

Prevention of prescription opioid abuse

The role of the dentist

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When used appropriately, opioid analgesic drugs can be used to treat pain effectively, but they have the potential for misuse, abuse or addiction.¹ In recent years, the increase in the prescribing of opioids, particularly to manage chronic noncancer pain, has increased accessibility and likely contributed to the growing trend of nonmedical use, and nonfatal and fatal overdoses.²⁻⁷ Researchers have estimated that 5 to 23 percent of all prescription opioid doses dispensed are used nonmedically.⁸ Although abuse of controlled-release opioids is problematic, the most frequently abused opioids are immediate-release (IR) opioids, particularly hydrocodone and oxycodone.^{9,10} Dentists prescribe 12 percent of IR opioids in the United States, behind only family physicians, who prescribe 15 percent of IR opioids.¹¹ Since the abuse of opioids largely involves IR opioids, we assume that dentists are prescribing opioids that are being used nonmedically.

Unlike most drugs, for which beneficial and adverse effects occur in the intended patient, health consequences, including death, have been reported in unintended recipients of IR opioids, such as family members.¹² Because adolescents are at particular risk, the National Institutes of

ABSTRACT

Background. Opioids are analgesics that have potential for misuse, abuse or addiction. Up to an estimated 23 percent of prescribed doses are used nonmedically. As prescribers of 12 percent of immediate-release (IR) opioids in the United States, dentists can minimize the potential for misuse or abuse.

Methods. The authors participated in a two-day meeting in March 2010 cohosted by Tufts Health Care Institute Program on Opioid Risk Management, Boston, and Tufts University School of Dental Medicine, Boston. The purpose of the meeting was to synthesize available opioid abuse literature and data from a 2010 survey regarding West Virginia dentists' analgesic prescribing practices, identify dentists' roles in prescribing opioids that are used nonmedically, highlight practices that dentists can implement and identify research gaps.

Results. Dentists can play a role in minimizing opioid abuse through patient education, careful patient assessment and referral for substance abuse treatment when indicated, and using tools such as prescription monitoring programs. Research is needed to determine the optimal number of doses needed to treat dental-related pain.

Conclusions. Dentists cannot assume that their prescribing of opioids does not affect the opioid abuse problem in the United States. The authors suggest that dentists, along with other prescribers, take steps to identify problems and minimize prescription opioid abuse through greater prescriber and patient education; use of peer-reviewed recommendations for analgesia; and, when indicated, the tailoring of the appropriate and legitimate prescribing of opioids to adequately treat pain.

Practice Implications. The authors encourage dentists to incorporate practical safeguards when prescribing opioids, consistently educate patients about how to secure unused opioids properly, screen patients for substance use disorders and develop a referral network for the treatment of substance use disorders.

Key Words. Opioids; abuse; diversion; addiction; misuse; substance abuse; pain; dentists.

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Health's National Institute on Drug Abuse convened a meeting in Rockville, Md., on Feb. 23, 2009, to examine how opioid prescribing in dental settings might contribute to opioid abuse among adolescents. This meeting highlighted the need for improved understanding of opioid prescribing practices in dental settings, including the amount that dentists typically prescribe, the amount that patients actually need for adequate pain relief and what patients do with unused medication.

The motivation of those who give or share (that is, divert) their own prescription medications often appears to be to help a friend or family member with an apparent symptom of physical distress or pain, rather than trying to get the person "high."¹³⁻¹⁵ Nevertheless, prescription medication use for any purpose other than for what it was intended or by any person other than for whom it was intended by the prescriber is illegal and dangerous, although there is little recognition in the community that the sharing of prescription drugs is illegal and a type of drug diversion. People who receive prescription medications from nonclinical sources are unlikely to receive information about individualized dosing, possible contraindications, drug-drug interactions, drug-disease interactions, side effects, allergies or other warnings.

All prescribers have a responsibility to minimize the potential for drug misuse and diversion while maintaining legitimate access to opioids for patients in need of such analgesic treatment.¹ To explore these and related issues, a steering committee of the Tufts Health Care Institute (THCI) Program on Opioid Risk Management, Boston, selected a panel of experts on opioid abuse and diversion from academia, professional organizations, industry, law enforcement and governmental agencies. The panelists participated in a meeting regarding the role of dentists in preventing opioid abuse held in Boston in March 2010. The THCI Program on Opioid Risk Management and the School of Dental Medicine at Tufts University, Boston, cohosted the meeting. Before the meeting, we conducted a survey regarding opioid prescribing practices in West Virginia.

In this article, we report the findings from the March 2010 meeting, as well as the preliminary results from the survey conducted in West Virginia. In addition, we highlight opportunities for dentists to screen their patient populations for substance misuse. We also discuss prescribing practices, the need for patient education that focuses on the dangers of sharing prescription medications with family or friends, and properly storing or disposing of unused medication once

BOX 1

Definitions of terms related to nonmedical use of opioids.*

- **Misuse:** use of a medication (prescribed for a medical purpose) other than as directed or as indicated, whether willfully or unintentionally and whether or not harm results
- **Abuse:** any use of an illegal drug or the intentional self-administration of a medication for a nonmedical purpose such as altering one's state of consciousness (for example, "getting high")
- **Addiction:** a primary, chronic, neurobiological disease, with genetic, psychosocial and environmental factors influencing its development and manifestations; it is characterized by behaviors that include impaired control over drug use, compulsive use, continued use despite harm and craving or a combination of these
- **Physical dependence:** a state of adaptation that is manifested by a drug-class-specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug or administration of an antagonist
- **Tolerance:** a state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug's effects across time

* Sources: Savage and colleagues^{21,22} and Katz and colleagues.²³

the need for taking the medication has passed.¹⁵⁻¹⁷

DEFINITIONS RELATING TO NONMEDICAL USE OF OPIOIDS

The term "nonmedical use of prescription opioids" denotes a heterogeneous group of motivations that can involve self-treatment, sensation seeking or a combination of behaviors by people who misuse or abuse their own or another person's controlled prescription medication.¹⁸⁻²⁰ To avoid misunderstanding of the colloquial use of terms relating to nonmedical use of prescription opioids, professional associations and experts have defined these terms (Box 1).²¹⁻²³ Drug addiction is a complex disease that involves genetics, the environment and exposure to drugs that produce rewarding neuropsychological effects.²⁴ Clinical experience suggests that patients who do not have the genetic vulnerability or live in an environment that predisposes them to substance abuse may be less likely to become addicted when exposed to opioids.^{25,26} Some people who do not appear to be at risk may develop addiction that is

ABBREVIATION KEY. **ADA:** American Dental Association. **IR:** Immediate release. **MTF:** Monitoring the Future. **NIDA:** National Institute on Drug Abuse. **NSAIDs:** Nonsteroidal anti-inflammatory drugs. **NSDUH:** National Survey on Drug Use and Health. **PMPs:** Prescription monitoring programs. **SAMHSA:** Substance Abuse and Mental Health Services Administration. **SBIRT:** Screening, brief intervention and referral to treatment. **THCI:** Tufts Health Care Institute. **UDT:** Urine drug testing.

unmasked by exposure to an abusable medication; however, this is less likely to occur among older patients because most tendencies toward addiction will have been expressed previously.²⁷

THE EXTENT OF NONMEDICAL PRESCRIPTION OPIOID USE

The authors of a number of studies have described the increase in nonmedical use of scheduled prescription opioids in the United States, particularly by adolescents and young adults.^{9,10,16} The Drug Abuse Warning Network is a public health surveillance system that is administered by the Substance Abuse and Mental Health Services Administration (SAMHSA), Rockville, Md. This network monitors drug-related emergency department visits.¹⁶ From 2004 to 2008, emergency department visits involving nonmedical opioid use increased 111 percent.

Results from the National Survey on Drug Use and Health (NSDUH), which also is administered by SAMHSA, showed that in 2009, 8.7 percent of Americans aged 12 and older had used illicit drugs (that is, marijuana, cocaine, heroin, hallucinogens, inhalants or prescription-type psychotherapeutics used nonmedically) in the past month.⁹ The NSDUH defined “nonmedical” use of psychotherapeutic drugs as use without a personal prescription or simply for the experience or feeling the drugs caused. Psychotherapeutic drugs include prescription-type pain relievers, tranquilizers, stimulants and sedatives. Survey results also showed that 2.6 million people 12 years and older used psychotherapeutics nonmedically for the first time within the preceding year (approximately 7,000 initiates per day); 2.2 million of these people used pain relievers nonmedically for the first time. The average age at which pain relievers were first used nonmedically was 20 years.

The Monitoring the Future (MTF) survey of students in the eighth, 10th and 12th grades asked whether the students had used psychotherapeutic drugs on their own (that is, “without a doctor telling you to take them”).¹⁰ The lifetime prevalence of prescription opioid misuse among 12th grade students in 2009 was 13.2 percent. The authors of the MTF survey also reported that the past-year prevalence of nonmedical use of hydrocodone with acetaminophen among students in the eighth, 10th and 12th grades was 2.5 percent, 8.1 percent and 9.7 percent, respectively.

SOURCES OF MISUSED PRESCRIPTION OPIOIDS

The main sources for obtaining prescription drugs that are used nonmedically are family

members and friends or by having them prescribed for therapeutic use.^{9,10} In the MTF study, students’ most common sources of misused prescription opioids were given for free by a friend or relative, bought from a friend or family member, or left over from their own prescription provided for a legitimate medical problem.¹⁰ The results of the NSDUH survey showed that among people 12 years and older in 2008 and 2009 who used pain relievers nonmedically in the preceding year, 55.3 percent got the drugs they most recently reported using from a friend or family member for free, 9.9 percent bought them from a friend or family member, 5.0 percent took them from a friend or family member without asking, 17.6 percent got them through a prescription from one prescriber (in contrast to obtaining prescriptions from multiple prescribers), and 4.8 percent got pain relievers from a drug dealer or stranger.⁹ Among those who reported getting the pain reliever from a friend or family member for free, 80 percent reported that the friend or family member had obtained the drugs from one prescriber. Moreover, the results of a 2008 study in Utah showed that 72 percent of respondents who were prescribed an opioid had leftover medication, and 71 percent of those with leftover medication kept it.²⁸

CURRENT PRACTICE PATTERNS FOR ACUTE DENTAL-RELATED PAIN

Oral and maxillofacial surgeons. In a survey of 563 practicing oral and maxillofacial surgeons from a sample from the American Dental Association (ADA) Survey Center, investigators examined clinicians’ prescribing practices after performing third-molar extractions.^{29,30} Third-molar extractions are common surgical procedures usually performed in healthy young adults (mean age, 20 years).^{9,31} A total of 73.5 percent of the clinicians indicated that the peripherally acting postoperative analgesic they preferred was ibuprofen. However, 85.0 percent of the respondents also almost always prescribed a centrally acting opioid; the drug of choice was hydrocodone with acetaminophen (64.0 percent).²⁹ On average, they prescribed 20 tablets of hydrocodone with acetaminophen, with instructions in 96.0 percent of cases to take “as needed for pain.” These oral and maxillofacial surgeons performed an average of 53 third-molar extractions per month (ranging from 44.9 in New England [New Hampshire, Rhode Island, Massachusetts, Connecticut, Vermont and Maine] to 68.5 in the West North Central region [Iowa, Kansas, North Dakota, South Dakota, Minnesota, Missouri and Nebraska]), which when extrapolated to all 5,542 practicing

oral and maxillofacial surgeons in the United States at that time, equaled an estimated 3.5 million third-molar extractions per year, not including those performed by general dental practitioners.³⁰ Consequently, up to approximately 3.5 million people with an average age of 20 years may be exposed to opioids and anesthetics in dentistry.

Therefore, we suggest that oral and maxillofacial surgeons, who generally have short-term relationships with their patients, should communicate with general dentists regarding patients with known or potential substance abuse problems. Likewise, general dentists who suspect that a patient or someone in a patient's family has substance abuse issues should consider discussing this situation with oral and maxillofacial surgeons when referring patients. Before doing so, however, unless dentists' state privacy laws dictate different results, we suggest that dentists obtain authorization from their patients, as practitioners are obligated ethically to safeguard the confidentiality of patient records. Also, dentists need to check the privacy authorization form they use pursuant to the Health Insurance Portability and Accountability Act to ensure that it allows disclosure of protected health information to other treating professionals.

General dentists. In a 2010 statewide survey that received approval by the University of Charleston Institutional Review Board, we evaluated West Virginia dentists' analgesic prescribing patterns and experiences with patient drug diversion and substance abuse.³² Fifty-two percent of all dentists in West Virginia responded to the survey; 79 percent of respondents were general practitioners (Michael G. O'Neil, PharmD, University of Charleston, W.Va., unpublished data, November 2010). Among dentists who did not prescribe opioids, the most frequently prescribed analgesics were nonsteroidal anti-inflammatory drugs (NSAIDs) (64 percent), followed by acetaminophen (28 percent). Among dentists who prescribed opioids, the most frequently prescribed IR opioid was hydrocodone with acetaminophen (73 percent). The amount of opioids prescribed after third-molar extraction varied, but between 10 and 20

doses was most common (66 percent), and two to five days of treatment was most common (86 percent). When asked about doses of IR opioids that dentists suspect patients have left after a third-molar extraction, 41 percent of dentists expected patients to have leftover drugs. It is unknown, however, whether dentists informed patients about how to secure medication so that it was not diverted or how to dispose of unused medication. As a result of conducting this survey, we identified a number of research questions and knowledge gaps of importance to dentists and their patients (Box 2³²).

THE ROLE OF DENTISTS

Appropriate prescribing practices and patient education. ADA Current Policies contains two statements that relate to the prescribing of opioids: Statement on the Use of Opi-

BOX 2

Research agenda needed to define the role of the dentist in preventing prescription opioid abuse.*

- Fill gaps in current pharmacological knowledge with respect to the efficacy of nonopioid analgesics for managing acute and chronic pain in the dental setting. Specific topics include the following:
 - Efficacy of prescribing analgesics at fixed intervals versus as needed
 - Demographic, behavioral and genetic (polymorphisms) factors that potentially predict pain relief efficacy, adverse outcomes and abuse
 - The utility of nonsteroidal anti-inflammatory drugs and acetaminophen combinations in limiting the need for opioid analgesics
 - The utility of long-acting local anesthetics alone or combined with buprenorphine to manage postoperative pain
- Research the use of opioids for managing the treatment of patients with chronic orofacial pain of both neuropathic and nociceptive origin
- Research the potential of limiting the dose of opioids or improving the effectiveness of pain therapy by coadministering adjunctive medications such as *N*-methyl *D*-aspartate receptor antagonists, anticonvulsant agents or other adjuvants
- Better understand practice patterns for pain management and analgesic use among general dentists and dental specialists
- Better understand dentists' perceptions of the risk and safety of opioid analgesics, and awareness about the increasing problem of prescription drug misuse and abuse
- Examine the effectiveness of education to improve dentists' pain management and prescribing practices
- Determine patient behaviors regarding compliance with opioid prescriptions from dentists, and the prevalence and patterns of diversion of unused opioids prescribed by dentists, particularly among adolescents
- Research practices to curb diversion of prescription opioids in the dental setting (that is, appropriate dosing; safeguard medications stored in the dental practice; instructions to parents regarding storage, disposal of unused medication and not sharing)
- Assess the effectiveness of educational programs that address managing the pain and anxiety of patients who are chemically dependent and patients who are in recovery after drug dependence
- Evaluate the impact of information campaigns regarding appropriate use, storage and disposal of prescribed analgesics on diversion of opioids by adolescents

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BOX 3

American Dental Association Statement on the Use of Opioids in the Treatment of Dental Pain.*

- The ADA encourages continuing education about the appropriate use of opioid pain medications in order to promote both responsible prescribing practices and limit instances of abuse and diversion
- Dentists who prescribe opioids for treatment of dental pain are encouraged to be mindful of and have respect for their inherent abuse potential
- Dentists who prescribe opioids for treatment of dental pain are also encouraged to periodically review their compliance with Drug Enforcement Administration recommendations and regulations
- Dentists are encouraged to recognize their responsibility for ensuring that prescription pain medications are available to the patients who need them, for preventing these drugs from becoming a source of harm or abuse and for understanding the special issues in pain management for patients already opiate dependent
- Dentists who are practicing in good faith and who use professional judgment regarding the prescription of opioids for the treatment of pain should not be held responsible for the willful and deceptive behavior of patients who successfully obtain opioids for nondental purposes
- Appropriate education in addictive disease and pain management should be provided as part of the core curriculum at all dental schools

* Source: American Dental Association.³³

oids in the Treatment of Dental Pain (Box 3)³³ and Statement on Provision of Dental Treatment for Patients With Substance Use Disorders.³⁴ However, although policy statements are important to dentistry, none provide guidance for addressing the public health threat posed by unused medications as a mechanism of drug use initiation. Available data and peer-reviewed recommendations suggest that clinicians prescribe no more than the number of doses needed based on the usual duration of pain severe enough to require opioids for that condition.^{30,35-37} For example, after dental implant surgery, the typical dosing period for hydrocodone with acetaminophen was between two and three days,³⁸ although there must be some flexibility in the number of days, as some patients legitimately will need analgesics for seven days or more. In addition, the results of another study showed that 24 percent of patients reported that they still were taking analgesics 10 days after the removal of four third molars.³¹

Overprescribing occurs when prescriptions are written in quantities that might be needed for any treated patient, even one having unexpectedly severe and prolonged postoperative pain.²⁹ For example, oral and maxillofacial surgeons in the United States reported that they

prescribed hydrocodone with acetaminophen in quantities of up to 10 to 20 doses after third-molar extractions. In our opinion, good clinical practice would suggest that prescribing quantities expected to last more than a few days actually may be harmful. Prolonged severe pain after surgery most often is an indication of poor healing or infection. In these circumstances, an immediate visit to the practitioner's office may be a better course of action than continued consumption of pain medications. The practitioner can assess the patient's healing and make determinations regarding additional treatment and pain management.

Alternative strategies for limiting postoperative pain include administering prophylactic NSAID analgesics (that is, ibuprofen 400-600 milligrams preoperatively) and the long-acting local anesthetic bupivacaine to provide prolonged analgesia.³⁹⁻⁴² In addition, full therapeutic doses of peripherally acting analgesic agents, such as ibuprofen and naproxen, were as effective as opioids for many patients who underwent dental impaction surgery that caused moderate to severe pain.⁴³ Moreover, these patients typically took NSAIDs for between four and six days. Therefore, there is evidence that nonopioid analgesic agents should be considered the first line of therapy for the routine management of acute postoperative dental-related pain.^{35-37,44}

Ultimately, dentists have an opportunity at every visit to counsel patients to not share medications and to dispose of unused medication once the condition has resolved.²⁸ The Office of National Drug Control Policy's guidelines for the disposal of prescription drugs instructs patients not to flush prescription drugs down the toilet or drain unless the label or accompanying patient information specifically instructs them to do so.⁴⁵ Patients should take advantage of community prescription drug take-back programs, which are growing in number.⁴⁶ A list of some local programs is available at The Drug Take-Back Network's Web site.⁴⁷ If such programs are not available, patients can access an online U.S. Food and Drug Administration-maintained list of medicines recommended for flushing.⁴⁸ SMAR_xT DISPOSAL, a partnership among the U.S. Fish and Wildlife Service, the American Pharmacists Association and the Pharmaceutical Research and Manufacturers of America, provides consumers with guidance on the proper disposal of unused or expired medications and raises awareness about the potential environmental effects of improperly disposing of medications.⁴⁹

Screening for substance abuse. Because dentists frequently develop long-term relationships with patients, they are in a unique position to assist in national public health efforts to screen for substance abuse and help affected patients access available resources.^{50,51} In our experience, dentists often do not inquire further about current or past substance abuse. Although brief interventions might improve outcomes for emerging substance abuse disorders,^{27,50} dentists may be unsure about how to respond to an affirmative answer and have no obvious financial incentive to take the time to ask questions about substance abuse. In the West Virginia survey of dentists, 33 percent of respondents acknowledged that they did not routinely ask new patients about their history of substance abuse (Michael G. O'Neil, PharmD, University of Charleston, W.Va., unpublished data, November 2010). This omission is common, as less than one-third of primary care physicians carefully screened their patients for substance abuse and missed opportunities to intervene.⁵²

The model for screening, brief intervention, referral and treatment (SBIRT),⁵³ which includes reimbursable codes available through commercial insurance Current Procedural Terminology codes, Medicare G codes and Medicaid Healthcare Common Procedure Coding System codes in medical settings, could be applied to the dental model. The goal of SBIRT—a federally funded SAMHSA initiative—is for screening for substance abuse to become a routine part of medical care (Box 4).⁵³ SAMHSA has funded cooperative agreements with 13 states, as well as some tribal councils, colleges and medical residency programs, to establish SBIRT services. The results of a six-state study of SBIRT used in a range of medical settings showed that 23 percent of patients who were screened were positive for substance use.⁵⁴ Most of these patients received a recommendation from their clinicians to undergo a brief intervention (16 percent); fewer patients received a recommendation to undergo brief treatment (3 percent) or were referred for specialized treatment (4 percent). The rates of drug use after six months were 68 percent lower, and heavy alcohol use was 39 percent lower across most sites. Among people whose clinicians referred them for brief or specialized treatment, self-

BOX 4**Overview of the screening, brief intervention and referral to treatment model.***

- Screening identifies patients who need further assessment or treatment for substance use disorders; commonly used screening instruments are as follows:
 - Alcohol Use Disorders Identification Test
 - Alcohol, Smoking and Substance Involvement Screening Test
 - Drug Abuse Screening Test
- Brief intervention is a single session or multiple sessions of motivational discussion focused on increasing insight and awareness regarding substance use and motivation toward behavioral change; it can be used as a stand-alone treatment for those at risk, as well as a vehicle for engaging those in need of more extensive levels of care
- Brief treatment is provided to those seeking or already engaged in treatment who acknowledge problems related to substance use; it consists of a limited number of highly focused and structured clinical sessions with the purpose of eliminating hazardous or harmful substance use
- Referral to specialized treatment is provided to those identified as needing more extensive treatment than offered by the screening, brief intervention and referral to treatment program

* Source: Substance Abuse and Mental Health Services Administration.⁵³

reported improvements occurred in their general health, mental health, employment, housing status and criminal behavior.

In our opinion, dentists have an ethical obligation to not only refuse to prescribe opioids for patients who they suspect may be substance abusers but also to discuss sensitively their concerns with these patients and offer referrals for intervention.⁵⁵⁻⁵⁷ For example, the ADA's guide on talking with patients about drug use has an example of a brief intervention that can be used to encourage a patient to seek treatment for suspected substance use:

"I'm concerned you could be getting in over your head with your drug use. Here's the name of a person at a treatment center. I'd suggest you go talk with them and see if they can help you." It helps to have a name and if you know a little about what the patient could expect. For example, "Someone there should be able to see you in the next 24 hours. ... They'll help you find a place you can afford."⁵¹

In addition, we suggest that dentists encourage office personnel to be observant of and alert the dentist to questionable patient behaviors, demeanor or symptoms.⁵⁸⁻⁶⁰ Patients often express their concerns to staff members more readily than to the dentist, so an educated, empathetic and nonjudgmental dental team can be key in identifying substance use problems.⁵⁸ Dental hygienists, who often spend the most time with patients, could integrate screening into their practice, with dentists interpreting and discussing the results privately with patients when necessary. There are several standardized

screening instruments from which to select that are based on patient demographics and dentist and staff preferences.⁵⁰ Dentists should consider developing a referral protocol for substance abuse treatment for patients they have identified as being in need of treatment and collaborate with the patients' primary care physicians.^{55,61-63} This action is consistent with the American Dental Association Principles of Ethics and Code of Professional Conduct, which states that "dentists shall be obliged to seek consultation, if possible, whenever the welfare of patients will be safeguarded or advanced by using those who have special skills, knowledge and experience."⁶⁴ Dentists can identify community treatment resources for patients by asking local emergency department staff or searching for local resources online (for example, by using SAMHSA's substance abuse treatment facility locator⁶⁵).

Some patients may not reveal their history of substance abuse out of shame or fear of judgment, so dentists need to be aware of the signs of drug abuse.⁶³ In addition to the patient's general appearance and behavior, dental trauma and having frequent vague complaints, there are several oral symptoms associated with drug abuse such as rampant caries, poor oral hygiene, advanced periodontitis, xerostomia, a high percentage of missing teeth, traumatic lesions and oral infection.^{55,57,62,63} Such patients may see their dentists with concerns about esthetic aspects of their dental disease,⁶⁶ which can provide an opportunity for dentists to provide a brief intervention or referral for treatment.

Another reason for dentists to screen patients for substance use disorders is that it is responsible clinical practice to know what other drugs, including alcohol, a patient is taking to prevent drug-drug interactions and possible overdoses.^{27,34,63} In addition, the use of alcohol and drugs is predictive of failure to adhere to a clinical regimen.²⁷ Asking patients about substance use and raising it as a health issue can help dentists develop treatment plans for these patients who can have multiple diagnoses of medical and psychiatric problems and have special needs.^{27,55,67}

PAIN MANAGEMENT IN PATIENTS WHO ARE OR WERE CHEMICALLY DEPENDENT

With an 8.7 percent rate of current illicit drug use among people 12 years and older,⁹ dentists can expect to encounter patients who use illicit drugs. However, substance use and addiction commonly are underdiagnosed in clinical practice.⁵² Patients with histories of substance abuse include those who are in drug-free recovery,

those who are in recovery with adjuvant pharmacotherapy for relapse prevention (that is, receiving methadone or buprenorphine) and those who have active disease.³⁵ Dental professionals can learn to recognize patients in these groups, determine their status in the recovery process and establish practices to manage their dental-related pain.^{34,68} Each of these groups has unique challenges (for example, how to adequately manage acute pain in a patient receiving buprenorphine or methadone maintenance therapy). In our opinion, dentists should consult with these patients' primary care physicians or substance abuse treatment centers to carefully plan an analgesic regimen. Dentists also should collaborate with patients' family members or support networks (with appropriate permission obtained in compliance with state privacy laws), particularly if it is established that a controlled substance is necessary for their care (for example, have a "trusted other" dispense each dose of medication rather than giving the patient unsupervised control over the medication).^{55,68} Dentists should encourage patients to intensify their involvement in recovery programs before and after dental treatment that may involve surgery or postoperative pain.⁶⁸ Having informed consent—including the risk of initiating a relapse—and strict parameters for treatment is essential.⁶⁸ Within the appropriate scope of some practices, however, dentists may want to consider using urine drug testing (UDT) to document adherence to the treatment plan or to aid in the diagnosis of drug addiction or diversion. In considering the use of UDT, dentists should refer to more specific guidelines.⁶⁹ Drug tests are relatively inexpensive and easy to use and can be purchased online. These tests may be useful in practices with high rates of at-risk patients. In most other practices, however, there may be little opportunity or incentive for dentists to conduct UDT as a proactive step.

DENTISTS' RESPONSIBILITIES WHEN PRESCRIBING OPIOIDS FOR DENTAL-RELATED PAIN

Dentists should be mindful of the inherent abuse potential of opioids, as well as understand and comply with federal and state regulations regarding the legitimate prescribing and administration of controlled substances.³³ The ADA Statement on the Use of Opioids in the Treatment of Dental Pain³³ encourages dentists to obtain continuing education that promotes responsible prescribing practices to ensure that opioids are available to the patients who need

them and to limit instances of abuse and diversion. Some state boards of registration in dentistry have developed advisory statements regarding pain management in dentistry. For example, the Massachusetts Board of Registration in Dentistry states:

The dentist is also responsible and accountable for acquiring and maintaining the knowledge, skills and abilities necessary to practice in accordance with accepted standards of care for pain management. Such competencies may be obtained through basic, graduate or continuing education programs, as appropriate to the dentist's scope of practice. These competencies include, but are not limited to, knowledge of the current federal and state laws and regulations for the prescription, dispensing, administration and destruction of controlled substances, and current evidence-based guidelines developed by nationally recognized professional organizations in the assessment and management of pain.⁷⁰

SAFEGUARDING THE DENTAL PRACTICE

The national media have noted that dentists are among the prescribers from whom substance users seek prescription opioids to abuse through "doctor shopping," the intentional practice of using multiple prescribers solely for the purpose of obtaining multiple prescriptions for controlled drugs.⁷¹ Dentists generally should not prescribe drugs without first examining and evaluating the patient and documenting the patient's condition in his or her dental record.⁷² For example, in cases of obviously chronic pathology (for example, decay), dentists should consider prescribing opioids only after performing an actual procedure. Dentists also can become familiar with other methods that drug addicts may use to obtain prescription drugs such as contacting the dentist by phone after regular office hours or during weekends, demanding immediate action, not following through with preventive recall visits or rescheduling appointments, claiming to be from out of town, requesting early refills of "lost" or "stolen" medications, or claiming to be allergic to all drugs except controlled substances.^{55,59,63} Requesting a driver's license or another photo identification from new patients can help determine whether the patient has traveled a significant distance, in which case they should be queried regarding why they chose your office.¹⁷ Dentists should consider checking references for

BOX 5

Considerations to make when prescribing opioids to dental patients.

- Be familiar with and consider evidence-based recommendations for the treatment of acute pain, including guidelines or suggestions for prescribing to patients with or without suspected substance abuse problems
- If available, use prescription monitoring programs to verify drug-use history
- Do not prescribe controlled drugs to patients you do not know, especially when the office is closed and there are few options available for seeing the patient
- Be suspicious of patients who ask for specific drugs or report that their medication was "lost," "stolen" or "dropped into the sink"
- Discuss with your patients and determine whether they actually need an opioid for their pain and how likely they are to use the quantity you prescribe; if they do not need it, do not write it or write for smaller quantities with a limited number of refills if needed
- Secure (that is, lock up) all prescription pads when not in use
- Write out the quantity of doses on the prescription and indicate "No Refills" unless you are sure that the patient will require a specific number of refills
- Consider that if you have received a referral from another dentist that the patient may already have been prescribed an analgesic (whether non-steroidal anti-inflammatory drugs or opioids)
- Advise all patients that if they do not destroy their remaining doses, they should properly secure any remaining medication
- For patients who acknowledge a substance use disorder, if opioids must be prescribed, ask if a responsible family member will safeguard and dispense the medication when needed to manage pain
- Discuss the patient's substance use history with his or her primary care physician or with another practitioner when referring the patient for specialized dental surgery

out-of-town patients, schedule an in-office visit, and—if deemed prudent—prescribe only a minimum amount of medication.^{55,63}

The results of the survey of West Virginia dentists showed that 58 percent of respondents believed they were the victims of prescription fraud or theft; the most common methods patients used to commit prescription fraud or theft were to fake pain symptoms (43 percent), claim their prescriptions were stolen (28 percent), forge written prescriptions (14 percent) and alter pill quantity (14 percent).³² Similar data that delineate the extent of the opioid abuse problem in the United States are not available for dentistry, but the results of a national survey of physicians revealed that although physicians were aware of abuse and 87 percent agreed that most recreational users obtained opioids from a legitimate prescription, 56 percent believed that only a small number of their patients misused or abused opioids obtained from a prescription, and 41 percent of physicians did not take steps to prevent the misuse and abuse of opioids in their own homes.⁹

There are a number of considerations clinicians should make when prescribing opioids to all dental patients (Box 5). Although these considerations are covered in greater detail elsewhere,^{17,59-61,73} they can help prescribers not only

become more proactive in helping mitigate the unintentional initiation of opioid use by adolescents but also facilitate recovery in patients who report a drug abuse problem and detect and manage prescription drug seekers and drug addicts who are not in recovery.

In many states, prescribers can query prescription monitoring programs (PMPs), which are statewide electronic databases of data about controlled substances dispensed. Dentists can use these databases to validate patients' reports of current use and history of prescribed controlled substances.^{72,74-76} Forty-three states have PMP legislation that is enacted; 34 databases were active and operational as of February 2011.⁷⁴ (A list of contact information and additional related information for state PMPs are maintained by the Alliance of States with Prescription Monitoring Programs⁷⁴ and the National Alliance for Model State Drug Laws.⁷⁵) PMPs, however, are not always used. The PMP in Maine provides data about prescribing and dispensing in its database to prescribers and dispensers who are registered as data requestors. As of August 2010, however, only 18 percent of eligible dentists in Maine had registered (the average registration rate among all prescribers was 35 percent).⁷⁷

CONCLUSIONS

In April 2011, the Obama administration released a comprehensive action plan to address how to respond to America's prescription drug abuse crisis.⁷⁸ This prescription drug abuse prevention plan includes action in four major areas to reduce prescription drug abuse: education, monitoring, proper disposal and enforcement. Although we do not address every aspect of substance abuse and misuse that can challenge a dentist, we address a number of points that dentists should consider. For example, having more valid and reliable prescriber and patient education than currently exists is a fundamental step in beginning to address the issues raised in this article. These issues include becoming more knowledgeable about the prevalence and health consequences of substance abuse, incorporating substance abuse screening into routine practice, being aware of signs and symptoms of substance use disorders and developing a referral network of community services for the evaluation and treatment of substance abuse. We also suggest that dentists consider establishing office policies that can help prevent or mitigate the diversion of opioids. In addition, reviewing current peer-reviewed recommendations³⁵⁻³⁷ for the treatment of dental-related pain is essential. Finally, the

appropriate use of opioids requires dentists to follow responsible and tailored prescribing practices to provide adequate pain control while limiting opportunities for abuse and diversion. Legitimate and successful pain control by means of opioid use must remain available to all patients who need it. While there are a number of areas requiring further research, dentists can take steps now to observe suggested guidelines, regulations and laws to minimize drug abuse and diversion of prescribed controlled substances. ■

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