

Cosmetic Dentistry

Cosmetic dentistry isn't just the quest for a white smile or straight teeth. Many procedures are imperative for optimal dental health. However, despite the necessity of some of these procedures, people with diabetes must be careful about the work going on inside their mouths.

dLife spoke with Dr. Michael Goldberg, DMD, a dentist and author of *What The Tooth Fairy Didn't Tell You*, based in New York, and Dr. Ruben Cohen, DDS, an oral and maxillofacial surgeon also based out of New York, to learn more about the various types of cosmetic dental procedures and the potential risks they may have for a person with diabetes.

Dental Fillings: Mainly used to repair minor tooth fractures, decay, or damaged surfaces, a dental filling is a treatment that restores the damaged area and the tooth to a functional state. The treatment is traditionally done with a metal, porcelain, or composite resin. The procedure for composite resin, the most widely used material, involves removing the decayed area, sanding, buffing, and placing the material into the damaged tooth. A high-powered light is used to harden the material, then further sanding and buffing is done to polish the tooth to make it look, and feel, natural.

Risk for People with Diabetes: Elevated blood sugar is possible as a result of stress, but the procedure itself does not have any complications unique to people with diabetes.

However, mercury, present in silver-colored fillings, is a known toxin and can suppress the immune system, which is a concern to people with diabetes. While it has been banned in many countries, mercury-containing fillings are still legal to use in the U.S. You should discuss the issues surrounding mercury and other metals used in your mouth with your dentist. Special care may be needed when removing mercury-containing fillings, particularly in people who are immune-compromised or have known sensitivities.

Dentist's Recommendation: This can be a fairly quick procedure, but it is still vital to test your blood sugar before commencing with the procedure and inform your dentist of this information so that he/she can be aware. Longer sessions may require eating something or taking additional medicine, so know be sure to find out how long the procedure will be.

Dental Crowns: Largely used to address issues of broken, ground down, decaying and, overall, worn teeth, dental crowns are gold, porcelain and gold, Zirconia or porcelain caps that protect the tooth and provide structure and functionality to a tooth that has lost its enamel surface.

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The crown is usually made from a mold and may even requires a filling (build-up) to support the weakened tooth. The crown is then attached to the tooth by some type of cement. As with fillings, crowns can be made from a number of materials, ranging from various metals to porcelains and even composite resin.

Risk for People with Diabetes: A patient with diabetes has a greater risk of developing gum disease that can lead to heart attack and stroke. Food can get caught underneath improperly shaped or fitted crowns and decay and/or gum disease can result, so patients with diabetes must maintain proper oral hygiene and be sure the caps or crowns fit well. Caps that allow food to get stuck between them is a cause for alarm.

Dentist's Recommendation: Fit is important when applying crowns. Poor fit can contribute to increases decay and gum disease.

Root Canal: A root canal is a procedure done to relieve infection in the canals of a tooth. When the soft pulp within the tooth becomes infected, the dentist needs to gain access to the canal system to relieve the diseased area. Root canals aim to clean the infection from the location, extracting all damaged pulp and sterilizing the tooth with a solution. The infected area is filled with a resin or gutta percha and cement, and the tooth is usually capped to prevent further damage.

Risk for People with Diabetes: People with diabetes can undergo traditional root canal and even root canal surgery (called an apicoectomy), but have a greater risk of infection following the procedure. If anesthesia is used, it may affect blood sugar levels, so people with diabetes are encouraged to research and ask about the anesthesia used by their dentist. Be sure to keep optimal oral care when recovering from root canal surgery to decrease the possibility of infection.

Dentist's Recommendation: Since teeth needing root canals are often infected, an antibiotic may be required either before or after the procedure. Ask your dentist and be sure to inquire about how long the procedure will take. Root canals should be performed under a protective rubber dam so you may not be able to stop and eat during the procedure.

Teeth Whitening: Teeth whitening is a generic term for a number of different methods performed to reduce discoloration and provide the patient with overall brighter teeth. Achieved through a number of procedures, "teeth whitening" may include chemical whitening, mild acid whitening, abrasive teeth brightening, and laser teeth whitening.

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Risk for People with Diabetes: Teeth whitening treatments may weaken or damage tooth enamel, if not done properly, due to some loss of mineralization. While this loss can be very mild, it can increase the risk of cavities and sensitivity in people with diabetes. In healthy mouths, saliva possesses minerals that serve to restore tooth enamel. However, for people with diabetes, high blood sugar levels can cause dry mouth, which decreases saliva production and the natural minerals required to repair the damaged enamel.

Should you choose to use an over-the-counter whitening treatment, do the whole treatment course, but give it at least two weeks before treating again. Be careful about eating or drinking anything that can stain or further demineralize your teeth like colored or acidic foods and liquids.

Dentist's Recommendation: Make sure your blood sugar is well controlled. After receiving a professional treatment or doing it yourself at home, wait at least an hour and a half before eating or drinking.

Dental Veneers: Predominantly used as a conservative alternative to crowns, veneers can correct the shape of teeth, spacing, color, and other imperfections on the surface of the tooth without the use of chemicals or other whitening products that may weaken the tooth. Veneers are shaped pieces of porcelain that are bonded to teeth, providing the appearance of whiter, straighter teeth. Veneers require minimal, if any, tooth removal or shaping, and are customized to each individual tooth, guaranteeing comfort.

Risk for People with Diabetes: Unfortunately, teeth covered by veneers can still develop cavities, decay, and weaken, resulting in greater damage to the tooth. "Veneers should ideally not be placed on top of teeth that already have fillings," Dr. Goldberg advised. "If the filling has to be changed, you run the risk of breaking [the veneer]."

People with diabetes, who might be at increased risk for decay and gum disease, have to be careful to clean their veneers properly as they might have a tendency to cause increased plaque and food retention.

Dentist's Recommendation: Know that the process is lengthy and may require many hours in the chair. Exercise the usual precautions for preventing cavities. Keep your diabetes under control, limit frequency of sugar intake, and when you do consume sugar, brush and floss afterward. A fluoride rinse may also be advisable. Make sure to keep to a regular schedule of dental examination.

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Dental Implants: Dental Implants are titanium, root-like fittings surgically implanted into the bone of the jaw. Traditional caps or crowns are then placed on top of these titanium posts. Largely used to replace a missing tooth or set of teeth, dental implants can correct a number of oral health issues and serve as a substitute for dentures or dental bridges. They can also be used to anchor removable appliances such as partial and complete dentures, making them more stable and functional.

Risk for People with Diabetes: Due to the surgical procedure of drilling into bone, the risk of infection and complications in the healing process may occur. For people with diabetes, the risk of infection may increase as a result of a weakened immune system. For success in any surgery, it is important that people with diabetes maintain tight control of their blood sugar levels to reduce complication.

Dentist's Recommendation: This treatment can be done by many doctors, general dentists, surgeons, etc. It is a lengthy procedure, so it's important to know your numbers. A high A1C gives pause, so it is even more important to have an A1C of 7 or below. This is due to concern about healing and a prolonged period of healing. "It can affect the integration of the implant into the bone if healing is poor," Dr. Goldberg cautioned.

Dental Bridge: An alternative to dental implant surgery, dental bridges are used to replace one or more missing teeth. The treatment begins with crowns, or caps, attached to the teeth on either side of the missing tooth and used to set up the bridge. The false tooth is then attached to the two crowns, filling the area. Dental bridges are carefully customized to fit comfortably in the mouth and align with the teeth. Bridges are permanent (not removable) and, once set, are cemented to the teeth.

Risk for People with Diabetes: Overall, complications are rare. Bleeding and swelling of the gums can occur and people with diabetes should be cautious of any cracking in the cement that supports the bridge over time. If the cement cracks, food particles can get stuck within and tooth decay may take place. Infection can ensue as a result of decay or swelling and bleeding of the gums, so people with diabetes are advised to be wary of complication and maintain proper oral hygiene. Bridges can be more difficult to clean than natural teeth or even implants. Because of that, people with diabetes may react to the increased plaque.

Dentist's Recommendation: A frequent maintenance schedule, every 3 months, should help prevent excessive plaque accumulation.

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Dental Contouring or Reshaping: Dental contouring or reshaping is a procedure designed to address the issue of crowding, overlapping, and chipped or crooked teeth. The treatment aims to alter the size, height, and position of the teeth and, sometimes, is used as a substitute for braces. Dental contouring or reshaping is often a quick, painless procedure that incorporates a sanding tool or laser to remove enamel and sculpt the tooth to the desired shape. The process usually results in a tooth that is smoothed and polished to prevent cracking or further chipping.

Risks for People with Diabetes: This is a very conservative treatment that has few, if any risks, when properly done.

Dentist's Recommendation: This procedure can be fairly quick, but do take the usual precautions before scheduling your appointment — know your numbers, your current medications, when you last took them, what you ate, and when you need to eat next.

Cosmetic Gum Surgery: Cosmetic gum surgery is a procedure used to correct the amount of gums shown in a smile. Often, as a result of age, poor hygiene, and wear, gums become worn and can either recede or over-take the teeth. In the case of receding gums, a dentist may take tissue from the roof of a patient's mouth or even use artificial material and graft it on to the existing gums. In the case of a "gummy smile," dentists may use a laser or other tool to cut back the gum line. Both procedures require an antiseptic solution to be applied to the area as a precaution against infection.

Risks for People with Diabetes: People with diabetes can benefit from cosmetic gum surgery, particularly those with receding gums that expose the roots of the teeth and leave the teeth open to infection. There is the possibility of swelling and bleeding, but careful and strict oral care can prevent the risk of bacteria and germs developing in the corrected area.

Dentist's Recommendation: This procedure can be relatively quick, but be sure your diabetes is well-controlled. In gum surgery, as in implants, wound healing is the biggest concern, according to Dr. Ruben. If the patient's diabetes is not well controlled, it can lead to infections and the treated area will not heal properly or the treatment may fail altogether. "A patient who is not well-controlled will not necessarily be denied the treatment, but the treatment may be more conservative," Dr. Ruben explained, "and take longer to complete the process as they make sure everything is going as it should each step of the way."

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Dental Bonding: Chiefly used to cover any flaw in the tooth, bonding employs a plastic-like/composite resin that is then shaped, colored, and polished to appear natural. The tooth is chemically treated so that the resin can bind, and then the resin is applied to the tooth in layers. The resin is sealed over the tooth with a high-powered light and then sculpted to achieve the desired result.

Risk for People with Diabetes: Similar to the risks associated with veneers, patients with diabetes undergoing a dental bonding procedure may be at greater risk of developing cavities due to weakened enamel.

Dentist's Recommendation: All foreign materials can attract more plaque than the natural tooth, hence, care should be taken to clean these areas meticulously to prevent decay and gum disease. Bonding is "maintenance intense" as it can stain and chip more readily than porcelain veneers.

Dentures: Dentures are removable replacement teeth that are usually made of an acrylic resin supported by a porcelain or metal frame. There are two types of dentures — complete and partial. Depending on the number of missing teeth, either could be employed. Complete dentures replace a whole palate, while partial dentures are designed to replace a section of missing teeth. Both types of denture are custom-made and designed to fit perfectly in the patient's mouth, ensuring maximum comfort. Overdentures are appliances that fit over existing roots or even attached to implants.

Risks for People with Diabetes: People with diabetes are often discouraged from wearing dentures due to increased reports of patients developing thrush, a fungal infection of the mouth. Thrush is more likely to develop in people whose diabetes is uncontrolled and, due to their weakened immune systems, can lead to chronic, long-term thrush, which can spread to the esophagus, lungs and liver.

People with diabetes may have dry mouths. Since dentures require moisture to achieve "suction," your dentist should evaluate your saliva before recommending a denture. Dentures rest on the gums and may cause irritation or the bone under the gums to be absorbed more rapidly. The dentures need to be constantly checked for proper fit on a regular basis. Just because they work doesn't mean there isn't a problem brewing underneath.

Dentist's Recommendation: This procedure can take five to six appointments to accomplish the desired result. The fit of the denture is more important for people with diabetes. Ill-fitting dentures can cause an inability to eat properly, affecting digestion. It can also result in irritations and increased risk of infection.

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Traditional Orthodontics and Invisalign or Clear Braces: This isn't just for teenagers anymore. Anyone can have straighter teeth and straighter teeth are not only prettier, they're easier to clean. Traditional orthodontics or braces use metal or ceramic brackets that are cemented onto the teeth and wires that guide the teeth into a straighter position. The wires have to be periodically changed and tightened. Invisalign uses a clear plastic slip-cover that goes over the teeth as well as some bonded, tooth colored plastic pieces on the teeth to achieve the movement. These aligners have to regularly be changed.

Risks for People with Diabetes: Because traditional braces cause more food to collect, they may be more prone to decay and gum disease. Invisalign aligners can be removed to clean the teeth and are considered more hygienic.

Dentist's Recommendation: People considering traditional braces must take meticulous care during treatment. Maintenance visits should be more regular and fluoride treatments considered. If Invisalign treatment is possible, it is preferred over traditional braces.

Accelerated Orthodontics and Standard Orthodontic Treatment: Accelerated Orthodontics is a new and controversial procedure that addresses the straightening, spacing, and repositioning of teeth in a shorter time frame than standard braces, usually three to eight months. The procedure employs periodontal cosmetic surgery in addition to standard braces and retainer. Overall, the procedure is successful with fast results and only mild discomfort from teeth moving. Reshaping of teeth may be done to allow room for the braces and sometimes palate expanders are used to reposition teeth in both standard and accelerated orthodontics.

Risks for People with Diabetes: People with diabetes are at a greater risk of periodontal breakdown, inflammation, and infection. Patients should be aware of oral hygiene and make every effort to prevent infection from developing.

Dentist's Recommendation: This is a complex process that requires coordination between the dentist, surgeon, and orthodontist. You need a real "team" approach for the best result. It also requires meticulous home care, maintenance, and diabetes control to avoid complications.

Final Dentists' Recommendations:

People with diabetes are at greater risk of infection. The mouth is a place full of potential issues. Care should be taken to prevent problems whenever possible, so keep your blood sugar well controlled. Having an A1C of 7 or less is always best.

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Most, if not all people with diabetes should be on a more frequent schedule of dental examination and periodontal (gum) maintenance. Those with implants and/or prosthesis such as bridges should definitely be on a 3-month maintenance schedule. Why? Because as plaque matures it becomes more likely to cause infection. Once plaque is removed, it takes about 3 months for the plaque to mature and become aggressive.

The greatest risk for people with diabetes who are undergoing cosmetic procedures comes from the time it takes to do some of these procedures. Procedures such as bonding, veneers, implants, and bridges can often take multiple hours to accomplish. "Will the patient be in a situation where they can't stop what they are doing and take some food," Dr. Goldberg explained.

The dentist must know the medications, how they are metabolized, when their peak effectiveness is, and how quickly they wear off. Make sure you discuss when and what you've eaten so your dentist can advise you when to eat again.

Depending on your medication, your dentist may want to divide procedures or stop in the middle to allow you to take additional medication or to eat.

"Prevention is so much more important," said Dr. Goldberg. You don't want to get to a point where an emergency develops.

A few important points to remember from Dr. Goldberg and Dr. Ruben:

- Make sure your dentist knows about diabetes and its issues, and has an appropriate plan for emergencies.
- On the morning of a procedure, remember to test your blood sugar.
- Always take your test kit with you, even for a special procedure.
- It helps if your blood sugar is fairly well-controlled and you know what your A1C is.
- Treatments are best performed in the morning when blood sugar levels may be better.
- Red, sore or bleeding gums are not normal and require immediate attention.

The mouth is a sensitive area and is vulnerable to all sorts of complications, particularly infection. However, as long as the risks are considered and preparations made, people with diabetes can take advantage of the smile-enhancing benefits of cosmetic dentistry.



