# Roundtable

IMPLANTS


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# Contraindications and Considerations for Implants



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**The Roundtable is a forum for debate on key topics, trends, and techniques in dentistry. For each edition, a panel of experts examines a subject to help expand your knowledge and improve your practice. This month, our panel discusses implantology, focusing on implant therapy for medically compromised and high-risk patients and strategies to minimize the risk of peri-implantitis.**

**INSIDE DENTISTRY (ID):** Is implant therapy currently a viable option for medically compromised patients, such as diabetics, those undergoing cancer treatment, or those who have undergone bisphosphonate therapy?

**SUHEIL BOUTROS, DDS, MS (SB):** In recent years, dental implants have become indicated for individuals with some of those conditions, partly because of improved surface technology. When machined implants were used back in the 80s, dental implants were contraindicated for patients who had poor bone quality. Osteopenia and osteoporosis are on the rise, partly because patients are living longer. It is estimated that more than 30 million Americans have a form of osteopenia. However, thanks to improved implant technology, we can now offer dental implants to that group of patients on a predictable basis. The same applies for diabetic patients. According to the American Medical Association, the incidence of head and neck cancer is on the rise, and it is estimated that there are more than 300,000 head and neck cancer survivors. Many of those patients received resection surgery, radiation to the head and neck, and in some cases, chemotherapy, so when they do end up losing their teeth to rampant decay and are fully edentulous, they can benefit from dental implant therapy. In my practice, I see the need to offer implant therapy to medically compromised patients.

**BARRY LEVIN, DMD (BL):** I think that, in general, the answer would overwhelmingly be a yes, but not all patients are the same. With these patients, the issue of comorbidity is something that has to be looked at. Do we have a diabetic patient who may also be on medications that are inducing xerostomia? How does that affect the condition of his or her soft tissue? What is his or her caries index?

Do we have a medically compromised patient who needed reconstruction following head and neck cancer treatment? Maybe there is a severe loss in his or her saliva production, and we have questionable teeth. The decision between the restorative dentist and the surgical specialist comes down to how much effort would be required to save these questionable teeth with a high caries index versus extracting them and replacing some with dental implants. I would say that most of these patients can be rehabilitated with implant therapy.

**SANDA MOLDOVAN, DDS, MS (SM):** I agree with both Boutros and Levin. I think that implant therapy for medically compromised patients is a good, viable option to add

chewing surface, especially when we are trying to get these patients back to being nutritionally fit. As a nutritionist, I do have to mention the nutritional aspect of this component. A lot of patients who are medically compromised have multiple nutritional deficiencies, especially vitamin D, which is essential in osseointegration. There are several studies demonstrating that a higher vitamin D level decreases the risk for osteonecrosis and increases the bone to implant contact. Prior to implant therapy, the vitamin D levels of medically compromised patients should be tested if they are not being supervised by a medical doctor.

**(ID):** In the early 90s, smoking was an absolute contraindication for implant placement. Do you still believe that to be true?

**(BL):** No. I do not believe it is absolutely contraindicated for the majority of smokers, but I would say that the majority of smokers are admittedly smoking at least a pack a day. Are some patients smoking two packs a day or three packs a day? Unfortunately, the answer is yes. Getting back to the issue of nutrition, I think we see a lot of comorbidities among patients who smoke. Is a patient who smokes a pack a day the same as a patient who smokes a pack a day and has medically induced xerostomia? Is he or she the same as a diabetic patient or a cancer patient who smokes a pack a day? Implant surface technology, as we've already discussed, has improved significantly since we were placing machine screws as residents in the early- to mid-90s. At that time, they were an absolute contraindication. However, I still think that caution, nutritional counseling, and consultation with the patient's physician are very important prior to placing an implant, especially in a smoker.

**(SM):** Yes. I do agree that smoking is not an absolute contraindication anymore. There are studies demonstrating that implants with rough surfaces survive similarly in smokers when compared with nonsmokers. However, I read an article that was recently published in the *Journal of Periodontology* that examined the smoking risk assessment in a retrospective study. They looked at several thousand patients, and heavy smoking was a problem in the survivability of implants long-term. When it comes to patients who smoke heavily, I would warn them about implant bone loss and the high risk of infections. As we know, nicotine itself constricts the blood vessels, and the more that a patient smokes, the more that nicotine will affect his or her ability to heal.

**(SB):** That's a very good question. Like the rest of the panel, I did my training in the early 90s. At that time, if you were a smoker, you were automatically disqualified from dental implant therapy. Obviously, as Levin and Moldovan have mentioned, a lot has changed. I look at smoking as just one risk factor, and we have to look at the patient's overall well-being. If a patient has uncontrolled periodontal disease, then I would be more concerned about that than I would be about the smoking habits of a patient with an otherwise uncomplicated oral health situation. If a patient is a smoker and has uncontrolled diabetes, then I wouldn't consider them a candidate for dental implants. But if a patient is a social smoker and has impeccable periodontal health, then I would probably say that dental implants would be as predictable for him or her as for a nonsmoker. I look at all of the risk factors, including bone quality, occlusion, opposing teeth, stabilization, and more before making the decision. So, is it a contraindication? No. I place implants in smokers, but I use a very cautious approach.



**(ID):** Peri-implantitis is an increasing concern. How do you address it?

**(SM):** If we look at the statistics for peri-implantitis that are coming out of the European Association for Osseointegration, 1 in 5 patients will get some form of peri-implant disease within 5 years. The biggest problem that I see is that it is not recognized early enough. I think we have to learn more about prevention and need to teach our referring base how to recognize the early signs of inflammation around an implant. Unfortunately, I often don't see the patient until after the bone loss has already set in, and there is an 8- to 9-mm pocket around the implant, which makes it harder to treat. Part of my duty in the implant community is to teach hygienists about probing around implants. As a matter of fact, some hygienists are afraid to clean around the implant. That is a problem because we often don't notice separation that is occurring at the gingival margin if we don't immediately see it on a radiograph. We should be a little bit more proactive about educating patients about implant hygiene at the time that we see the mucositis.

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**(SB):** I agree with everything that Sanda said. At my practice, it is part of our implant protocol to have every implant patient come back for a no-charge, final check visit, normally 3 to 6 months following the final restoration. If he or she is high-risk patient, we share our recall visit with the referring dentist, and then we see the patient periodically. Again, the early recognition of problems can help to resolve a lot of the future concerns of implants. For education, we host study clubs with our referring dentists and hygienists to explain exactly how to recognize peri-implant mucositis early breakdown, how to treat it, when we're able to revise the case to a degree, and how we manage removal cases.

**(BL):** At my practice, we have a protocol that includes offering and recommending that patients indefinitely alternate their hygiene visits between us and their general practitioner after the final implant restoration is complete. We also send a letter to the referring dentist and the patient at the start of the alternating hygiene regimen. As periodontists, I'm sure that all of us have received a phone call from a referral about a patient who has 50% to 70% bone loss who we haven't seen in 5 to 10 years. Having a protocol that offers an alternating hygiene schedule helps to avoid that.

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