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The Dental Patient Who Is "High"

Ethical and Scientific Recommendations for the Standard of Care

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Abstract

Patients sometimes appear for dental appointments after consuming alcohol or marijuana. There is presently no consensus standard of care in this area, and dentists vary in their responses to such patients. This paper includes interviews with practitioners and a review of the relevant biochemical and physiological science. The ethics of various ways to handle this challenging situation are examined, and evidence-based recommendations for dental practice are offered. While there is reason for caution, the authors conclude that a blanket "do not treat" policy is unwarranted. Informed consent and transportation safety issues pose significant moral challenges when a dental patient is "high."

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You are about to begin treatment of a 28-year-old patient when he volunteers the following: "Doc, I want to be completely honest with you. I don't know if this really matters, but dental appointments make me very nervous, so I smoked a little weed just before I came in. It calms me down."

The goal of this paper is to begin a conversation that will ultimately shape and clarify the standard of care in dental practice with respect to patients who appear for appointments after consuming alcohol or marijuana. While events like the above are not common in dentistry, they are probably more common than most dentists think, and there is little or no consensus about how they should be handled.

This examination began with the following assumptions, observations, and hypotheses:

> Most, if not all dentists will be confronted by patients who present for appointments after drinking alcohol or smoking marijuana. Most people experience mild to moderate fear of dentistry and some patients use one or both of these drugs to self-medicate against anxiety. Some people smoke marijuana or drink alcohol on a daily basis anyway.

Dentists vary significantly in their responses to patients who have consumed small to moderate amounts of

alcohol or marijuana just prior to a treatment appointment. Dentists do not typically have a rational or scientific basis for their practice policies in this area and typically cannot articulate a sound reason for their decisions. Dental school curricula do not address these issues in a direct or systematic way, and most dentists have not investigated the relevant biochemistry or physiology involved with treatment of people who have marijuana or alcohol in their system.

This paper will use the term "high" to describe a patient who smoked a small amount of marijuana or consumed a small amount of alcohol prior to his or her dental appointment (or used both). The term "smoke" or "smoking" refers to marijuana rather than tobacco.

The Situation

The use and prevalence of alcohol in the United States is well-known and well-documented. Data from the Centers for Disease Control and Prevention indicate that 61% of adults drank alcohol in 2006 and 20% have had five or more drinks during the same day on at least one occasion (National Center for Health Statistics, 2008). Survey data typically assert that about 5% of the general population abuses alcohol.

Accurate prevalence data for marijuana consumption is more difficult to ascertain, but it is generally thought that at least 4% of the American public smokes it. California has an estimated 100,000 users of medical marijuana (Okie, 2005), and San Francisco has more medical cannabis dispensaries than McDonald's restaurants (Jouvenal, 2005). Marijuana use is not limited to youthful smokers or any single demographic group. The U.S. Department of Health and Human Services recently reported that Baby Boomers still get high. "Those aged 50 to 59 reporting use of illicit drugs within the past year has nearly doubled from 5.1% in 2002 to 9.4% percent in 2007." Marijuana is the largest cash crop in several American states, including California, and the governor of that state recently called for a formal debate about legalization and taxation of marijuana for recreational use (Buchanan, 2009). Marijuana is here to stay, and trends imply that increased marijuana use in the United States is likely.

These numbers indicate that a metropolitan area such as Denver or Atlanta might conservatively include 30,000 people who abuse alcohol or use marijuana regularly. There are likely to be more than half a million such people in the Los Angeles area. Nearly all of these people have teeth. That said, there is simply no way to know how many people show up for dental appointments after consuming alcohol or marijuana. Many who do so are reluctant to inform their dentist out of embarrassment, fear of legal ramifications, or a fear that they might not be treated if they disclosed. Some patients might not think the information is important, while others may correctly discern that their dentist ought to know. Dentists often feel that they can tell when a patient has consumed marijuana or alcohol, but this is most assuredly not always the case.

The issue of legally sanctioned medical marijuana poses an additional challenge. In some places, marijuana can lawfully be obtained and used with a doctor's recommendation. Some cancer patients use marijuana on a daily basis as an anti-emetic, and they certainly need regular dental care. One can easily imagine a situation where a patient legally smokes medical marijuana, falls down, avulses a front tooth, and appears at a dentist's office for help.

Little formal help or advice is available to dental practitioners. The respective ethics codes of the American Dental Association and component groups such as the California Dental Association (2005) make no mention of the issues described in this paper. One essay by a physician and a dentist in the *Journal of the American Dental Association* even made the following assertion several years ago (McCarthy & Hayden, 1978): "Alcohol is an effective mild sedative for dental therapy when used in suggested dosage, and its use is encouraged."

It is unlikely that state dental practice acts address this issue. Dental school curricula typically do not cover these challenges in any formal or structured way. Dental students report that faculty members give varying and sometimes strident and conflicting counsel. In short, there is currently no consistent or coherent standard of care regarding treating patients who present for treatment and are high on alcohol or marijuana.

This analysis consists of four parts. The first section is a small, informal qualitative inquiry of dentists that serves to establish baseline information about typical practitioner thinking and behavior. In the second part, the available science is examined. A third section explores practical and ethical issues, and the final section offers recommendations for a standard of care in this area.

A Survey: What Dentists Say About Patients Who Are High

Methods: After IRB approval, 24 dental practitioners were interviewed anonymously in the autumn of 2008 using the protocol posted at the end of this paper. A small convenience sample was used,

and the interviewees included ten dentists in private practice, five dental school faculty members, and three students. Two of the faculty members are oral surgeons, and one other is a recognized expert in dental anesthesia. Interviewees practiced or taught in Northern California or Northern Arizona. Students were from the University of the Pacific. Some dentists had been practicing for more than 30 years, while others fewer than ten. They were asked a series of questions (face to face or telephonically) related to patients who present for treatment after smoking marijuana or drinking alcohol.

Results: Virtually all interviewees agreed that they would not treat an uncooperative or belligerent patient. If marijuana or alcohol consumption resulted in a patient's inability to participate competently in the dental appointment from a behavioral or psychosocial point of view, all would decline to treat the patient. Some of the interviewees would offer to reappoint patients.

Most of the interviewees expressed concern about transportation problems. How would this person get home? Would they drive and would they be safe? Would the dentist incur liability?

Some wondered about informed consent. Would a patient who consumed a small amount of an intoxicant be capable of granting real consent? Would they understand the information provided by the dentist? Would their consent be authentic and complete? Most conceded that it would be impossible to make an accurate assessment of these questions, and no one had a clear answer about how to resolve this challenge.

Beyond those issues there was little consensus. Several dentists said that they simply would not attempt to treat someone who consumed alcohol or marijuana prior to an appointment. One younger dentist asserted that, "It is my ethical responsibility not to treat anyone that I suspect is under the influence of drugs." That dentist also said, "I would dismiss the patient by saying that ethically I am not able to treat patients under the influence of alcohol." Another young dentist responded to the question about a patient who has smoked marijuana by simply stating, "Treat the patient." One experienced oral surgeon stated that, "If I have a patient with prior informed consent and a simple, straightforward procedure involving local anesthesia only, and I find out about recent intake of alcohol or use of marijuana and the patient is fully compliant, I have no concerns over completing the treatment."

Others would treat a cooperative patient who had used marijuana "legally" (with a medical recommendation), but would not treat a patient who was using marijuana illegally. Several thought it would be a good idea to verify the physician's recommendation and document this action. Some said that they would not treat a patient if the procedure would require an injection, and nearly all were extremely wary of the use of IV sedation under these circumstances.

A number of the dentists reported that they would decline to treat patients who were high and would explain their decision to the patient, yet none of the interviewees were clear about the biochemistry involved in treating patients who were drinking or high. While one oral surgeon was concerned about blood pressure and heart rate, none of the interviewees offered a clear, logical, or scientific rationale for their treatment decision. They seemed to possess a vague sense that treatment of such a patient might be contraindicated, but they could not describe the biochemistry that might justify such a decision. Most

It appears that a blanket non-treatment policy is not supported by available science or ethical analysis.

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wondered about the interaction between marijuana, alcohol, and anesthetics, and several speculated that it is more difficult to achieve adequate anesthesia when someone has used "drugs." Some felt that alcohol or marijuana might "give false readings for blood pressure and pulse." One reported that he did not know much about the biochemistry and said, "I don't have a lot of experience with marijuana and all I know is it makes the calculus a different color." One dentist observed that "usually people who are drunk are unruly and combative."

Several of the dentists took a defensive stance and were wary of personal or professional "trouble." If something went wrong, the patient could claim that he or she did not understand or give consent. "Do you want to mess with this sort of problem?" one wondered. Another noted that, "if anything goes wrong...they can come back to you and say they didn't know what was going on.... So you would be screwed." One said that "Dentistry is hard enough; you don't want to deal with another element." Others were concerned for their own safety and any associated risks to the doctor and staff. One said that he would "throw him out of the office. I can't put my staff or other patients in harm's way or be treated disrespectfully." One said that if a patient (who seemed high) denied use of marijuana, "then I would have him sign something saying he hasn't used anything and treat him." One would decline to treat a person who had gotten high and after a second such incident would discharge the patient and carefully document the discharge. One said, "You just give them the office policy. Just say that to become a patient of this office, you have to be sober, and that if we even suspect that you are not sober, we will not work on you because we need a safe work environment." Another said, "You don't have to work on people that you don't want to. Refer to a specialist or another dentist." (Is there a specialty for dentists who treat patients who are "high?") One said, "It is my choice, and always my choice if I treat a patient. It is not the patient's choice." Several used the phrase "kick them out of the office."

Dental students reported that they did not know the biochemistry involved, but felt able to rely on faculty wisdom to back them up in clinic. They expressed the same kinds of concerns as younger practicing dentists did, and one offered "I don't want him leaving my office and hitting a skateboarder."

Several older dentists divulged vague anecdotes about dentists who had a courtesy bar in the reception area, dentists who allowed patients to smoke marijuana in the dental office or bathroom, and practitioners who had recommended a shot of brandy (for the patient) before a difficult procedure.

The Science

An extensive review of the scientific literature was conducted with a focus on the following questions:

1. What is the short-term impact of small amounts of alcohol on the body, and what are the implications for dental practice?
2. What is the short-term impact of small amounts of marijuana on the body, and what are the implications for dental practice?
3. How do these two drugs affect the process of dental anesthesia? Are there important drug interactions that dentists should consider?
4. What physiological or practical dangers does ingestion of alcohol or marijuana pose to patients in the dental chair?

While this review focused on short-term effects of small amounts of these two drugs, most reports in the chemistry and physiology literature quickly shift focus to the dangers of long-term, heavy use or abuse of these drugs. There is precious little in the literature about the science of situational use of drugs and alcohol in dentistry and medicine.

Alcohol and Dental Care

Alcohol is a central nervous system depressant that affects all organ systems. The long-term impact of heavy, chronic use is well-established and includes prolonged bleeding time and excessive bleeding, hypertension, poor wound healing, higher infection risk, greater likelihood of developing periodontitis and subsequent tooth loss, reduction in salivary flow and buffering capacity, greater risk of oral cancers, worsening of age-related diseases, poor nutrition with glossitis, angular cheilosis, and gingivitis, nutritional deficits, cardiovascular disease, liver cirrhosis, pancreatitis, cognitive losses along with inappropriate social behavior, problems in judgment, and traumatic injuries resulting from falls or fights. A compromised liver cannot metabolize drugs adequately, resulting in elevated concentrations of medicines such as acetaminophen, erythrocin, tetracycline, ketoconazole, phenobarbital, secobarbital, diazepam, lorazepam, chloral hydrate, and opioids. These and other long-term implications are well-described in Friedlander, Marder, Pisegna, & Yagiela (2003).

The problems associated with consumption of a small amount of alcohol are somewhat more complex. While much is unclear about low to moderate doses of alcohol, the following effects are generally accepted in scientific literature:

- Alcohol's action as a positive allosteric modulator of GABA (Gamma-Aminobutyric Acid) causes relaxation, relief from anxiety, sedation, ataxia, disinhibition, and an increase in appetite (Mehta & Ticku, 1988; Wallner, Hanchar, & Olsen, 2006)
- The release of endogenous opioid peptides (endorphins and enkephalins) results in feelings of pleasure (Friedlander et al., 2003; Froelich, Badia-Elder, Zink, McCullough & Portoghese, 1998)
- Drying of the mouth (which might actually be helpful in some dental treatments)
- Synergistic or additive effects with CNS depressant medication
- Impairment of coordination
- Cognitive difficulties, including diminished ability to focus attention and diminished executive function, planning and problem-solving capacity
- Lowered social inhibition, altered judgment
- Harmful impact on cardiovascular disease and possible adverse interactions with the medications used to treat these problems
- Mild sedation, resulting from a small to moderate amount of pre-appointment consumption of alcohol that may actually benefit a patient (McCarthy & Hayden, 1978, p. 285)
- A variety of clinical effects following two glasses of red wine, including increases in sympathetic nerve activity, heart rate, pumped blood volume, and blunted ability of the brachial artery to expand in response to blood flow (Spaak et al, 2008)
- Problematic interactions with the following medications used in dentistry (Friedlander, et al, 2003):
  1. Cephalosporins and metronidazole: possible accumulation of acetaldehyde with headache, palpitation, and nausea
  2. Erythromycin: decreased absorption and diminished effectiveness
  3. Tetracycline: increased absorption and plasma concentration in healthy subjects
  4. Penicillins: possible decreased efficacy
  5. Ketonconazole (anti-fungal): possible accumulation of acetaldehyde with headache, palpitation, and nausea
  6. Barbiturates and benzodiazepines: enhanced (and potentially dangerous) CNS depressant effect
  7. Chloral hydrate: significant increase in CNS depressant effect
  8. Opioids: marked increase in sedative side effects

Alcohol affects people quite variably. Some people are nearly incapacitated by two drinks, while others seem unaffected by several. Many chronic drinkers can function rather well after consuming one or two drinks, and observers are often unaware that such a person has been drinking at all. Some people become combative when drinking, while others get happy and sedated. Some become more talkative and others more quiet. Alcohol puts some people to sleep and agitates others. The effects of drinking can also vary from day to day in the same person, resulting in little impairment on one day and significantly more impairment on another. Low doses of ethanol are likely to have a greater impact on the aged.

Self-report of drinking behavior is also problematic. People often do not accurately assess or report their drinking, either for lack of memory or social embarrassment. The very definition of a

"drink" is variable from person to person, even though there is substantial agreement in scientific and law-enforcement circles that one drink is defined as .5–.6 ounces of ethanol or 1.5 ounces of 80 proof (40%) liquor or 5 ounces of wine (11-14%) or 12 ounces of 5% beer. While scientists agree on a definition of a "drink," one never knows what consumers really mean when they report that they had "a drink or two."

Marijuana and Dental Care

Like most drugs, marijuana poses acute and chronic risks to the oral health and overall physical health of the consumer. While long-term effects of heavy chronic use have been studied (National Institutes of Health, 2009), there is little of substance to be found in the scientific literature about safe dental treatment of a patient who is high.

Research in this area is extremely challenging. First, it would be difficult, if ethical, to conduct experimental studies that would generate information of definitive value. Subjects cannot be required to smoke marijuana in order to see if dental anesthesia or procedures are harmful. We are therefore resigned to animal studies and the use of less powerful correlation methods and anecdotal self-report. Second, it is difficult to quantify marijuana dosage, since density and type of cannabin is so variable in the weed smoked by consumers. Most laboratory research uses pure THC (tetrahydrocannabinol) which is quite likely to contain chemicals different from those found in typical marijuana joints, resulting in differing effects and outcomes, along with challenges to external validity (Jones, 2002; Amar, 2006; Bornheim & Grillo, 1998). Finally, since marijuana use is typically illegal and considered by many to be antisocial, consumers are understandably reticent to be open or honest about its use.

A review of the literature reveals that marijuana has been shown to have the following general effects on its users (Gregg et al, 1976; Nguyen, 2004; Horowitz & Nersasian, 1978; Hernandez, Birnbach, & Van Zundert, 2005; Cho, Hirsch & Johnstone, 2005; Beaconsfield, 1974; Jones, 2002). In that much is unknown about how marijuana affects the human body; the following list of effects is not complete or definitive:

- Short-term memory impairment
- Sympathomimetic activity concomitant with parasympatholytic activity (both act to increase heart rate with increased output at low to moderate dosages)
- High doses can have the opposite effect, inhibiting sympathetic but not parasympathetic activity, resulting in possible hypotension and bradycardia
- Acute anxiety/panic attack
- Analgesic effects
- Drying of the mouth (which might actually be helpful in some dental treatments)
- Widespread vasodilation (as much as 50%) and subsequent increase in heart rate to maintain blood pressure (reflex tachycardia) of 20% to 100% starting in the first 10 minutes after smoking and lasting several hours
- Increased oxygen consumption—up to 30% (Nguyen, 2004)
- Possible inhibition or metabolic alteration of many other drugs (Bornheim & Grillo, 1998)
- Patients have delayed reporting of angina due to the analgesic effect of marijuana (Cho, Hirsch, & Johnstone, 2005)
- Euphoria and dysphoria
- Mild sedation and relief of mild anxiety (potentially helpful in dental care)
- Mood-intensification (marijuana is not a pure CNS excitant, euphoriant, or depressant)
- Paranoid or manic states, confusion, disorientation, even hallucinations with some users
- Impaired thinking and judgment
- Athymhormia (loss of motivation or initiative)

Precious little research has focused specifically on marijuana and the dental experience, and most of that was done in the 1970s. The literature consists of scattered case reports and informed anecdotes describing potential pitfalls. Here is an overview of what research and case reports have to say about potential problems when a dental patient has smoked marijuana.

The most widely reported concern is dose-related tachycardia (Gregg et al, 1976).

Transient hypotension has been reported (Gregg et al, 1976). Evidence related to induction of arrhythmia is conflicting. Some studies imply the possibility, while others were unable to find such evidence (Gregg et al, 1976; Nguyen, 2004; Jones, 2002). A possible risk of ischemic problems secondary to vasodilation and elevated heart rate has been reported (Nguyen, 2004; Cho, Hirsch, & Johnstone, 2005).

The most important effect of CBD (cannabidiol) is that it interferes with drug metabolism by inactivating the hepatic cytochrome P450, responsible for metabolizing more than 60% of clinically prescribed drugs, including lidocaine, macrolide antibiotics, antidepressants, antihistamines, benzodiazepines, and others (Bill, Clayman, Morgan, & Gampper, 2004; Bornheim & Grillo, 1998). The clinical significance is that the concentration of drugs in the system can rise to hepatotoxic levels if P450 is inactivated. Interactions with drugs that dentists prescribe might include anticholinergic/parasympatholytic agents (e.g., atropine) used to control

salivation. This process can exacerbate tachycardia and hypertension (anticholinergics already increase heart rate), while opioids may produce mutual potentiation of effects (Seamon, Fass, Maniscalco-Feichtl, & Abu-Shraie, 2007).

Marijuana has properties that can potentiate immunosuppression from systemic corticosteroids which could slow healing or risk infection (Seamon et al, 2007).

Darling & Arendorf (1992) observed that "oral surgical procedures on subjects intoxicated with cannabis may result in acute anxiety, dysphoria, and psychotic-like paranoiac thoughts—all intensified by the stress of surgery." The effects include upper-airway irritability, chronic cough, bronchitis, emphysema, bronchospasm (Hernandez, Birnbach, & Van Zundert, 2005).

The actual interaction between THC and dental anesthetics is not well understood. Studies reveal a complex interaction between the physical and psychosocial stress of procedures, epinephrine, and THC. An analysis of research on the impact of THC and epinephrine on dental patients is frankly inconclusive. It is difficult to attribute the tachycardia documented in studies by Horowitz and Nersasian (1978) and Gregg and others (1976) to either a stress response or a strict drug-drug interaction. Nguyen summed up the situation in her 2004 paper, concluding that "the interaction between anesthesia and the use of cannabis is still poorly documented." (p. 5).

Several studies revealed that marijuana is not an ideal dental medication by itself, either for pain relief or anxiety. In one oral surgery study, ten subjects given diazepam, THC, or placebo rated high-dose marijuana as the worst premedication, associating it with the most pain. Those receiving marijuana also had higher anxiety inventory scores (Gregg et al, 1976).

Treatment Considerations Based upon Available Science

When a patient reports that he or she has "had a drink," one can never be certain about what this statement really means. For some people, one drink can mean a large tumbler of vodka. It is also impossible to determine reliably from reports of today's use of alcohol what the history of long-term use might be. Most serious drinkers minimize their reports. A dentist inclined to treat such a person should make explicit inquiries about the amount consumed and history of consumption (and any other drugs taken at the time), should explain relevant dangers, and should offer to reappoint that patient. This interaction is best conducted in a way that does not unnecessarily embarrass patients and might include assurances of confidentiality, as appropriate.

Complex procedures that involve sedation should probably be postponed, as the possibility of a dangerous drug-drug interaction is real. There are known synergistic effects when alcohol and central nervous system depressants combine. Dentists should review medications (listed earlier in this paper) known to interact with ethanol, discuss possible interactions with patients, and prescribe appropriately. Patient cardiac history should be given special consideration with a drinking patient, as alcohol can have an adverse impact on cardiac functioning and can result in adverse interactions with cardiac medication.

As with alcohol, it is virtually impossible for a dentist to discern how much THC is present in a patient's body. Patients do not even know the answer to this question, as the ingredients in marijuana joints vary wildly. Since THC

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metabolites remain in the system for extended periods of time, a dentist never really knows if he or she is treating a patient with some THC on board. There is a recommendation in the literature (Horowitz & Nersasian, 1978) that patients abstain from marijuana for one week prior to a dental appointment, but the science supporting such a recommendation is insubstantial.

Patient cardiac history should receive special consideration with a patient who uses marijuana given the risk of ischemia, myocardial infarction, or TIA in susceptible patients.

When treating someone who uses marijuana, consider avoiding epinephrine-containing local anesthetics or use as little epinephrine as possible to achieve adequate anesthesia if immediate treatment is essential and effective local anesthesia of sufficient duration cannot be achieved otherwise. Since local anesthesia with epinephrine works longer and better, a patient may experience more discomfort when using local anesthesia without epinephrine and thereby induce a significantly greater endogenous production of just that: epinephrine. Planned pharmacosedative appointments should be rescheduled due to risk of synergistic effects of marijuana and sedatives leading to excessive CNS depression. Before injecting local anesthesia, aspirate well to minimize direct vascular injections and the possibility of excessive tachycardia. If possible, avoid IV sedation and especially general anesthesia for at least three days following marijuana consumption, due to airway and postoperative heart rate concerns. Airway obstruction and oxygenation issues lead to a preference of local anesthesia over general anesthesia.

Never prescribe atropine or other parasympatholytics to a patient who has recently used marijuana. Warn patients against risk of combining opiates or benzodiazepines with marijuana, especially if they are to drive an automobile. Consider reappointment if patient's heart rate is elevated or if the patient seems groggy or heavily "stoned." Dentists need to make an independent decision about whether to treat someone who shows behavioral signs of intoxication or incapacity to effectively participate in care. It is recommended not to treat a patient who prefers to take a break to consume more marijuana (during the appointment). This patient must be counseled about excessive use, dependence, and available addiction treatment.

Ethical Issues

The scenario of greatest interest in this paper is the one where such a patient is mildly high and completely cooperative. Issues will be examined using a principle-based approach, a utilitarian model which weighs competing interests, and Ozar and Sokol's (1994) "central values" method.

The Principle Based Approach

In this view, bioethical normative principles are accessed as a guide to right behavior.

Nonmaleficence: The American Dental Association's *Principles of Ethics and Code of Professional Conduct* states that, "This principle expresses the concept that professionals have a duty to protect the patient from harm." It seems clear that if treatment of someone who is high poses any physical or psychological danger to that patient, it would be wrong to treat. Such harm might also derive from a patient's inability to recall postoperative instructions, although practitioners could follow up in such cases. Harm could also come from post-treatment transportation danger should a patient attempt to drive a car.

Beneficence: Dentists strive to do positive good for patients. This matter becomes complicated when a dentist could do good by treating a patient who needs treatment, but also does not wish to harm that patient. A clear moral dilemma occurs (when two principles conflict) when a high patient falls, knocks out a tooth, and then rushes to the dentist for help. A similar, more likely scenario is the case of the chronic, daily user of alcohol or marijuana who needs serious dental care. Must such a patient resolve his or her addiction before receiving dental care? Should addicts be excluded from dental treatment entirely? It must be noted that it is unrealistic to ask many addicts to refrain from substance use for even short periods of time, and that people diagnosed with alcoholism ("alcohol dependence") often meet criteria for impairment under the Americans with Disabilities Act. This does not imply, however, that dentists must always treat patients who have consumed alcohol or marijuana just prior to treatment. Beneficent action in this case may involve a referral to an addiction resource.

Justice: This is the "fairness" principle, and it advocates that people be treated equally; that each receives his or her "fair share." On a practical level this principle requires equitable distribution of treatment resources. Some parties are not arbitrarily favored over others, and the criteria for any uneven resource allocation must be transparent, reasonable, and relevant. In the current analysis it seems unfair to decline to provide treatment to people on the basis of personal habits (if those personal habits do not conflict with treatments for clinical reasons). It also seems wrong to refuse treatment to a patient because they suffer from an addiction.

Veracity: This principle insists on truth-telling. Obviously, the optimal patient-dentist relationship is characterized by honesty. However, if it is unrealistic to insist that addicts refrain from use, and dentists make it clear (as some did in their interviews) that they will categorically refuse to treat someone who is "high," then lying certainly seems like an attractive option to an addict with a toothache (or periodontal disease or other serious dental problems). On the other hand, are dentists being completely truthful when they tell patients that they refuse to treat them because of concerns for that patient's welfare if the dentist does not actually know the related biochemistry and the reality of physiological danger? It seems more honest to tell patients that the biochemistry is unclear, that the dentist is uncomfortable with the ambiguity and chooses to err on the side of safety. This insight may establish a foundation for effective communication and open the door to a conversation that aims to solve the problem in a practical way.

Autonomy: Both parties—dentists and patients—possess autonomy, the right and duty to self-govern. Patients can certainly choose to show up high for a dental appointment, but they have no right to be treated under those circumstances. Such a right would imply that dentists have a duty to treat them. Obviously dentists may also choose to exercise professional autonomy and decline to treat. In fact, if dentists have good reason to believe that it would be dangerous or wrong to treat a high patient, they have a duty to decline.

The principle of autonomy forms the basis for informed consent, as patients can only consent when they are making an informed decision. A patient must be able to participate in treatment decisions —not just at the beginning of treatment— but on an ongoing basis. As there is no way to assess the level of comprehension of a high patient, it is reasonable if not imperative to question the ability of such a patient to comprehend, remember, and participate adequately.

The Utilitarian or Values Maximizing Approach

This method compares the interests of various relevant parties, along with potential harm and benefits to those parties. The parties include patients, dentists, dental team members, and anyone else who might benefit or be harmed. In this analysis, the term "interest" is used synonymously with the concept of a "stake" or share in the outcome. Interests, in this usage, are always self-interests.

Patient interests: Patients have the following interests related to the questions at hand:

- Getting adequate dental care, especially in emergency situations
- Experiencing comfortable dental appointments and treatments
- Receiving treatment that is safe; not being subjected to harm or danger
- Maintaining dignity and self-esteem
- Being informed of risks and benefits so they can take responsibility for their oral health

Dentist interests: Dentists have the following interests:

- Maintaining a viable private practice and going concern
- Maintaining their dental license avoiding lawsuits
- Feeling comfortable in their practice decisions and treatments

Staff interests: Members of the dental team have the following interests:

- Working in a safe and interpersonally comfortable environment (which may include training for difficult patient interactions)

If, in fact, there is little physiological danger, then the patient's interest in experiencing adequate dental care in a comfortable way seems to clearly outweigh the dentist's concerns about danger to the practice, avoiding lawsuits, and comfort in his or her decisions.

If a dentist is uncomfortable treating a patient only because that person is unlawfully consuming a substance that is illegal, would not that also mean that such a dentist should refuse to treat tax cheaters or patients who cheat on their spouses? Should dentists refuse to treat all people who do illegal things? If dentists are uncomfortable treating addicts per se, shouldn't they also be uncomfortable providing dental treatment to tobacco addicts or even to compulsive gamblers? If dentists are unwilling to treat addicts, how will addicts get dental care? Are they to be excluded from dental care?

The Central Values Method

This third model of decision-making involves a hierarchy described in Ozar and Sokol's 1994 book *Dental Ethics at Chairside*. Ozar and Sokol assert that every profession has a small number of essential, defining values. These values are ranked in a hierarchy and must be honored in the order they are ranked. A lower-ranked value cannot take precedence over a higher one. The central values of dentistry, according to Ozar and Sokol, ranked from most important to least, are:

1. The patient's life and general health
2. The patient's oral health
3. The patient's autonomy
4. The dentist's preferred patterns of practice
5. Esthetic values
6. Efficiency in use of resources

This hierarchy highlights the importance of accurate scientific information about danger. If consuming small amounts of alcohol or marijuana endanger a dental patient, that patient should not be treated, or the situation must be managed in a way that is not unsafe. A patient's life and general health trump all other values.

If, on the other hand, marijuana or alcohol does not endanger a patient, the next value on the hierarchy must be honored, and that is the patient's oral health. This model insists that a patient's oral health takes priority over a dentist's preferred pattern of practice. This means that, absent physiological danger, dentist have an obligation to treat patients of record who are "high," assuming that they are cooperative and able to participate. Indeed, this model even implies that a patient's choice to get high prior to a dental appointment (assuming physical safety and ability to adequately participate) also trumps a dentist's practice preferences. These ideas obviously conflict with the widely held belief of dentists that they have a more or less absolute right to treat whomever they please and to decline to treat patients whenever they choose to do so. In fact, the ADA's *Principles of Ethics and Code of Professional Conduct* asserts in section 4.A. ("Patient Selection") that dentists "may exercise reasonable discretion in selecting patients for their practices." Once a person becomes a "patient of record" in a practice, however, that practice has certain treatment obligations.

Given that the highest ranking value is the patient's life and general health, it seems that dentists have an obligation to assess for addiction and to attempt to influence or refer patients (for addiction treatment) who simply cannot show up for a dental appointment without getting high. It would be unethical to sidestep this issue completely.

If patient autonomy is to be honored, patients must be capable of making reasoned, informed decisions about their treatment. This is problematic for the patient who is high because informed consent is an ongoing process and not a one-time event at the beginning of treatment or even the beginning of the treatment appointment. Changes that occur during treatment sometimes require new decisions.

In addition, Ozar and Sokol's hierarchy, as well as the ADA *Code* (dentists are "obliged to make reasonable arrangements for emergency care") clearly imply that dentists cannot simply "dismiss" a patient of record who presents with a dental emergency but is high. With such patients the question of what constitutes "reasonable arrangements" becomes somewhat complex and important.

Recommendations for a Standard of Care with Commentary

It appears that a blanket non-treatment policy is not supported by available science or ethical analysis. Patients should be considered on a case-by-case basis, with special attention to medical or dental conditions that could put a high patient at special risk, along with informed consent challenges and transportation issues.

In addition to this general conclusion we propose the following recommendations for development of a standard of care.

1. **Dentist's Point of View:**
   Practitioners should examine their attitudes toward alcohol and marijuana use (and addiction in general) and decide whether negative moral attitudes have an appropriate role in treatment decisions. It must be noted that Ozar and Sokol's Central Values Hierarchy places a patient's general

and oral health (as well as patient autonomy) above the dentist's preferred practice patterns. On this basis, it is unethical to assert that addicts and those who show up for an appointment high should categorically be denied dental care.

2. **Professional Autonomy:** Despite the assertion above, there is no legal or ethical requirement that dentists provide treatment to a patient who presents with marijuana or alcohol in their physical system. Similarly, there is little reason to attempt to treat someone who is uncooperative or surly. However, our review of the biochemical and physiology literature allows a case to be made that dentists should consider treating someone who consumed alcohol or marijuana prior to a dental appointment. This assumes that such a patient is completely cooperative and able to participate in care. There are, nonetheless, significant challenges to this assertion.
3. **Informed Consent:** This may be the most challenging ethical aspect of all. Persons whose cognitive capacity is impaired cannot give real consent, as they are unlikely to fully understand the situation and may not be capable of prudent judgment. Dentists are not trained in assessment of cognitive capacity, nor are they expected to be expert in this area. How are they to determine whether a patient is capable of understanding and consenting? This problem could be ameliorated to some extent by discussions at a time when the patient is not impaired, combined with written or video information that a patient could study at home. The more significant challenge, however, derives from the fact that informed consent is not a one-time event that only occurs prior to the onset of treatment. The informing and consenting process is continuous throughout treatment, as new decisions are often made along the way. One might note that a patient who is sedated cannot effectively participate in this process no matter what drug was used to produce sedation. In any case, anticipation of treatment changes or options is important at the onset of care (e.g., when treating extensive or deep carious lesions).

   The matter of capacity to understand postoperative instructions is also challenging, although this can be ameliorated to some extent with clear written instructions and a subsequent telephone call. Oral surgeons often send groggy patients home after IV sedation, typically accompanied by a competent companion.
4. **Transportation:** Dental practitioners must decide whether to participate in a patient's decision to drive home from an appointment. Again, this decision depends upon the dental staff's ability to make a sophisticated decision about cognitive and psychomotor competence. But there is a lot at stake in this decision, and it is a decision that must be made even if a dentist decides not to treat a patient they believe to be impaired. It seems immoral to send a patient home in their automobile after telling them that they will not be treated because they have smoked marijuana or drunk alcohol. Another challenging situation arises when a patient refuses assistance and insists on driving a car after being told they could not be treated. Do you call the police?

Practitioners should examine their attitudes toward alcohol and marijuana use (and addiction in general) and decide whether negative moral attitudes have an appropriate role in treatment decisions.

Appendix: Interview Protocol

A. Hand your subjects the list of clinical scenarios (below) and ask them to read them.

B. Here are some suggested questions and triggers for discussion:
   1. Pick one of the scenarios on the list and tell me how you would handle it in clinical practice.
   2. What were you taught about such situations in dental school or afterwards?
   3. Do you think that there are medical-physiological aspects that must be considered?
   4. Do you think that your colleagues would treat such situations in the same way that you would?
   5. What do you think is the standard of care in such situations?
   6. Under what circumstances would you turn a patient away or refuse to treat them (relative to the scenarios on the sheet)?
   7. Do you know if there are laws that must be considered in these scenarios?

C. Clinical Scenarios
   1. Have you ever treated a patient who showed up for the dental appointment after having consumed alcohol or smoked marijuana or taken any other drug, prescribed or not? If so, what did you do?
   2. What were you taught in dental school about this problem or issue?
   3. What do you think is the standard of care in this situation?
   4. Can you think of any biological or pharmacological issues that need to be considered?
   5. Can you imagine any behavioral issues that might be involved?
   6. What would you do if a patient showed up for an appointment next week and they smelled of alcohol or marijuana or told you that they had used those drugs before they showed up at your office? Do you have a policy or protocol?

5. **Assessment of the Patient:** Patients should be queried about the quantity and time of consumption prior to an appointment. This discussion will be easier when the practitioner views alcohol and marijuana from a medical-dental point of view rather than as a moral shortcoming, and it is essential that practitioners educate patients about the confidential nature of the doctor-patient relationship. Practitioners should always consider the possibility that patients underreport the amount of alcohol or drugs consumed. Patients are much more likely to be honest and forthcoming about their use of marijuana if they possess an accurate perception of how the information will be used by their dentist. (Some patients will be concerned that their dentist might call law enforcement should they disclose illegal marijuana use.) Such a discussion can help practitioners make the determination between small or moderate use versus high levels of consumption. Dentists should also query the patient about the possibility of other medications taken prior to the appointment. The most significant risk of the high patient has to do with the combined effect of alcohol and CNS depressants along with the complex effects of alcohol on the liver's ability to metabolize medications. Other medications combined with ethanol (prescribed or not—especially CNS depressants) have additive or synergetic effects. These additive effects can be unpredictable.

Dentists must also obtain and maintain an accurate health history for all patients. Cardiac and blood pressure issues are of special importance in dealing with the drinking or smoking patient. Obviously, a patient's report of

alcohol or marijuana consumption should be noted in the clinical record, and it seems fair to alert patients of that documentation.

Dentists and other dental practitioners are not the only parties with ethical duties. It should also be noted that the role of dental patient involves certain well-accepted responsibilities. Most practitioners and patients would agree that patients have a duty to show up for appointments ready, willing, and able to competently and safely participate, although this duty is certainly mitigated from time to time by medical emergency or cognitive incapacity.

6. **Clear Policy:** Practitioners, clinics, and dental schools should consider written policies that urge patients to disclose the use of prescription and recreational drugs (explicitly mentioning alcohol and marijuana along with accurate assurances of confidentiality). The policy should be discussed with all patients early in the treatment relationship. Written statements should be crafted carefully so that they do not discourage addicted patients from seeking dental care, especially since addictive drug use often damages gums and dentition.
7. **Monitoring Vital Signs:** As a general practice, dentists should monitor blood pressure and pulse rate regularly. Do this more frequently with known users of marijuana, alcohol, or other drugs.
8. **Older Patients:** Special attention must be paid to older patients since smaller amounts of alcohol can have a more deleterious effect. Aged people often take numerous prescription medications, and it is difficult to know how alcohol and other drugs will interact, especially in relation to age-related conditions such as cardiovascular disease, strokes, and the medications used to treat them. Note also that older patients sometimes smoke marijuana.
9. **Enhanced Dental Education:** The biochemistry, physiology, and ethics related to treatment of patients who use alcohol or marijuana should be taught explicitly in the dental school curriculum. Clear, scientific explanations should be provided. Where science is inadequate, students should be told as much. Dental students should not simply be told "do not treat these patients."
10. **Development of Protocols:** Ongoing professional discussion of these topics is required in order to develop clearer treatment protocols for dentistry. A coherent, science-based consensus standard of care in this area is much needed.
11. **Knowing What to Say:** And finally, how should one respond to that high patient? Here are two possible responses to the patient's comment at the beginning of this report:

    A. If the dentist decides not to treat this high patient:
    "Thank you, Mr. Patient, for letting me know. You're right, that is important information. While the science isn't conclusive about the matter, I don't believe it's a good idea to treat someone who is high. Let's see if we can work together to schedule appointments when you do not have marijuana or alcohol in your system. If you will be unable to come to dental appointments without smoking marijuana I will not be able to provide your dental care. I want to make sure that your treatment is as safe as absolutely possible. What do you think?"

    B. If the dentist decides to treat this patient:
    "Thank you, Mr. Patient, for letting me know. You're right, that is important information. If it is simply not possible for you to show up for appointments without smoking marijuana, I will try to work with you. Please keep me informed about your intake. I will closely monitor some important medical signs to ensure that your dental care is as safe as absolutely possible. With that said, it would be best if you use as little as possible when you have a dental appointment, and I am going to insist that you have a companion here to help you get home safely. We also have to make certain that you are absolutely clear about the treatments, the options, the risks, the alternatives and any possible changes we anticipate." ■

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