# Talking with Patients

## Meth Mouth: Methamphetamine and Oral Health

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### WHAT IS IT?

Methamphetamine is a potent, highly addictive psychoactive drug that induces the release of dopamine, norepinephrine, and serotonin, with stimulating effects on the central nervous system. Methamphetamine was synthesized for the first time in 1919. The drug was originally used therapeutically for the management of attention deficit disorder and obesity, to increase physical performance, to alleviate sleep deprivation, and as a mood enhancer and stimulant.[1] Its use causes sensations of intense energy, alertness, appetite suppression, increased sexual performance, and euphoria that may last up to 24 hours. Potential side effects include xerostomia, need for liquids, dizziness, hypertension and tachycardia, abnormally dilated pupils, tremor, convulsions, irritability, paranoia, and coma.[2]

The illicit use of methamphetamine is rampant in many countries. It is estimated that 2.3 million Americans older than 12 years of age have used methamphetamine at least once.[3] Methamphetamine is easily fabricated from ordinary ingredients, such as paint thinner, rock salt, battery acid, lantern fuel, and cold medicines containing pseudoephedrine. The manufacture results in white crystals that can be eaten, ground and snorted, dissolved and injected or drank, and melted or smoked. Among the street names given to methamphetamine are blue meth, crystal, hot ice, ice, yellow powder, lemon drop, L.A. glass, tina, and others.[4]

### HOW DOES IT AFFECT YOUR ORAL HEALTH?

Among the many devastating health-related problems caused by methamphetamine abuse, users may present a drastic decline in their oral health, a condition described as "meth mouth." Similarly to their overall health and hygiene neglect, methamphetamine abusers tend to neglect oral and dental hygiene. In addition, the use of methamphetamine decreases the output of saliva and/or creates a perceived sensation of dry mouth. In an attempt to relieve the dry mouth, the person experiencing the condition will consume high amounts of sugar-containing carbonated soft drinks, setting up the oral environment for severe dental decay (Figure 1). In many cases, the teeth might not be salvageable and have to be extracted. Methamphetamine abusers also may experience tooth grinding/clenching, which adds to the destructive environment for the dentition, resulting in tooth fractures and tooth wear.

### HOW IS IT DIAGNOSED AND TREATED?

Management of methamphetamine addiction is beyond the responsibility of the dental professional, but the dental team may play an important role in the diagnosis of the meth mouth patient. Because of its devastating dental side effects, it is not uncommon for the methamphetamine user or his or her family to seek dental care. Rampant dental decay and abundant dental plaque are among the signs of meth mouth.

Patients who are suspect methamphetamine users should have their dental and medical history thoroughly documented, including the frequency and dosage of all licit and illicit drugs they might be using. If it is found that the patient is indeed a methamphetamine user, the dental team should educate the patient (and family members in case of minors) about the effects of

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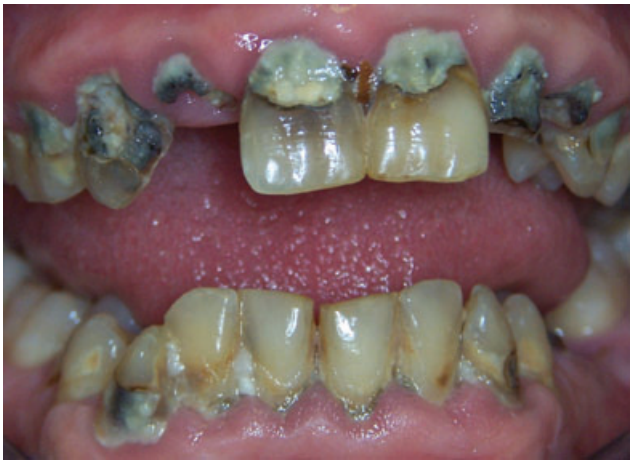

*Figure 1. Intraoral photograph of a patient with meth mouth. (Photograph courtesy of Dr. James H. Clare)*

methamphetamine use on overall and oral health. In addition to treating the dental conditions, the patient should be referred for proper medical care.

Dry mouth and its consequences can be prevented and treated with the use of topical fluorides, remineralization products, and chlorhexidine applications. The use of salivary stimulants should also be considered rather than saliva substitutes. The patient should consume water or artificially sugared beverages instead of sugar-containing beverages or soft drinks (sweet and carbonated sodas). Sugar-free gums also can be used to promote salivation.

Finally, there could be potentially serious drug interactions when administering local anesthetics, sedatives, general anesthesia, and nitrous oxide and when prescribing narcotics to the methamphetamine user. Some authors advise avoiding the use of opioid analgesics and the administration of epinephrine if methamphetamine has been used by the patient in the last 24 hours.[3]

## DISCLOSURE

The authors do not have any financial interest in the manufacturers whose materials are discussed in this article.

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