxone doses might be necessary because of fentanyl's potency.

Medication with behavioral therapies has been shown to be effective in treating people with an addiction to fentanyl and other opioids.

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Drug Abuse and Death Statistics: Indiana and U.S.

CONCERN ABOUT opioid abuse began in the 1990s when the prescription drug OxyContin triggered a wave of opioid deaths. Decades later, both prescription and street narcotics continued to ravage communities and compelled state and federal governments to take action to prevent excessive opioid prescriptions and to foster awareness of opioid abuse prevention. In Indiana, action came in the form of the INSPECT system for electronic prescriptions and a requirement for any practitioner with a controlled substance registration to undergo regular continuing education in opioid abuse. The statistics below will show the progress that's been made in Indiana and throughout the country, as well as the work that remains to be done.

U.S. Drug Overdose Facts

- **Over 96,700** people die from drug overdoses in a year.
- Drug overdoses have killed **almost a million people** since 1999.
- The number of drug overdose deaths in America **increased 29.6 percent in 2020**.
- In January 2021, **drug overdose deaths exceeded homicides by 306.7 percent**.
- The national overdose rate is **24.7 deaths per 100,000 residents**.
- Men are more than **twice as likely as women** to die from drug overdose.
- Among 25- to 34-year-olds, **the male overdose death rate exceeds women's by 146.8 percent**.
- **At least one type of opioid** is a factor in 71.76 percent of overdoses.
- Opioids kill **more than three times** as many people as cocaine.

Information above found at drugabusestatistics.org/drug-overdose-deaths.

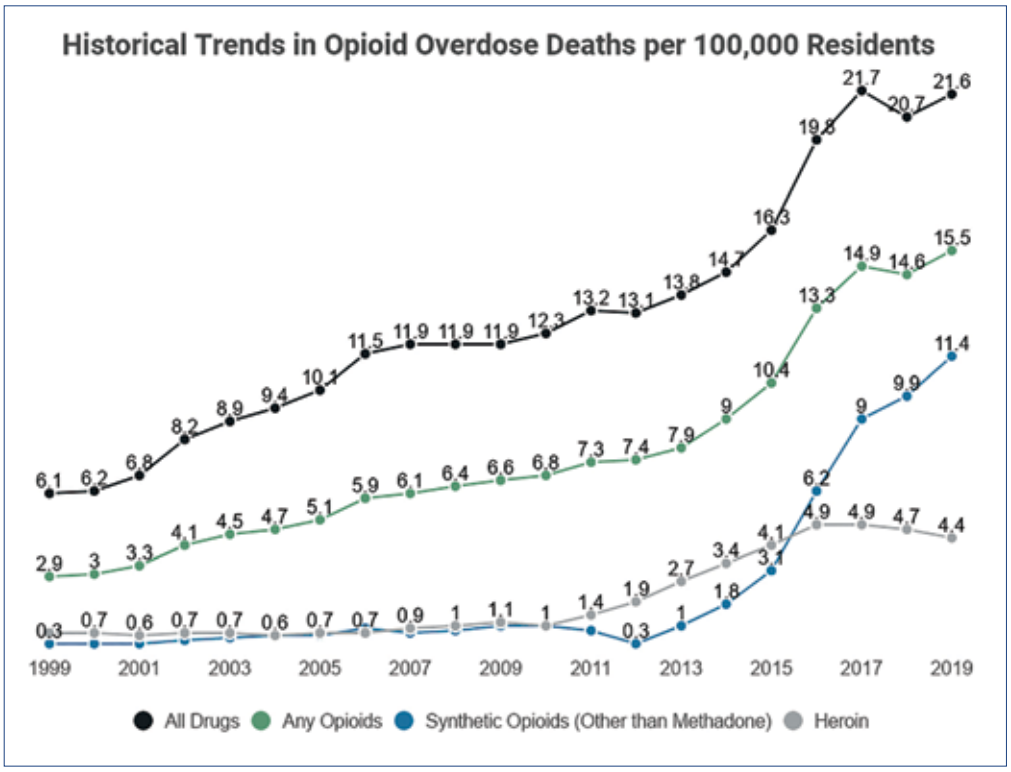
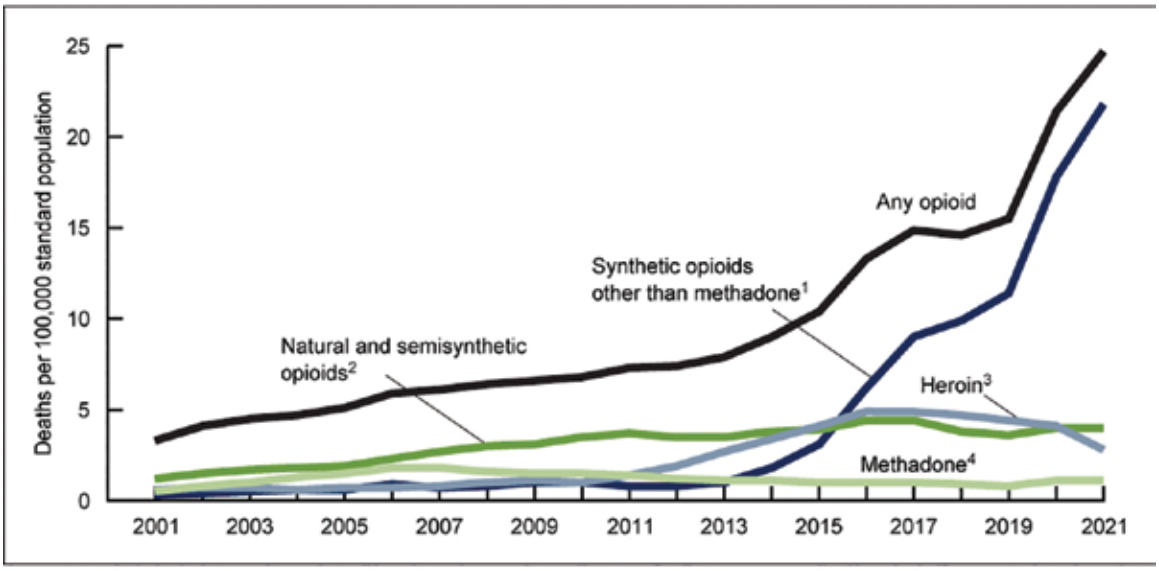


Chart courtesy of drugabusestatistics.org.

Age-adjusted rate of drug overdose deaths involving opioids, by type of opioid: U.S., 2001-2021.

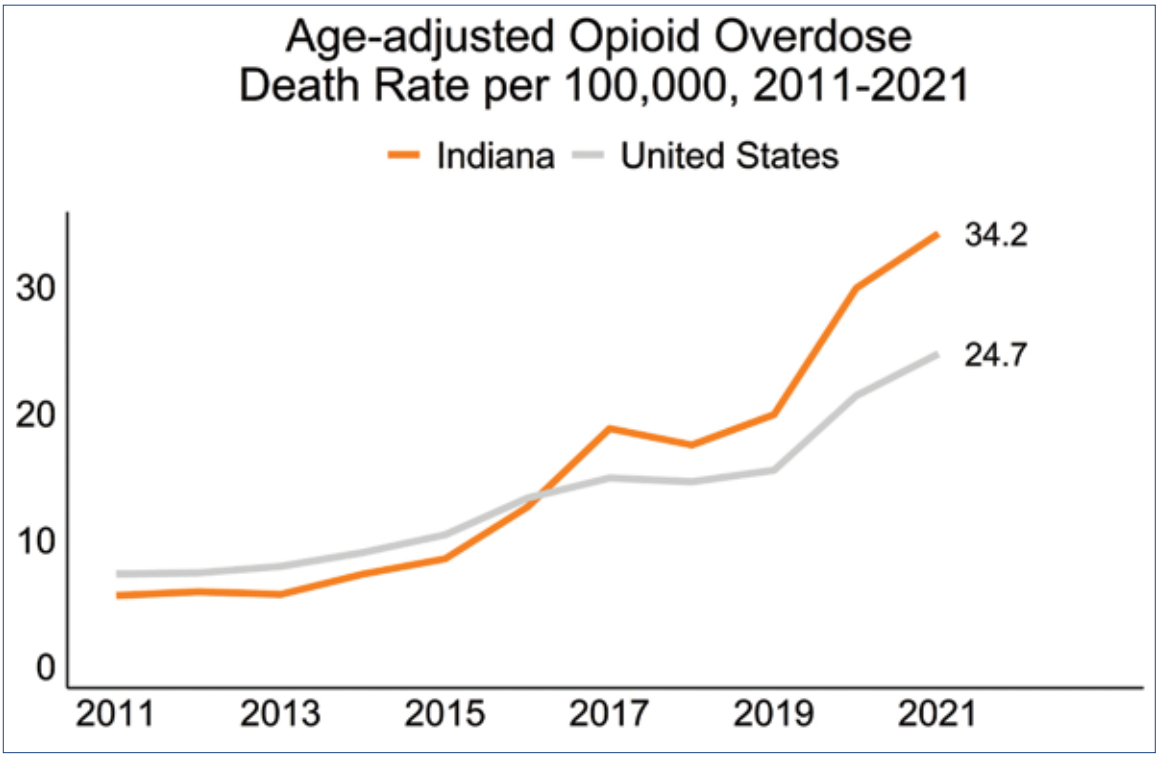


[1]Significant increasing trend from 2001 through 2021, with different rates of change over time, $p < 0.05$.
[2]Significant increasing trend from 2001 through 2010, then stable trend from 2010 through 2021, $p < 0.05$.
[3]Significant increasing trend from 2001 through 2015 with different rates of change over time, stable trend from 2015 through 2019, then significant decreasing trend from 2019 through 2021, $p < 0.05$.
[4]Significant increasing trend from 2001 through 2006 with different rates of change over time, significant decreasing trend from 2006 through 2019, then stable trend from 2019 through 2021, $p < 0.05$.

SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality File.

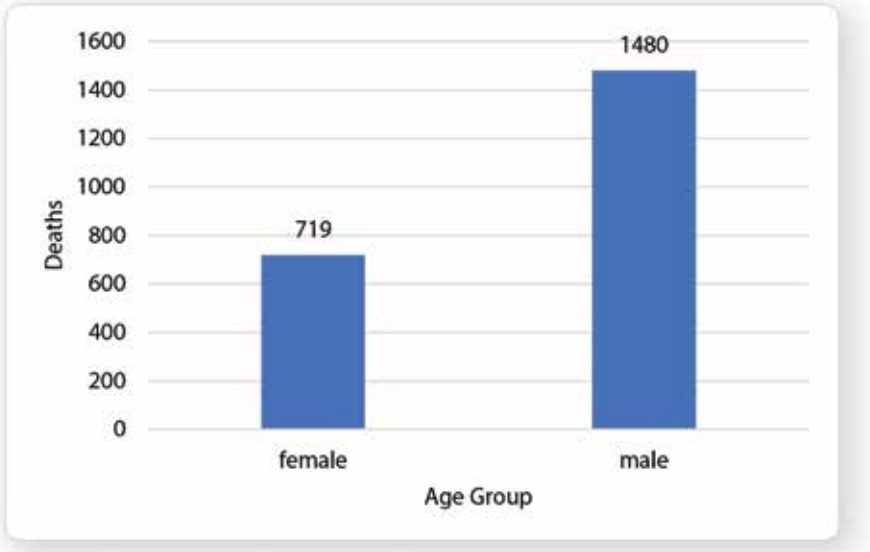
Indiana Drug Overdose Facts

- On average, **Indiana sees 1,699** overdose deaths per year.
- Men are more than **twice as likely** to overdose on opioids than women.
- This death rate is **28.50 percent above the national average**.
- Drug overdoses account for **2.59 percent** of deaths each year.
- Overdose deaths **increased at an annual rate of 4.49 percent** over the last three years.
- As of 2021, **Indiana ranked 10th in the nation** for drug overdose mortality

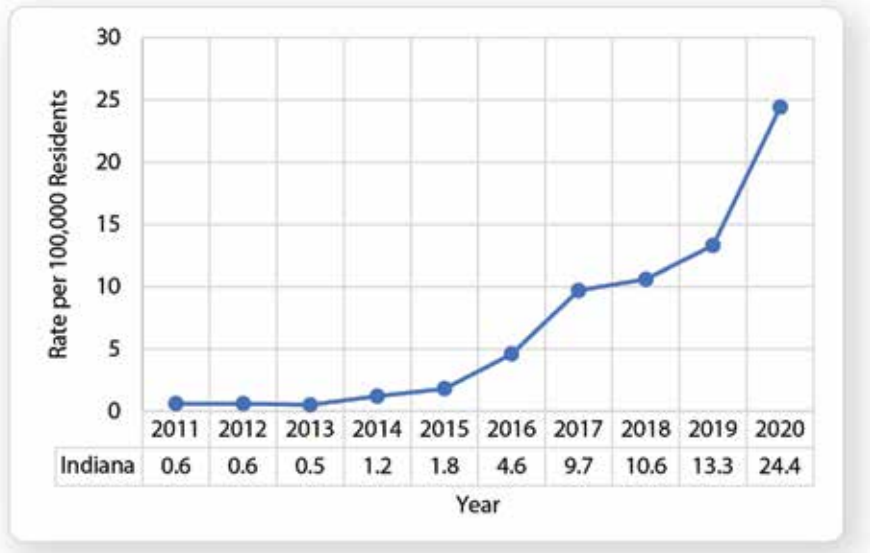


Source: Kaiser Foundation, Mental Health in Indiana
www.kff.org/statedata/mental-health-and-substance-use-state-fact-sheets/indiana

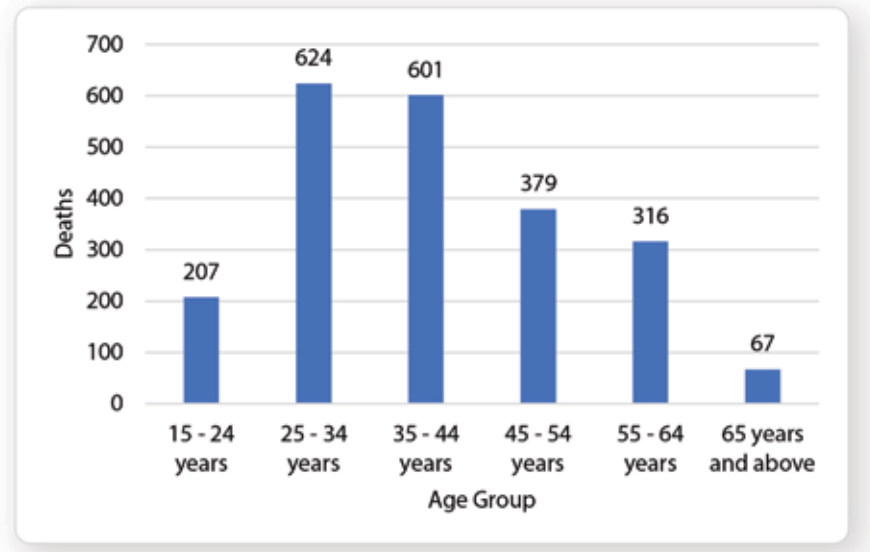
Indiana opioid deaths by gender, 2021



Deaths from drug poisoning involving synthetic opioids in Indiana, 2011-2020



Indiana opioid deaths by age group, 2021



Statistics on this page taken from the Indiana Family & Social Services Administration Analysis of Opioid Overdose Mortality and Vulnerability Index in Indiana, May 8, 2023: www.in.gov/fssa/dmha/files/AnalysisofOpioidOverdoseMortality_2023.pdf

Pain is Such a…Pain!

Tom Viola, R.Ph., C.C.P.

PAIN, OR THE fear of pain, keeps some of our patients from seeing us. This leads to poor outcomes for those patients in maintaining their oral health and in adhering to dental treatment plans. Managing pain requires an understanding of its complexity and the factors that determine its expression.

Pain is often described as an unpleasant sensory and emotional experience that results from either actual or perceived tissue damage and is the result of a variety of both physical and psychological responses to that tissue damage.[1] How? The process by which pain impulses are transmitted to the brain occurs via specialized receptors called nociceptors. Nociceptors are afferent sensory neurons that respond to mechanical stimuli, including pressure, temperature, and chemical stimuli. Nociceptors have a high depolarization threshold, so for activation, nociceptors would have to experience strong stimuli that would normally damage otherwise healthy tissue.

Pain impulses are transmitted from the site of the tissue damage along the ascending peripheral nerve fibers to the dorsal horn in the spinal cord, where they synapse with central neurons to transmit the message to the brain stem and thalamus. The pain message is then sent to the somatosensory cortex, which is responsible for the perception of pain, and the limbic system, which is responsible for the emotional response to pain.[2] Since most dental procedures involve damage to the oral tissues, pain and inflammation are inevitable results of dental therapy. Thus, anti-inflammatory agents are often prescribed to dental patients to relieve pain.

Guidance for NSAIDs

Non-steroidal anti-inflammatory drugs (NSAIDs) have long been considered first-line agents in the treatment of dental pain.[3] NSAIDs work by inhibiting the formation of cyclooxygenase-2 (COX-2), the enzyme which is responsible for the production of prostaglandins which, in turn, produce pain and inflammation. Unfortunately, however, NSAIDs may also inhibit the formation of cyclooxygenase-1 (COX-I), the enzyme responsible for the production of other prostaglandins that produce numerous beneficial effects. Thus, due to their ability to cause significant adverse reactions, NSAIDs should be used at the lowest therapeutic dose and for the shortest duration of therapy.[3]

NSAIDs may cause GI upset (by inhibiting the production of the protective gastrointestinal mucosal lining), as well as increase the risk of gastrointestinal bleeding (by impairing platelet function). In addition, NSAIDs may increase the risk for serious cardiovascular thrombotic events, including heart attack and stroke. NSAIDs may also cause fluid retention, exacerbating cardiovascular disease and decreasing the effects of antihypertensive agents, and perhaps interfere with the cardioprotective effects of low-dose aspirin.[4]

Author's Note: Readers have an implied responsibility to use all available information to enhance patient outcomes and their own professional development and judgment. Optimal use of medications changes rapidly with time. The content presented in this article is not intended as a substitute for the reader's own research, or for the reader's own professional judgment or advice for a specific problem or situation. Conclusions drawn by readers should be derived from objective analysis of all scientific data and not necessarily from the content of this article. This article and its content are not intended to be, nor should they be considered to be, rendering medical, dental, clinical, pharmaceutical, or other professional advice. The content of this article should be used in conjunction with timely and appropriate medical consultation. No representations or guarantee of the accuracy, timeliness, or applicability of the content of this article can be made or is made. The author of this article specifically disclaims applicability of any of the content presented to any given clinical situation, due to the high degree of variability among patients. Readers assume all risks and responsibilities with respect to any decisions or advice made or given as a result of the use of the content of this article.

While NSAIDs are rapidly absorbed with relatively quick onset, the duration of action can vary greatly depending on the agent used. For example, ibuprofen is typically dosed every four to six hours, while naproxen is typically dosed every 12 hours. NSAIDs with shorter durations of action, like ibuprofen, may allow for more flexible dosing to accommodate the seeming ebb and flow of this type of pain, as well as episodes of breakthrough pain.

Unfortunately, since some NSAIDs like ibuprofen are available without a prescription, patients may be inclined to believe that these agents are insufficient for relieving moderate to severe pain, especially dental pain. In addition, many clinicians believe that NSAID use involves significant risks in certain patient populations, and, thus, a short course of an acetaminophen/opioid combination may provide a more favorable benefit versus risk ratio than that of an NSAID regimen.[3] However, in a systematic review of 27 randomized, controlled trials, it was concluded that NSAIDs should be considered drugs of choice for managing dental pain, barring any contraindication, and, if necessary, could be combined with acetaminophen.[5]

Acetaminophen is one of the most widely used over-the-counter (OTC) drugs in the United States today.[6] Millions of consumers worldwide use an acetaminophen-containing product to manage fever and mild to moderate acute or chronic pain. For the treatment of more severe pain, acetaminophen may be formulated with non-opioid agents, such as ibuprofen, as well as opioids, such as codeine, hydrocodone, and oxycodone.

Acetaminophen and safety

Given the widespread use and accessibility of acetaminophen, it is interesting to note that its exact mechanism of action is still unknown.[7] Acetaminophen is thought to act within the central nervous system to increase pain threshold by inhibiting both forms of the COX enzyme (COX-1 and COX-2) in the brain, but not in peripheral tissues. This explains why acetaminophen has very little peripheral anti-inflammatory effect.

Numerous sources available in a basic online search indicate that the maximum daily dose of acetaminophen for a healthy adult is 4000 mg. However, to help encourage the safe use of acetaminophen, in 2011, the manufacturer of Tylenol® (acetaminophen) lowered the labeled maximum daily dose for single-ingredient Tylenol® Extra Strength (acetaminophen) 500 mg products sold in the United States from eight doses per day (4000 mg) to six doses per day (3000 mg) for adults. The recommended dosage interval also changed from two doses every four to six hours to two doses every six hours for adults.[8]

The relative "safety" of acetaminophen as an analgesic has also come under intense scrutiny. The number of cases of acetaminophen-induced liver toxicity has steadily increased, due to overdoses as a result of either acute ingestion of supratherapeutic doses or chronic ingestion of high therapeutic doses.[9]

In addition, recent research has suggested that prenatal exposure to acetaminophen may alter fetal development, increasing the risks of some behavioral problems and hyperkinetic disorders.[9] However, in its 2015 Safety Announcement, the FDA stated that the weight of evidence presented in the research is inconclusive regarding a possible connection between acetaminophen use in pregnancy and ADHD in children.[10]

Combining analgesics

The strategy of combining two analgesic agents having distinct mechanisms or sites of action has been advocated for many years.[3] The combination of ibuprofen and acetaminophen has been promoted as an alternative therapy for opioids in the management of postoperative pain. The results of many systematic reviews indicated that the combination of ibuprofen with acetaminophen may be a more effective analgesic, with fewer adverse effects, than many opioid analgesics.[3]

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Opioids as Pain Relief

Opioid analgesics, commonly referred to as opioids, are a class of medications that are frequently used in the management of acute and severe pain. In the context of dental pain management, the primary goal of opioids is provide analgesia and improve the patient's comfort during the acute phase of severe pain.[3] By providing pain relief during this acute phase, opioids can help patients better manage their postoperative pain, allowing them to eat, sleep, and carry out daily activities more comfortably.

Opioids produce their therapeutic effects by acting as agonists at the same receptors in the central nervous system which are normally activated by endogenous opioids called endorphins. The two opioid receptors responsible for opioid analgesic activity are the mu and kappa receptors.[11] When stimulated, both mu and kappa receptors produce effects of analgesia, sedation and, unfortunately, respiratory depression. Opioid analgesics used in dentistry include codeine, hydrocodone and oxycodone.

Codeine only weakly binds to the mu receptor. It is considered a prodrug because 10 percent of each dose is converted to morphine by the cytochrome P450 enzyme CYP2D6. Drugs which inhibit the activity of CYP2D6, such as the SSRI antidepressants fluoxetine (Prozac) and paroxetine (Paxil), may, therefore, make codeine less effective.[12]

Hydrocodone and oxycodone are more effective analgesics than codeine due to their greater affinity for the mu receptor. Their potency allows for lower doses of these agents and reduces the incidence of nausea compared to codeine.

Hydrocodone is also acted upon by CYP2D6 where oxycodone is not.[12] This makes oxycodone a better choice for patients taking medications known to inhibit CYP2D6. While it is not uncommon for patients to report episodes of nausea as an "allergy", almost all opioids are capable of triggering degranulation of mast cells, leading to the direct release of histamine.[13]

Tramadol is an analgesic which inhibits the reuptake of norepinephrine and serotonin, thereby altering descending neural pathways which transmit incoming pain impulses. While this action may be effective in managing chronic pain, it may not be as beneficial in managing acute odontogenic pain.[14] Interestingly, a metabolite of tramadol, O-desmethyltramadol, does have agonist activity at mu receptors.[14] Once again, formation of this metabolite is accomplished by the CYP2D6 enzyme and, thus, tramadol is also subject to the same risk for drug interactions as codeine and hydrocodone.

Opioid dosage

While analgesia produced by opioid receptor stimulation is beneficial, doses necessary to produce complete analgesia may also produce such significant adverse effects that their use may be unwarranted.[15] Due to the potential risks associated with opioids, healthcare providers often employ strategies to minimize their use or use them only as part of a multimodal pain management approach. Some dental surgical outpatients may benefit from a one- to two-day course of opioids added to their NSAID/APAP regimen.[3] Thus, opioids are considered in addition to, and not in place of, other non-opioid analgesics when those analgesics are insufficient to provide adequate relief of severe pain.

It is well known that stimulation of opioid receptors may also cause dependence.[11] After repeated administration, patients develop tolerance to the effects of opioids. Although tolerance to analgesia, sedation, and respiratory depression occurs simultaneously, no tolerance occurs to the constipating effects.[11] Since opioids may produce dependence, they must be prescribed cautiously for patients who may become addicted to other substances.

Conclusion

While dental pain is very subjective and often difficult to measure, it is very real to our patients and may keep them from seeking dental treatment. Dental clinicians can help improve patient outcomes by understanding the complexity of pain, the factors that determine its expression and the agents employed in its management. While non-opioid analgesics are nonaddictive and usually more effective

for managing many cases of acute dental pain, opioid analgesics may be added when these other agents are insufficient for managing severe pain. However, their use should be carefully considered, and prescribers should follow appropriate prescribing guidelines, monitor patients closely, and educate them about the potential risks and proper use of these medications.

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Opioid Use Disorder: A Brief Summary From a Physician's Perspective

Maria Robles, M.D.

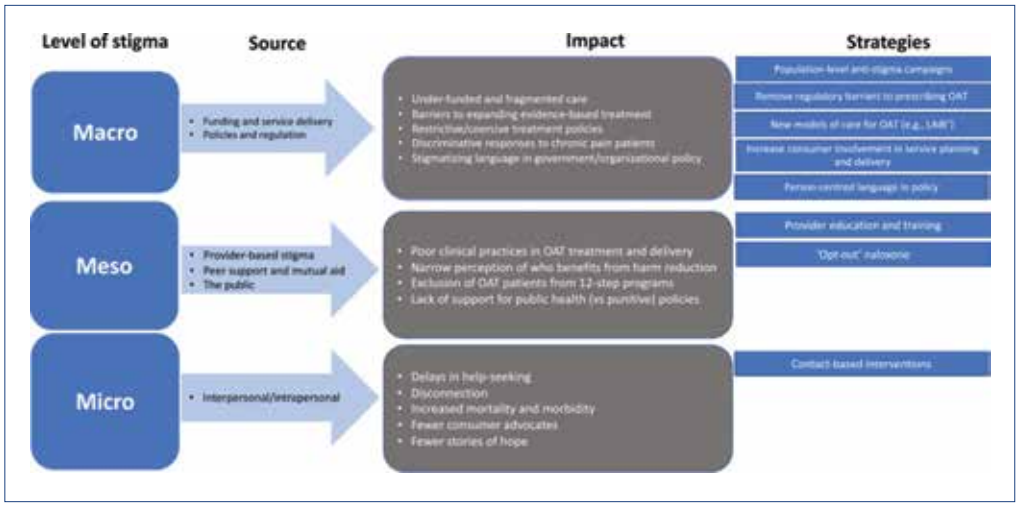
OPIOID USE DISORDER (OUD) affects over 16 million people worldwide and over 2.7 million in the United States as of 2020.[1] Opioid use remains the leading cause of accidental death among young adults in the United States.[2] Despite increased media attention and additional resources for people with OUD, the rates of death from opioid overdose continue to increase.[3] This was further exacerbated by the COVID-19 pandemic and the recent increased use of fentanyl. Fentanyl is cheaper to manufacture, highly-addictive and significantly stronger (much high morphine milligram equivalent) than heroin. Drug traffickers are selling products such as cocaine, methamphetamine, hydrocodone, or oxycodone and are either adding fentanyl or replacing it with fentanyl to drive addiction. Many times, the fentanyl pills are designed to look identical to prescription pills, and unknowing victims are dying from an overdose. Last year, fentanyl-related deaths surpassed gun and auto related deaths combined.[4] Indiana is in the top half of U.S. states for the highest drug overdose death rate. In 2015 Indiana made national news for a large HIV outbreak that was due to IV drug use.

History

Opioids have been utilized for hundreds of years. Morphine and heroin were marketed commercially as medications for pain, anxiety, and respiratory problems in the 1800's. The invention of the hypodermic needle in 1840 allowed for rapid delivery to the brain. In 1914 the Harrison Act restricted the sales of opioids, which also created the illicit market. This law ended up being more of a prohibition law than a licensing law. This new law had little effect on the use of morphine and heroin and was mostly used to prosecute people. Since that time, many laws have been passed with the stated intent to decrease use of illegal drugs, but there is good evidence that passing laws and prosecuting people with substance use disorder does not decrease drug use in the population.[5] In fact, there is evidence that these laws can cause harm. For example, the war on drugs refers to the laws passed in the 1970s and 1980s that disproportionately penalized African-Americans. For instance, the solid form of cocaine, sometimes referred to as "crack," which was more popular in the African-American Communities, held a much higher penalty than the use of the powder form of cocaine, which was used in the white communities.[6]

In the 1960s most people who used heroin started with heroin. In the 2000s, most people using heroin started first with prescription drugs. These prescription drugs where usually either prescribed to them, their friends, or their family.[7] The first wave of the rise in opioid overdose deaths started in the 1990s with increased prescribing of prescription opioids. Many pharmaceutical companies were involved in promoting the safety of opioids, even after concerns were raised about the increased risk of developing an opioid use disorder, the most well-known is Purdue Pharma.

Stigma

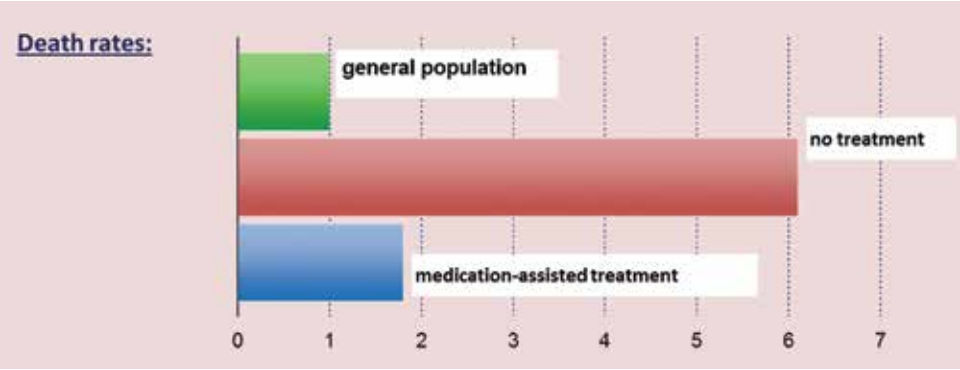


Levels, source, impact, and strategies to reduce stigma, Cheetham et al.[8]

Treatment

Substance use disorder is a medical condition and should be treated by physicians with evidence-based practices including using medications that treat substance use disorder. Not everyone who uses opioids has opioid use disorder. The Diagnostic and Statistical Manual of Mental Illnesses defines how to diagnose a substance use disorder. Provided a person is interested in recovery, the best treatment includes medications paired with therapy. Treating a person with opioid use disorder with medications for opioid use disorder decreases their chances of death by a factor of four (see graph).[9,10,11] Despite this evidence, only about one in four people with OUD are offered Medications for opioid use disorder (MOUD).[12] Unfortunately, more than a million people with OUD are not offered treatment with MOUD.[13]

There are three main medications for the treatment of OUD: methadone, buprenorphine, and naltrexone. Opioids bind to the mu receptor, which is located throughout the body but is concentrated in the brain. Methadone has been around since the 1970 and therefore has the most evidence. Methadone is a full agonist, so when it binds to the mu receptor it elicits a full response from that receptor. Methadone is also an effective medication to treat pain. It has a higher diversion potential and therefore is highly regulated. People who take methadone to treat OUD, must go to an Opioid Treatment Program (OTP) where methadone is usually dosed in the office. Sometimes people can earn take-home bottles to last a week or two. Methadone has weak affinity for the mu agonist. Two major side effects of methadone are respiratory suppression and QT prolongation.



PCSS, 2023.[14]

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Buprenorphine was approved by the FDA in 2002. Until 2023 a special waiver had to be obtained in order to prescribe buprenorphine. Currently, anyone with a DEA license can prescribe buprenorphine. Most people treated with buprenorphine are seen in addiction specific clinics or primary care clinics. Buprenorphine is long acting; half-life is 24 to 36 hours. It has very high affinity for the mu receptor, which means that it blocks and displaces other opioids. It is a partial agonist at the mu receptor therefore it does not cause significant respiratory depression. It has poor bioavailability (5 percent) so it is mainly used sublingually.

There is also an injectable long-acting depo formulation of buprenorphine. Buprenorphine is frequently combined with naloxone to prevent diversion. When naloxone is taken orally or sublingually it is not bioavailable. If the combination produced (buprenorphine/naloxone) is misused, by injecting, then the naloxone is bioavailable and acts as an antagonist at the mu receptor. Xerostomia is a common side effect of all opioids, including buprenorphine. Of note, buprenorphine has been FDA approved to treat pain but in much smaller doses than what is used to treat OUD.

Naltrexone is a full antagonist at the mu receptor. It both blocks and displaces opioids from the mu receptor. It can be taken as pill form, with a half life of four hours or injected monthly, with a half life of five to 10 days. It is important to remember if someone has received a naltrexone injection, controlling pain with a full opioid agonist will be very difficult.

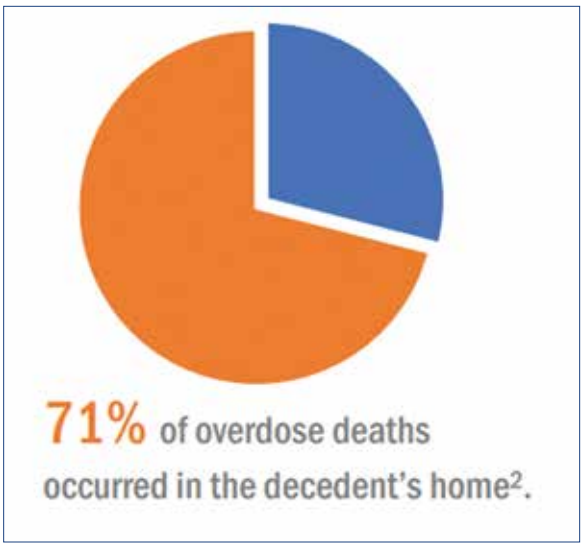
The most important aspects of treatment are medications, support (stable housing/access to food) and therapy. If therapy is not available or the patient declines it, medications can be used alone. If the patient doesn't have social support, it makes recovery very difficult. The American Society of Addiction Medicine (ASAM) has developed criteria to provide a set of standard recommendations to help guide the level of care a person with a SUD needs to have the highest chance of success. This criterion also helps programs standardize their care while being able to remain flexible to the patient needs. The ASAM Criteria starts with Prevention and Early Intervention.

After that there are different levels of care for treatment. Level 1 is outpatient which includes treatment in an outpatient primary care clinic and an outpatient addiction specific clinic. Level 2 is Intensive Outpatient/Partial Hospitalization which includes treatment in an outpatient Community Mental Health Center and an outpatient Opioid Treatment Program (aka "methadone clinic"). Level 3 is Residential/Inpatient and Level 4 is Intensive Inpatient. The ASAM Criteria is important because it considers biopsychosocial strengths and risks in addition to a person's history and current use of substances.[15]

Implications for prescribing for dentists

There have been multiple studies and expert opinion articles discussing the importance of dental practices decreasing the amount of opioid prescribing. It is beyond the scope of this article to summarize that data. Trends for dental offices prescribing opioids for the Medicaid population showed a significant decrease from 2012-2019.[16] Ensuring the patient understands how to use multimodal agents to stay ahead of the pain can help decrease opioid use. Most dental schools now dedicate time to teaching about the implications of overprescribing opioids but for dentists who graduated more than 10 years ago, the onus falls on the dentist to make sure they are well educated in this field.

If someone has OUD and is being treated with buprenorphine or methadone and they have acute pain, they will require much higher doses of opioids. If they are having a planned dental procedure, a verbal conversation with the provider who treating the patient's OUD would be very helpful. There are many different options on how to control pain. After the addition of NSAID and acetaminophen, buprenorphine/methadone can be kept at the same daily dose but dosed multiple times per day. Another option would be to temporarily increase the dose of buprenorphine or methadone in addition to dosing it multiple times per day. This dose increase should be done



PCSS, 2023.[14]

by the provider who is prescribing their MOUD. If those two options do not work, or the patient is uncomfortable with them, then a full agonist, like oxycodone or hydrocodone can be used while the patient continues to take their home dose of methadone or buprenorphine. Of note, these patients will require higher doses of full agonist therapy to treat their pain as they have high tolerance for opioids. The last (and usually worst) option is to discontinue the buprenorphine or methadone and only use full agonists. This can be dangerous especially with someone taking buprenorphine because to restart buprenorphine, the person will need to go though some withdrawal.

If someone is taking naltrexone and they have a planned procedure which is expected to cause significant pain requiring the treatment with opioids, a discussion should occur with the patient about the risks and benefits of discontinuing naltrexone. Oral naltrexone should be discontinued 48 to 72 hours prior to a planned procedure. Intramuscular naltrexone will need to be discontinued 30 days prior to a planned procedure. Many times, patients will opt to use oral naltrexone as a bridge to the procedure. Of note, the DEA now has a one-time eight-hour education requirement for all prescribers. This requirement can be met through live or on-line courses. The DEA has provided a list of these resources to all prescribers. Providers Clinical Support System (PCSS) has a variety of well-done online courses that will count towards this requirement.

Resources

It is important to remember that most people with an OUD have experienced stigma at some level therefore, people with an OUD may not always be forthcoming about their disease. Not only using the correct language but, believing that OUD is a disease will send a message to a patient that they are in a safe place to discuss their use. Dentists will see people in all stages of use: early intermittent use, active chaotic use, early recovery, sustained recovery, and relapse. If a patient feels safe and confides that they have a use disorder, this would be an excellent time for intervention. Screening, Brief Intervention and Referral to Treatment (SBIRT) doesn't take much time and office staff can be trained to do this.

To be able to refer for treatment, it is necessary to understand the landscape of treatment options in your area. It would not take long to call a few local clinics to understand their intake process and then be able to pass that information along to patients, either in the form of a handout or business card.

Not all patients will be ready to be referred for treatment. Motivational interviewing is another tool that can be used to help patients understand their own reasons for wanting to enter recovery and sometimes can help encourage patients to seek treatment.

If a patient declines all forms of treatment or doesn't yet understand that their use of opioids is dangerous, a harm reduction approach would be best. All patients who use opioids illicitly, and some argue that anyone with an opioid prescription, should have access to nasal naloxone. Most insurances will pay for nasal naloxone if written as a prescription. Nasal naloxone is available over the counter for $30-$130. It is also available free from local non-profit organizations. The biggest organization in Indiana is Overdose Lifeline. Anyone can go to the Overdose Lifeline website and request that nasal naloxone be shipped to their home. Overdose Lifeline also supplies many public spaces with Naloxboxes. These boxes are attached to the outside of a business or school and have a few doses of nasal naloxone available. Of note, carrying and administering nasal naloxone is legal in Indiana provided that if nasal naloxone is administered, emergency medical services are called, and the administrator of nasal naloxone waits with the person who received the dose.

Other forms of harm reduction include encouraging people to test their drugs for fentanyl. Fentanyl is present in most illicit opioids sold in Indiana and is also being added

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to some methamphetamine, cocaine, and marijuana. Discussing the importance of never using drugs alone is another way to keep people safe who are using drugs. Lastly, people who use needles should be encouraged to find needle exchange programs and get tested for HIV/ Hepatitis C. Needle exchange programs are not available in all Indiana Counties. The Indiana Drug Overdose Dashboard has data to show which types of programs are available in each Indiana county. **www.in.gov/health/overdose-prevention/overdose-surveillance/indiana/**

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Pain Management: Weighing the Risk of Opioid Therapy

Melanie D'Aquisto Arnold, BSN, RN, CARN, PMH-BC

EIGHTY PERCENT of opioid-dependent people report their first experience with opioids was by prescription.[1] The opioid epidemic, characterized by the persistent increase in opioid overdose death rates, started in the 1990s and continues still today. It has unfolded in three distinct waves, each leaving its own imprint on society.[15]

The opioid epidemic

The first wave, beginning in the 1990s, was driven by overprescribing and misuse of prescription opioids. Pharmaceutical companies zealously promoted these medications, leading to a surge in opioid prescriptions and soaring addiction rates. Consequentially, opioid overdose deaths increased markedly, devastating communities and families.

The result of new, more rigid regulation of prescription opioids, the second wave of the opioid epidemic erupted in the early 2000s. With new regulations in place, prescribers drastically reduced the number of opioid drug prescriptions they provided to their opioid dependent patients. Many of these patients switched to illicit forms of opioids, seeking to purchase, on the street, what their physician could or would no longer provide. This led to an increase in demand for cheaper or more accessible opioids, such as heroin. To meet this demand, many suppliers of illicit opioids began to adulterate the heroin supply with potent synthetic opioids like non-pharmaceutical fentanyl, which inevitably increased opioid overdose death rates even more. The third and most recent wave of the opioid epidemic, beginning around 2014, was fueled by the pervasive availability of illicitly manufactured fentanyl, and its analogs. Opioid overdose deaths peaked at rates never seen before. In the 12 months ending February 2022, the opioid overdose death rate reached over 81,000 in the United States, an increase of almost 200 percent since the beginning of the third wave.[2]

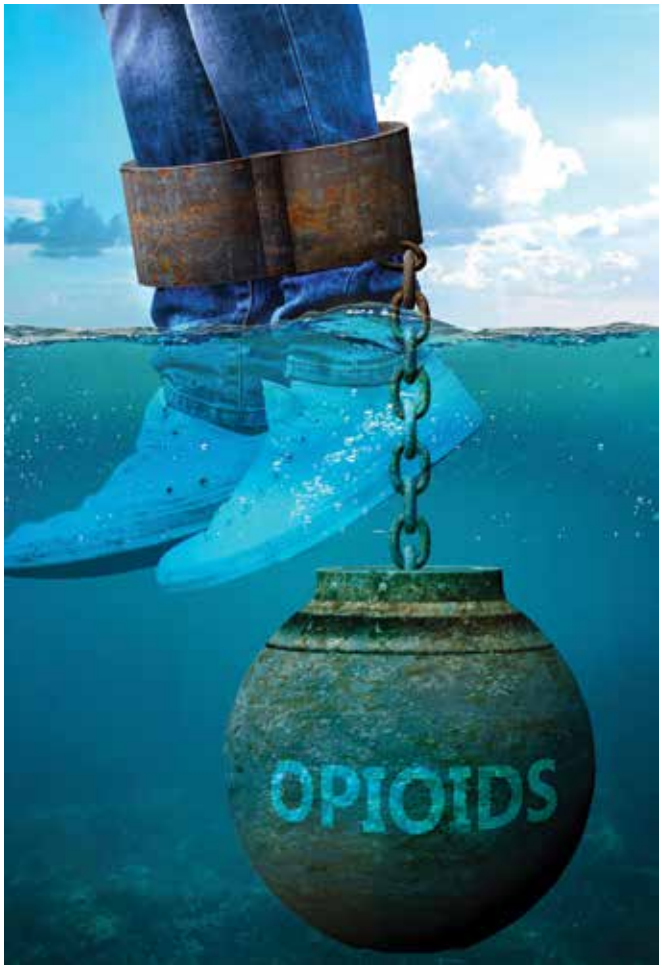
Prescribing practices amid an epidemic

The Opioid Epidemic and the subsequent release of more rigid prescribing regulations have changed how prescribers and other healthcare providers approach the issue of pain management.

Although opioid prescriptions decreased by 44.4 percent from 2011 to 2020,[3] the U.S. remains the country with the highest prescribing rate of prescription opioids.[4] There are many factors to consider when reviewing these statistics. Pain perception among Americans, attitudes of providers toward pain management, and changes to insurance reimbursement practices and healthcare delivery all have been contributors to the high opioid prescription rate in the U.S.

In 2022, the Centers for Disease Control and Prevention released the Guideline Recommendations and Guiding Principles to address opioid prescribing practices in the U.S.[5] This resource specifically highlights four main topics:

- Determining whether to prescribe opioid medications for pain
- Selecting opioids and determining doses when initiating opioid therapy
- Deciding duration of opioid therapy and proper follow-up
- Assessing risk and addressing the potential harm of opioid therapy



Selecting pain management therapy

Significant evidence exists that supports the use of non-opioid analgesics such as ibuprofen, acetaminophen, diclofenac, celecoxib, and others for acute pain over opioid therapy. They have been found to be more effective for pain relief than opioid medications such as oxycodone, morphine, and tramadol. Despite 2013 studies that revealed the combination of ibuprofen and acetaminophen to be more effective for dental pain,[6] dentists continue to be leading prescribers of opioid pain medication.[7]

With such an emphasis being placed on patient satisfaction, one of the challenges prescribers face is the patient's perception of the care they are receiving regarding pain management. When the Centers for Medicare and Medicaid Services (CMS) switched to a value-based reimbursement approach, significant weight (30 percent) was given to patient satisfaction as the standard for "quality care."[8] More recent studies have shown that there is little correlation between a positive patient experience and the delivery quality care in the ambulatory setting.[9]

Dose and duration

Research has shown that the likelihood that patients will continue to seek out opioid pain medication prescriptions is dependent on the dose and duration of their initial opioid prescription. A random 10 percent sample of patient records from 2006 to 2015 was reviewed for trends in opioid prescriptions. For this study, prescriptions for buprenorphine for Opioid Use Disorder were not considered.[10] The results of this study can be very useful in determining both dosages and duration of opioid therapy, or if opioids should be prescribed at all.

Of the 1.2 million patients who met all inclusion criteria, over 33,000 remained on opioid therapy for over one year. The study concluded that the following prescribing practices produced the most persistent opioid use:

- At least one day of opioids (6 percent probability of continued use at one year)
- Initial prescription duration of >10 days (25 percent probability of continued use at one year)
- Initiated treatment with long-acting opioids (27 percent probability of continued use at one year)
- Initiated treatment with Tramadol (13 percent probability of continued use at one year)
- Cumulative dose of initial prescription > 700 morphine milligram equivalent (MME)

Overall, the study revealed that for the best chance of mitigating long term opioid use, opioid medications should be limited to less than four days at the lowest dose possible. Practitioners should also avoid prescribing long-acting opioid medications.[10]

Mitigating the risk

When choosing a pain management approach for non-cancer pain, it is vital that providers consider the level of risk for each patient individually. A review of the literature in 2019[14] found that patients with the following disorders were most likely to have persistent opioid use after their initial opioid prescription:

- Any pain disorders
- Personality Disorder
- Somatoform Disorder
- Psychotic Disorder
- Mood Disorder
- Nonopioid Substance Use Disorder

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Other factors that seemed to correlate with an increased risk of persistent opioid use were:

- Age group of adolescents to young adults
- Having a friend or family member with opioid medications "left over" from a prescription
- Patients with opioid prescriptions lasting more than 30 days
- Patients who use tobacco
- Patients with lower socioeconomic status

Knowing which patients are at a higher risk of opioid misuse after their initial prescription is not enough to fight the epidemic. Many tools for identifying a patient's risk of persistent opioid use have been developed and validated. However, according to the CDC, none of them could be considered the "gold standard" due to questionable reliability.[12] To operationalize the identification of people at risk for persistent opioid use, reliable tools must be developed.

Effective communication = effective patient education

While effective and validated tools for predicting opioid misuse may one day be helpful, developing a trusting, open, and honest relationship with patients may be the most effective approach to mitigating risk. Open, non-judgmental communication allows for more effective patient education on pain management. Research suggests that there is a gap in communication about the risks of opioid therapy between providers and patients and that more effective communication came from more empathetic conversations around pain control and alternative pain management interventions.[13]

The research around patient satisfaction, which can greatly affect reimbursement of services, has shown that a positive patient experience does not necessarily mean quality care has been delivered. In fact, the research is clear that nonopioid medications are more effective at managing pain while opioid prescriptions pose a great risk of addiction within days of a patient's first exposure. Yet pain patients receiving opioid prescriptions report higher satisfaction with their care.[14]

How do providers navigate the risk in times when so much importance is placed on the patient's perception of the quality of their care?

Here are some suggestions:

- Formal opioid education for patients as early as prior to their first opioid prescription
- Open communication with patients about their wellbeing, including substance use and mental health
- Improving patient access to their medical records
- Chronic health condition counseling and education.
- Facilitating a warm handoff to other providers when referrals are necessary
- Involving the patient in the plan of care
- Follow-up calls after procedures, beginning new medications, or difficult appointments
- Practice active listening with patients
- Have resources available for patients struggling with mental health issues or any substance use (facilitate a warm handoff when possible).

Although the data is grim, and there is certainly work to be done toward reducing the consequences of opioid use and misuse, there are specific interventions providers can implement that will reduce those consequences. Responsible opioid prescribing when necessary, educating patients about the true efficacy of nonopioid medications, and building therapeutic relationships between providers and patients are a great start.

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How to Receive Credit for this CE Issue

Thank you for taking the time to read this IDA self-study CE publication in opioid abuse and prevention. Any Indiana dentist who holds or applies for an Indiana Controlled Substance Registration (CSR) must obtain two hours of opioid abuse CE by the next license renewal date of **March 1, 2024**, but this is an excellent CE opportunity on an important topic for any dentist, regardless of CSR status.

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Commonly Used Prescription Opioids: Their Names and Uses

OPIOIDS ARE pain relievers with an origin similar to that of heroin. Opioids can cause euphoria and are often used nonmedically, leading to overdose deaths. The chart below outlines common names, uses, symptoms and other information about opioids.

Commercial Name	Common Forms	Common Ways Taken	DEA Schedule
Codeine (various brand names)	Tablet, capsule, liquid	Injected, swallowed (often mixed with soda and flavorings	II, III, V**
Fentanyl (Actiq®, Duragesic®, Sublimaze®)	Lozenge, sublingual tablet, film, buccal tablet	Injected, smoked, snorted	II**
Hydrocodone/dihydrocodeinone (Vicodin®, Norco®, Zohydro®, and others)	Capsule, liquid, tablet	Swallowed, snorted, injected	II**
Hydromorphone (Dilaudid®)	Liquid, suppository	Injected, rectal	II**
Meperidine (Demerol®)	Tablet, liquid	Swallowed, snorted, injected	II**
Methadone (Dolophine®, Methadose®)	Tablet, dispersible tablet, liquid	Swallowed, injected	II**
Morphine (Duramorph®, MS Contin®)	Tablet, liquid, capsule, suppository	Injected, swallowed, smoked, rectal	II, III**
Oxycodone (OxyContin®, Percodan®, Percocet®, and others)	Capsule, liquid, tablet	Swallowed, snorted, injected	II**
Oxymorphone (Opana®)	Tablet	Swallowed, snorted, injected	II**

***Drugs are classified into five distinct categories or schedules "depending upon the drug's acceptable medical use and the drug's use or dependency potential." More information and the most up-to-date scheduling information can be found on the Drug Enforcement Administration's website:* **www.dea.gov**

Possible Heath Effects of Opioid Use

Short-term	Pain relief, drowsiness, nausea, constipation, euphoria, slowed breathing, death.
Long-term	Increased risk of overdose or addiction if misused.
Other health-related issues	**Pregnancy:** Miscarriage, low birth weight, neonatal abstinence syndrome. **Older adults:** higher risk of accidental misuse because many older adults have multiple prescriptions, increasing the risk of drug interactions, and breakdown of drugs slows with age. Also, many older adults are treated with prescription medications for pain. Risk of HIV, hepatitis, and other infectious diseases from shared needles.
In combination with alcohol	Dangerous slowing of heart rate and breathing leading to coma or death.
Withdrawal symptoms	Restlessness, muscle and bone pain, insomnia, diarrhea, vomiting, cold flashes with goose bumps (“cold turkey”), leg movements.

Opioid Subcategories

- **Natural opioids** include morphine and codeine.
- **Semi-synthetic opioids** include oxycodone, hydrocodone, hydromorphone, and oxymorphone.
- **Methadone** is a synthetic opioid that is usually categorized on its own in official data.
- **Synthetic opioids** other than methadone include tramadol and fentanyl.
- **Heroin** is an illegally manufactured synthetic opioid made from morphine.

Information on pages 30 and 31 taken from the National Institute on Drug Abuse Commonly Used Drug Charts. Information can be found at: https://nida.nih.gov/research-topics/commonly-used-drugs-charts#prescription-opioids

Opioid Prescribing for Children and Adolescents: Information for Oral Health Providers

PAIN MANAGEMENT is necessary for some dental procedures, but concern about overprescribing opioids arose about 10 years ago when it was revealed that nearly 25 percent of first opioid prescriptions for children and adolescents came from dentists.[1] When pain medication is needed, it is usually required for a short time for acute or episodic conditions. Acetaminophen used alone to treat pain in children and adolescents is associated with fewer side effects and contraindications than any other analgesic or drug combination.[2] Using acetaminophen in combination with nonopioid non-steroidal anti-inflammatory drugs (NSAIDs) can be as effective as opioid combinations, with fewer side effects.[3]

Compared to adults, children and adolescents are at higher risk for opioid misuse or abuse. Most people who misuse drugs as adults start before their 18th birthday, and the risk of addiction to drugs increases when use begins in adolescence. Taking time to carefully plan pain management for children and adolescents is a key prevention strategy.[4] Dentists prescribe 12 percent of immediate-release (typically within 30 minutes) opioids in the United States. Therefore, they have an opportunity to minimize the potential for opioid misuse that begins during childhood or adolescence.[5]

Best practices for care

- Conduct a detailed pain assessment, and document findings in the child's or adolescent's dental record. This helps determine the analgesics the child or adolescent may need.[10]
- Keep in mind that effective pain management depends on the individual child or adolescent, the extent of treatment, the duration of the procedure, psychological factors, and the child's or adolescent's medical history.[10]
- Learn what medications, including over-the-counter (OTC) medications, the child or adolescent is taking.[5] Consult a pharmacist if you are concerned about interactions between medications.
- Ensure that your medical history questionnaire or form has questions about current use of medications.
- Check Indiana INSPECT to determine whether the child or adolescent has frequently been prescribed opioids, which may indicate a substance misuse problem or disorder.[5]
- If you suspect that a child or adolescent may have a substance misuse problem or disorder, encourage the parents or the adolescent to contact their primary care health professional to seek an assessment.[11]
- For a child or adolescent who is taking opioids on a regular basis or who has a history of a substance misuse problem or disorder, coordinate pain therapy with their primary care health professional before the procedure, whenever possible. If a child or adolescent has a substance misuse treatment specialist or a pain management specialist, they could also provide assistance.[11]
- If a parent or adolescent calls the dental office or clinic indicating pain following a dental procedure, conduct an assessment of the child or adolescent in the dental office or clinic (rather than over the phone) to determine medication for pain management.

Non-opioid analgesics

- Emphasize the effectiveness of acetaminophen, NSAIDs, or a combination of acetaminophen and NSAIDs for pain relief.
- When recommending acetaminophen, counsel the child or adolescent and their parents that taking more than the recommended daily dose or long-term use can cause liver damage.
- Be aware that NSAIDs may cause bleeding from surgical sites. Therefore, recommend them with caution after surgery.
- Do not recommend NSAIDs for individuals with decreased kidney function or stomach ulcers.

Prescribe opioids with caution

- If opioids are prescribed, it should be for a short duration and for conditions associated with acute pain that acetaminophen, NSAIDs, or a combination of both cannot control.
- When opioids are indicated, choose the lowest-potency opioid necessary to relieve pain.
- If you have received a referral from another dentist, be aware that the child or adolescent may have been prescribed an analgesic.
- Unless you have training and experience in the use of opioids for the treatment of chronic facial pain, do not prescribe long-acting or extended-release opioids.

Potential misuse of opioid prescriptions

- For any child or adolescent reporting unexpectedly prolonged dental pain, conduct an assessment in the dental office or clinic for any underlying cause, and consider whether use of opioids is appropriate.
- Less than one-half of opioids prescribed after surgical tooth extraction are used by the individuals to whom they were prescribed. Dentists have an opportunity to reduce potential drug misuse by decreasing the quantity of opioids they prescribe.[8]
- If opioids are prescribed, write a prescription only for the quantity needed. Prescribe refills only if needed.[11] This will help reduce the chances of drug misuse.
- Indicate the quantity of opioid doses on the prescription, and note “no refills,” unless you are certain that the child or adolescent will require refills.[11]

Recommended pre- and post-operative instructions

- Provide instructions verbally and in writing.
- Take acetaminophen, NSAIDs, or a combination of both before numbness wears off rather than waiting until the child or adolescent is in pain.
- Slight swelling may occur in the first two days. If swelling occurs, ice packs may be used for the first 24 hours (10 minutes on, then 10 minutes off).
- If swelling persists after 24 hours, warm/moist compresses (10 minutes on, then 10 minutes off) may help. If the swelling persists after 48 hours, call the dental office or clinic.[13]
- The instructions should also include a phone number that parents or an adolescent can call after hours (e.g., evenings, weekends) if they have questions or concerns.

Distraction and imagery techniques as a method of pain management

- Distraction techniques may include having a child or adolescent play video games, listen to music; or watch videos, television, or movies.[18]
- Imagery techniques utilize imagination and storytelling. For example, a child or adolescent may be asked to imagine themselves in a pleasant place (such as at the beach) and to focus on the physical sensations they may experience in this place (such as the warmth of the sun).[19]

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Tips to share with parents[21]

- Learn about the effectiveness of non-opioid medication to manage oral pain. Know your child's or adolescent's pain medications.
- Keep track of your child's or adolescent's use of pain medications, and ensure that only the prescribed amount is used.
- Discard unused medications. Drop off any remaining medication at your local pharmacy or mix medicine (do not crush) with an unpalatable substance such as cat litter, dirt, or coffee grounds and place in the trash.
- Safely store medications in a locked cabinet in your home.
- Talk to your child or adolescent about the risks of opioid addiction, and let them know they can talk to you if they have experienced substance misuse. For information and resources, see the National Institute on Drug Abuse's Parents and Educators webpage: **https://nida.nih.gov/research-topics/parents-educators**

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Opioids and Pregnant Women: Information for Oral Health Providers

Pharmaceutical Agent	Indications, Contraindications, and Special Considerations
Acetaminophen Acetaminophen with codeine, hydrocodone, or oxycodone Codeine Meperidine Morphine	May be used during pregnancy. Oral pain can often be managed with non-opioid medication. If opioids are used, prescribe the lowest dose for the shortest duration (usually less than three days), and avoid issuing refills to reduce risk for dependency. Ensure that women understand that maximum dose of acetaminophen is 4,000 mg per 24-hour period and that many OTC medications contain acetaminophen.
Aspirin Ibuprofen Naproxen	First trimester: Avoid use. Second trimester, 13 up to 20 weeks: May use for short duration, 48 to 72 hours. Second trimester, 20 up to 27 weeks: Limit use. Third trimester: Avoid use.

Neonatal Opioid Withdrawal Symptoms

If a pregnant woman uses opioids for a prolonged period, her infant may develop neonatal opioid withdrawal syndrome (NOWS), a condition also referred to as neonatal abstinence syndrome, after birth. This condition can occur when the infant is no longer receiving opioids from the mother's bloodstream. Not all infants born to women who use opioids for a prolonged period will develop NOWS. Withdrawal symptoms may include shaking and tremors, poor sucking or feeding, crying, fever, diarrhea, vomiting, and sleep problems.[5,6]

The Food and Drug Administration has issued a warning that appears on all prescription opioids that NOWS is a risk of prolonged use of opioids during pregnancy. Swaddling, skin-to-skin contact, breastfeeding, and sometimes medications can help relieve withdrawal symptoms.[7]

Guidelines and Best Practices for Prescribing Opioids to Pregnant Patients

- Consider using local anesthesia techniques, including local infiltration of anesthetics and regional nerve blocks, whenever possible to assist in pain management and reduce the need for opioids.
- Assess women in the dental office or clinic (rather than over the phone) to determine if opioids need to be prescribed.
- Ask women of reproductive age if they are or plan to become pregnant before prescribing any opioid or refilling an opioid prescription.
- Learn what medications, including OTC medications, the woman is taking. Consult a pharmacist if you are concerned about interactions between medications.
- Ensure that the health questionnaire has questions about current medications, including OTC medications, and about substance use disorder.
- Check INSPECT to determine whether the woman may have a substance use disorder.
- If you suspect that a woman may have a substance use disorder, contact her primary care health professional, and encourage her to seek evaluation and possible treatment through her primary care health professional, local substance use disorder treatment programs, or other appropriate referral sources.
- For a woman taking opioids on a regular basis, who has a history of a substance use disorder, or who is at high risk for aberrant drug-related behavior, coordinate pain therapy with her primary care health professional before the procedure, whenever possible.
- For a pregnant woman without an opioid-use disorder who needs pharmacologic management for acute pain (e.g., dental pain, surgical pain, pain due to injury), manage pain with a multi-modal approach, minimizing the use of opioids.
- Before prescribing opioids to a pregnant woman, discuss the benefits and risks of opioids, and review treatment goals with her.[11,12]
- If an opioid is prescribed, it should be for a short duration and for conditions associated with acute pain.

Continued on page 38

- When opioids are indicated, choose the lowest potency opioid necessary to relieve pain.
- Do not use long-acting or extended-release opioids to treat acute pain.
- For any woman reporting unexpectedly prolonged pain, evaluate whether there is an underlying cause, and consider whether continued use of opioids is appropriate.
- Unless you have training and experience in the use of opioids for the treatment of chronic facial pain, do not prescribe long-acting or extended-release opioids.
- Discuss expectations about recovery and pain, including ACOG Committee Opinion: Opioid Use and Opioid Use Disorder in Pregnancy[12] and The ADA Practical Guide to Substance Use Disorders and Safe Prescribing.[15]
- Emphasize not using opioids in conjunction with alcohol or sedative medications (e.g., benzodiazepines).
- Educate the patient about safe use of opioids (including safe storage of and disposal of medications), potential side effects, overdose risks, and developing dependence or addiction.
- Educate the woman about tapering the use of opioids as oral pain resolves.

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www.mchoralhealth.org/PDFs/opioids-pregnant-women.pdf

Remember to Check INSPECT

In 2019 the use of INSPECT became mandatory for any practitioner who holds an Indiana Controlled Substance Registration (CSR) and prescribes a controlled substance.

Indiana INSPECT is an online secured database that both registered practitioners and dispensers can access to check patient prescribing histories and to enter records of their patient prescriptions. This database collects a patient's controlled substance prescribing history in one location to assist with patient care and to help with any abuse or diversion of controlled substances. All Indiana controlled substance prescriptions are required to be submitted within 24 hours by the pharmacists/pharmacy. INSPECT also interfaces with other states' prescription monitoring programs.

The INSPECT database is private and secured. INSPECT helps ensure that only those who have properly prescribed opioids have access to them. It gives you valuable information when determining whether or not to prescribe opioids because it serves as a tool to identify patients who are "doctor shopping" for opioids.

Registration is connected to your CSR and you can get more information at the Indiana INSPECT website: **www.in.gov/pla/inspect/**.

Each time you are prescribing a controlled substance, you are legally required to check the patient's prescription record in INSPECT. The report will provide you with accurate information to assist with diversion, prevention and the best patient care.

Supporting Smiles in Recovery

Karisa Vandeventer, LCAC, LMHC, CSPR-CL

NO ONE begins using a psychoactive substance with the intention of developing a substance use disorder. For example, the use of alcohol begins with the thought that it will only be utilized at social events with friends and for some people it is possible to maintain that level of use. The development of a substance use disorder is a process that for many begins with the experimental and social use of legal mood-altering substances such as alcohol, to illicit mood-altering substances such as heroin. For many people that I have served in my role as a licensed clinical addictions counselor, the use of drugs or alcohol began as an experimental activity during the adolescent stage of development. They shared that they smoked their first cigarette or took their first hit on a joint as a means of fitting in at parties or simply to satisfy their curiosity around activities they saw adults in their life doing. The behavioral changes during their experimental use were little to none.

Over time the use of substances became more frequent, impacting the school or work performance, negative impact on personal relationships and changes in behavior began to occur. Continued used brought on tolerance and withdrawals, where dependency upon their substance of choice became evident, leading to psychological and physical distress when they attempted to quit or cut back as their bodies needed the substance to achieve a state of homeostasis.[2]

The American Society of Addiction Medicine defines Addiction as "Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences. Prevention efforts and treatment approaches for addiction are generally as successful as those for other chronic diseases.[2] The latest edition of the Diagnostic & Statistical Manual of Mental Disorders-5 or DSM-5 published in May of 2013 removed the distinction of abuse and dependence. Substance use disorders or SUD for short span a variety of problems that impact the person dealing with the disorder and cover 11 different criteria that fall under the categories of impaired control, physical dependence, social problems, and risky use:

1. Taking the substance in larger amounts or for longer than intended
2. The desire to cut down or stop using the substance and not being able to
3. Experiencing intense cravings or urges to use the substance
4. Needing more of the substance to get the desired effect (tolerance)
5. The development of withdrawal symptoms when not using the substance
6. Spending more time getting and using substance and recovering from use

7. Neglecting responsibilities at home, work, or school because of substance use
8. Continuing to use when it causes relationship problems
9. Giving up important or desirable social and recreational activities due to substance use
10. Using substances in risk settings that put the user in danger
11. Continuing to use despite the negative impact that use has upon the person

The DSM-5 allows clinicians to specify the severity of substance use disorder through mild (presence of two to three criteria), moderate (the presence of four to five criteria) and severe (the presence of six or more criteria. Substance use disorder diagnosed at the severe level is also referred to as addiction. The term substance use disorder is often utilized in the medical community to decrease the stigma that can be present in medical professionals.

The most recent National Survey on Drug Use and Health (2021) reported some of the following:

- Among people aged 12 or older in 2021, 57.8 percent or 161.8 million people use tobacco, alcohol, or an illicit drug within the last month.
- In 2021, 3.3 percent or 9.2 million people aged 12 or older misused opioids (heroin or prescription pain relievers) in the past year. Among the 9.2 million people, 8.7 million people misused prescription pain medication compared with 1.1 million people who used heroin. The numbers include 574,000 people who both utilized heroin and misused prescription pain medication.

The use of opiates for both medicinal and recreational purposes dated back to around 3,000 B.B with the poppy plant or as the Egyptians referred to it as the "joy plant." Opium use was common in Europe in the 17th century. Until 1803, opium was the sole narcotic available until morphine was created, followed by codeine in 1832. The use of opiates was widespread in the United States by the 19th century. The invention of the hypodermic syringe in 1853 took the problem of opiate addiction to new levels.

Addiction to morphine increased dramatically due to its use in the Civil War and was often referred to as the "soldiers' disease." During the last half of the century, an estimated 1 million people were thought to be addicted to opiates. In 1898, A. H. Bayer introduced a new product stated to cure addiction to opium, morphine, and codeine. The name of that drug was diacetylmorphine better known as "heroin." Later followed the development of semisynthetic and synthetic compounds known as opioids prescribed for pain management. Some semisynthetic opioids are Dilaudid, Oxycodone, Percodan, and Percocet. Commonly known synthetic compounds are Demerol, Methadone, Buprenorphine, Propoxyphene, OxyContin and Fentanyl.[3]

Opioids are classified as a CNS depressant with methods of administration being oral, smoking, snorting and intravenous. Severe respiratory depression is the major cause of death by opioid overdose or opioid poisoning. Thankfully, the lifesaving opioid antagonist, known as naloxone or narcan is becoming more readily available in Indiana. Naloxone boxes and vending machines are popping up more and more within communities as a response to the opioid epidemic. Non-profit agencies such as Overdose Lifeline provide free naloxone kits as well as Fentanyl testing strips to anyone while allowing the requester to remain anonymous, helping to reduce the stigma around opioid use disorder.

More about opioid use disorder, naloxone, and other relevant information can be found at **www.overdoselifeline.org**. Reducing stigma is an important piece of working to help those dealing with opioid use disorder as stigma is often a barrier for people seeking support for their opioid use disorder, as well as seeking out healthcare in general. Learning more about how you and your team can reduce stigma for people you serve may help someone seek out their first step towards recovery.

Recovery is possible for anyone dealing with a substance use disorder. Per the results from the 2021 National Survey on Drug Use and Health: National Findings: "Among 29 million adults aged 18 years or older who perceived that they ever had a substance use problem, 72.2 percent considered themselves to be in recovery or to have recovered from their drug or alcohol problem."[6] Medicated Assisted Treatment options or (MATS for short) help assist people as a recovery pathway option.

According to the Substance Abuse and Mental Health Service Administration (SAMHSA), "Recovery has been identified as a primary goal for behavioral health care. In consultation with many stakeholders, SAMHSA has developed a working definition and set of principles for recovery. Recovery is defined as: "A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential."

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SAMHSA further shares that recovery has four different dimensions:

1. Health: Overcoming or managing one's disease(s) or symptoms and making informed, healthy choices that support physical and emotional well-being.
2. Home: A stable and safe place to live.
3. Purpose: Meaningful daily activities, such as a job, school, volunteerism, family caretaking, creative endeavors, etc., and the resources to participate in society.
4. Community: Relationships and social networks that provide support, friendship, love, and hope.

As you can see, the first dimension of recovery, health, is where those who provide services that support oral health can support smiles in recovery. For many persons recovery from substance use disorder, years of polysubstance use has caused harm to the mouth, gum, and teeth. There are some clients that I served whose first visit to the dentist was when they began to practice recovery and were learning for the first time to prioritize their physical health. This is where those in the dental world can support smiles in recovery. A secondary dimension where oral health professionals can be of further support is dimension, purpose. The following is a true story, the name of the client has been changed to protect their privacy and is shared with their permission.

Ashlee had been working with me in a co-occurring disorder treatment program and was doing well in her recovery journey from opioid use disorder and stimulant use disorder as well as a variety of mental health challenges. She was involved in a Family Recovery Court program as well and had been able to keep her son in her care the entire time. She was phasing up in the program and it was time for her to start searching for gainful employment.

Where she usually thrived in going above and beyond, in this area she seemed hesitant. One day during her time with me she shared, "Karisa, how can they expect me to go out into the world looking the way I do? I am so embarrassed to talk because of my teeth. When I look in the mirror, I still see the old me, the person addicted to drugs, and I am embarrassed. A smile is the first thing people notice and mine doesn't look like a normal person, I never want to smile because people don't see the changed me that I am on the inside, they see my smile and make assumptions about me just being another addict." Ashlee and I continued to work towards increasing her self-esteem in therapy and her seeing her the 'old version of herself' in the mirror when she smiled continued to be an emotional barrier and inhibited her from going to job interviews.

Thankfully, the care team and court team working with me to support Ashlee dedicated themselves to finding a dentist who would work with Ashlee and her insurance. We were often told, 'no' without much feedback until finally we found a dentist who was willing to work with her and supported her recovery by providing Ashlee with a beautiful new smile that reflected the new life she was living in recovery. I have never seen anything more wonderful than when Ashlee smiled. Her grin reached ear to ear. Shortly thereafter, Ashlee found gainful employment and began volunteering at her local church by leading a women's study group. The dentist who was willing to work with Ashlee helped her gain confidence to pursue her purpose. I am happy to share that Ashlee has been in recovery for over five years and is still thriving and sharing that brilliant smile wherever she

goes. Those of you working around oral health have an opportunity to support smiles in recovery through empathy, increased understanding, and education around substance use disorder and through breaking stigma. There are more Ashlees out there who are waiting on their smile in recovery to shine bright because of the work you do.

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Police-Paramedic Partnership Helps Address Opioid Crisis in Indianapolis

Kathy Walden

THE 46201 zip code, located on the near east side of Indianapolis, is fertile ground for the opioid crisis. The area has long suffered some of the lowest incomes and highest crime rates in the city.[1] A heat map of Quarter 1 2022 Indianapolis EMS Naloxone (Narcan) runs shows a zip code nearly filled in complete, far more than nearly any other zip code.[2] There are four times more overdoses in 46201 than the rest of Indianapolis, and the area's infant mortality rate is one of the highest in the state.[2] Already reeling from crime, poverty and other social ills for decades, the opioid crisis took hold and further ravaged the area in the 2010s.

The leaders at Shepherd Community Center noted the area's growing opioid crisis with dismay. Shepherd is a faith-based organization whose stated purpose is "breaking the cycle of poverty."[3] Shepherd assists the area with food pantries, counseling, job training, early childhood and after school care, English classes, legal aid and more,[3] and the opioid crisis only served to create yet more strain on the downtrodden community it was attempting to improve.

But rather than give in to helplessness, Shepherd responded to the opioid crisis with an innovative idea. In 2015 the center created the Shalom Project, which attempted to zero in on the root causes of poverty and social ills in the area to complement its existing efforts to help resolve problems that already existed. Part of the Shalom Project's initiatives was developing a partnership with the Indianapolis Metropolitan Police Department and hiring a community police officer who focused almost exclusively on the 46201 area. IMPD Officer Adam Perkins agreed to the role, with Shepherd paying his salary and IMPD providing his car and equipment.[4]

The idea of a community police officer was well received, but before long, Shepherd Community Center leaders realized that the area's problems weren't limited to crime and that the presence of a medical professional would help exponentially in addressing some of those root causes of poverty, including addiction and mental health. That's when the partnership between Perkins and paramedic Shane Hardwick was born.

Paramedic Shane Hardwick, left, and Indianapolis Metropolitan Police Department Officer Adam Perkins outside of Shepherd Community Center, which initiated the innovative pairing of police with a medical professional in a troubled Indianapolis neighborhood.

Since late 2015, Perkins and Hardwick have worked exclusively together, responding to situations in the area related to mental illness, overdoses and drug-related crimes. They are the only police-paramedic team in Indianapolis and, to anyone's knowledge, the only such partnership in the country. Hardwick travels

with emergency medical equipment and is able to reach residents in need quickly.

"On the first day, we agreed that we can't overpromise and underdeliver. We can't let this neighborhood down," recalled Hardwick. "We try to tackle the big picture, reduce recidivism to jail and look at preventative care to prevent overutilization of 911. We can't be okay with dealing with the same people over and over again with no results."

Hardwick explains how the social determinants of health can create a spiral of addiction and helplessness in a depressed area. "Everything feels predatory in these neighborhoods. You're constantly in fight or flight mode, where you don't know where your next meal is coming from, or if your car has a flat and you can't get to your job, or if you have constant stressors like crime and addiction, preventive healthcare sometimes takes a back seat," he said. "There's a mental exhaustion that comes with this kind of environment, and it becomes very difficult to have any future orientation when you're constantly under threat by something."

Hardwick has worked for 30 years as an EMT and paramedic and has seen the explosion of the opioid epidemic firsthand. "When I first started in this field, it was a big deal to Narcan someone," he recalls. "It was rare and you gave them this life giving medication that would cause someone to just spring back to life. Now it's an everyday thing." He said overdose ambulance runs are usually dispatched as cardiac arrest, but most end up being overdoses. "I can't even think of the last run I went on that was an actual cardiac arrest that didn't involve drug or gun violence," he said.

There is no single trait among those who overdose on drugs, he says. "It really does cross a lot of boundaries: Male, female, education level, races. But by the time we see them, they all look really rough, so they're all down on their luck. We frequently encounter a woman who was a housewife in a wealthy area of the city. Her parents will locate her on the streets from time to time and nurse her back to health, but she always eventually ends up back here."

A typical run for Hardwick and Perkins involves Hardwick starting resuscitation efforts and administering oxygen and Narcan to someone who has overdosed. He will also talk with family members, who are often terrified, and he will give the family a Narcan kit and show them how to use it. Perkins deals with any law enforcement issues on site, including charges for drug possession and drug dealing, though sometimes even his presence doesn't deter those who are determined to find and take drugs. "Once we were treating someone who had overdosed on the front porch, and the house was surrounded by police and fire, but there were still customers showing up to see if they could buy anything," recalls Hardwick.

Short-term symptoms of opioid overdose include a sudden stop to breathing, snoring, gasping respirations, pinpoint pupils and low oxygen saturation. Dentists may see longer-term but more subtle signs such as track marks, drug shopping behavior and "meth mouth." Dentists may also notice an extensive opioid prescription history on INSPECT, but Perkins says he doesn't see abuse of opioid prescriptions very often. While some in the community might have initially become addicted to prescription opioids, they quickly turn to illicit opioids as a faster, cheaper fix.

Perkins is doing his part to help with opioid and other addictions even when he's out of uniform. He's run a counseling and 12-step program in the community for the past seven years to help those struggling with addictions. "He'll put someone in the back of a paddy wagon, give them his card, and tell them, 'Call me when you're out and ready to get clean,'" said Hardwick.

"We've had some real success stories, folks we've encountered that find their way to our meeting and get some relief," said Perkins. "Obviously there are relapses, but I think having a network of individuals that are rooting for you and desire to have an ongoing relationships with you is key."

Perkins gives a lot of credit to Shepherd for creating the partnership and wishes there were more in the city and around the country. "Shepherd plays a big role in this. The city partnering with them is something that we don't see enough of," he said. "We're living in a data-driven world and we're discovering that what we do, we know it's a cost savings, because we've gotten people to stop abusing 911 and public services and that eventually saves the city money and makes the community better as a whole."

Hardwick agrees with Perkins' assessment. "Municipalities and healthcare systems want to own the whole problem, own the issues, impact recidivism and curb drug use," he said. "Public health and the law enforcement community have unknowingly been looking at the same problem, but from different vantage points for years. Factors such as

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how one was raised, who their influencers are, safety and housing insecurity, just a few of the social determinants of health, impact far more than someone's physical well-being and longevity. These factors not only impact the individual's quality of life but the community's as a whole. The good news is, there are groups within every community that want to be part of the solution. Organizations such as social fraternities and the faith based community are just a few that want to be involved in the solution. Nobody is smarter than everybody."

Both Hardwick and Perkins are confident that their seven-year partnership has made a difference in the area. They're both determined to do their part to address all the elements that affect the social determinants of health, including prenatal care, advocacy, education and navigation of social services. "I think we're appreciated. We have a reputation for doing things well," said Hardwick. "We try to move things from transactional to relational. The relationships and community are what change the game, especially with the drug scene. You cannot change human behavior if you don't have a relationship rooted in trust and respect to base that change on."

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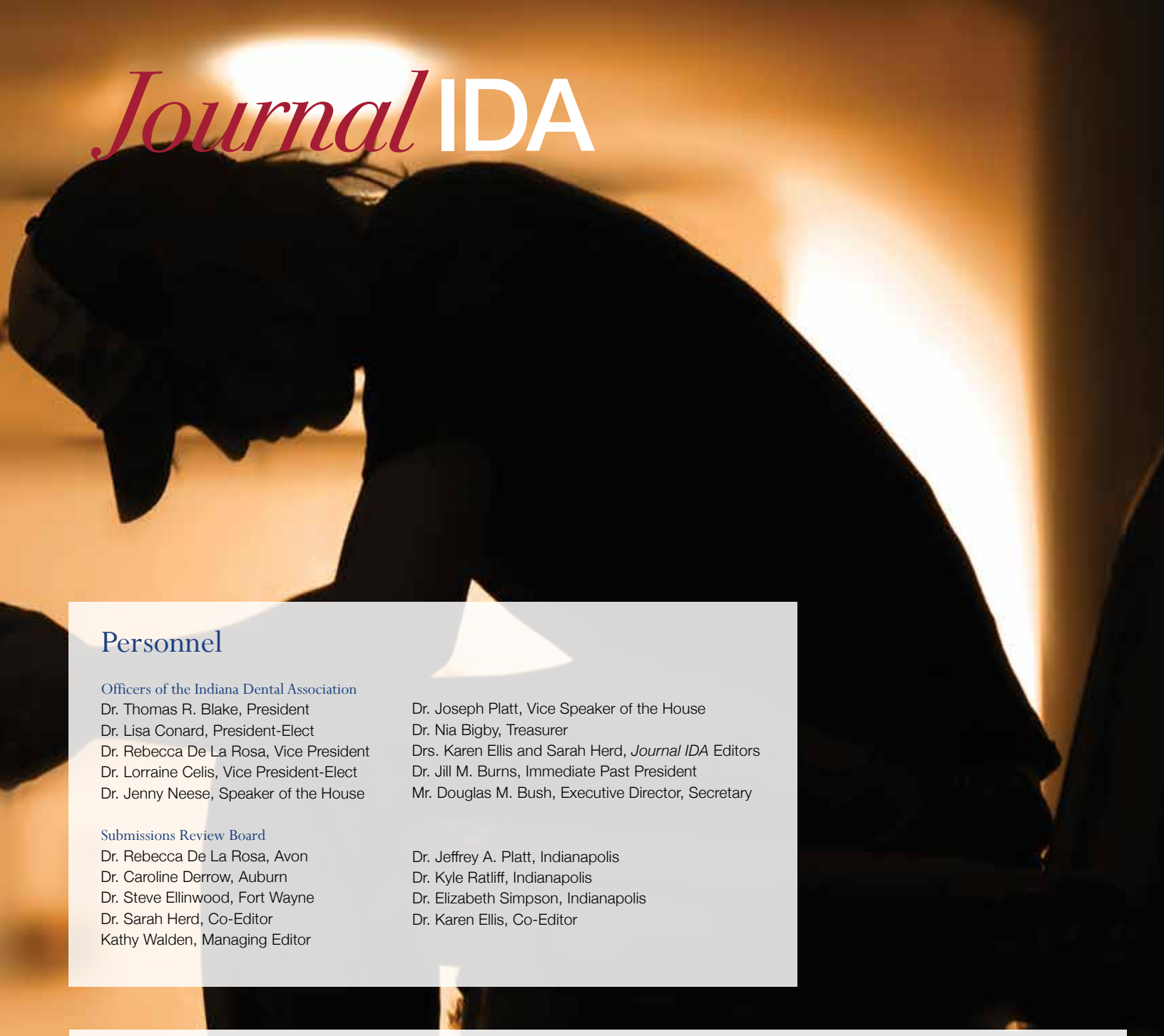

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