

## Becoming a patient advocate to improve dental implant longevity



The replacement of missing or failing teeth with dental implants has revolutionised the field of dentistry and improved patients' quality of life. Dental implant treatment has been found to have high success rates and excellent predictability in numerous clinical studies. Several factors that are important for the long-term survival of implants and implant-supported prostheses have been identified, one of which is maintenance of peri-implant health.

As dental implants are used increasingly often to replace teeth, peri-implantitis has become a growing problem. The dental team, including the implant surgeon, restoring dental practitioner, laboratory technician and hygienist, must work together effectively to deliver implant treatment that has the greatest likelihood of ensuring long-term health and function. As patients with a history of periodontitis are at a greater risk of developing peri-implantitis, the dental team must diagnose, treat and control any active periodontal disease prior to initiating implant treatment. The patient should demonstrate adequate plaque control and compliance with periodontal maintenance therapy. Patients should also be informed that smoking increases the risk of bone and soft tissue augmentation failure, and compromises implant success and peri-implant health. A smoking cessation programme should be implemented, including establishing a quit date and providing medication and nicotine replacement options to reduce nicotine cravings.

The implant surgeon, restoring dental practitioner and lab technician need to develop a well-conceived plan for implant treatment that enables prosthetic support, optimal 3D implant positioning, adequate supporting bone and keratinised mucosa, a proper emergence profile, sufficient restorative space and cleansability of the prosthesis. The presence of at least 2 mm keratinised mucosa can reduce plaque accumulation, tissue

inflammation and probing depth significantly, as patients experience less discomfort when brushing. Implants must be positioned to allow for a proper emergence profile, as an emergence angle of > 30 degrees is a significant risk indicator for peri-implantitis<sup>1</sup>.

As excess cement is a risk factor for developing peri-implantitis, screw retention may be a preferred prosthetic design in many cases. Screw retention also enables better retrievability of the prosthesis should the dental practitioner need to access the implants for diagnosis and/or treatment of disease. The implant prosthesis must be designed for cleansability as a lack of access for plaque removal is a risk factor for developing peri-implant disease<sup>2</sup>. Digital dentistry has improved communication between the technician and dental practitioner during the design and fabrication of the implant prosthesis. As such, problems can be identified and corrected during the design phase rather than only being discovered during prosthesis delivery. The restoring dental practitioner should try in the final prosthesis and assess whether the implants are accessible for plaque removal. Any unfavourable contours need to be modified by the dental laboratory or restoring dental practitioner. Upon delivery of the final prosthesis, the patient must be made aware of the importance of performing daily plaque removal using oral hygiene aids such as an electric toothbrush, interdental brushes and floss. The patient should return to the practice after a few weeks so their administration of hygiene practices at home can be assessed. After this, a maintenance recall interval may be determined based on their risk factors. The patient should be seen at least twice a year, and more often if their risk factors for developing disease are higher.

A survey of periodontists based in the USA and Europe found that nearly all participants agreed strongly that general dental practitioners need

to be better trained to diagnose and refer peri-implantitis cases<sup>3</sup>. The dental practitioner should obtain periapical radiographs of the implants at least once a year at recall visits. The main purpose of these radiographs is to assess them for marginal bone changes over time. The hygienist or dental practitioner should perform baseline and follow-up probing of the implants to measure pocket depths and assess for bleeding or exudate. The implant surgeon should be notified promptly if peri-implant disease is detected. Nonsurgical therapy may have limited effectiveness in treating peri-implantitis<sup>4</sup>. There are significant anatomical differences between the soft tissue interface between teeth and implants. The epithelium and connective tissue are firmly attached to the tooth surface, but there is only adhesion of the soft tissues around implants. This may explain why the disease progression rate is faster for peri-implantitis, which causes accelerated and more severe loss of bone compared with periodontitis. Surgical treatment of peri-implantitis has proven to be more effective in reducing probing depths and bleeding and improving peri-implant bone defects<sup>5</sup>. When a patient is referred back to the implant surgeon for an evaluation of implant disease, it is extremely frustrating to observe severe bone loss as a result of supervised neglect. Even surgical therapy can have a guarded prognosis under such conditions. In cases where cement retention was used, a high suspicion of excess cement is warranted. Exploratory surgery can allow better visibility of the subgingival area for detection and removal of cement.

The patient must understand that maintenance of dental implant health is largely their own responsibility. Many patients make the erroneous assumption that their dental problems are a thing of the past once they receive implant-supported replacement teeth. It is essential to provide patients with customised oral hygiene instructions so they can remove plaque effectively and develop a daily routine; however, many patients have difficulty adhering to effective oral hygiene practices over time. It is important that they understand peri-implantitis is a bacterial plaque-induced inflammatory disease that can jeopardise the longevity of their implants. Providing written

material on how to maintain implants is a useful way to educate patients and document the fact that they were made aware of the risks of neglect. They must also adhere strictly to the maintenance recall schedule established by their dental team. Attending peri-implant maintenance visits at least twice per year appears to be crucial in preventing peri-implantitis<sup>6</sup>. The patient should also be told to contact the office promptly if their prosthesis feels loose or they notice any bleeding, swelling or tenderness of the gingiva. Becoming a patient advocate for peri-implant health can help ensure that patients enjoy long-term function with their implant prosthesis.



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## References

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