



## Implant Maintenance-A New Protocol

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### ABSTRACT

As implant treatment becomes part of mainstream dental therapy, dental offices should implement protocols for individualized, systematic and continuous supportive care of the Peri-implant tissues. This short communication article suggests guidelines for maintenance care of dental implants. The preliminary assessment should begin with updating the patient's medical and dental histories. The clinical implant should be examined to evaluate the following: the condition of the soft tissues, plaque index, and clinical probing depth, bleeding on probing, suppuration, and stability of soft-tissue margins, keratinized tissue, mobility, and occlusion. If the clinical signs suggest the presence of Peri-implantitis, radiography of the site is advisable, to confirm the diagnosis. Appropriate treatment should be pursued according to any diagnosis reached during the examination, including (but not limited to) instructions on oral hygiene, removal of supra- and sub-gingival plaque and calculus, occlusal adjustment, relining of a removable prosthesis or surgery.

**Keywords:** *Implant Maintenance, Protocols, Periimplantitis.*

### 1. INTRODUCTION

It is proposed that all patients who have undergone successful implant therapy should receive individualized, systematic and continuous supportive care to maintain the health of the Peri-implant tissues. Patients at higher risk for Peri-implantitis, such as partially edentulous and/or pre-existing chronic periodontitis, should also be identified and monitored closely. [1] Several studies have demonstrated that sites of pre-existing infection may act as reservoirs for Perio-pathogens, which can spread to colonize the implant, especially in patients with

aggressive periodontitis. [2] Other patients potentially at risk are patients with diabetes mellitus who have poor metabolic control, those with poor plaque control and those who smoke cigarettes. [3]

According to the 2003 American Academy of Periodontology position paper on periodontal maintenance, [4] “patients should be evaluated at regular intervals to monitor their Peri-implant status, the condition of the implant supported prostheses and plaque control.” Maintenance principles should include regular evaluation of implants and their surrounding tissues and prostheses; occlusal examination; review and reinforcement of oral hygiene; removal of plaque and calculus; treatment of disease or repair of prostheses, as required; and the institution of customized preventive measures. [5]

Following the restoration of an implant, the patient should be re-evaluated regularly (i.e., every 3 to 4 months) during the first year. [5] After the first year, the response of the Peri-implant tissues should be assessed, at which time the appropriate inflammation, such as redness, swelling, alterations of contour and consistency, aberrant gingival form or the presence of fistulas. [6]

## **2. PROTOCOL FOR IMPLANT MAINTENANCE**

Several studies have been published on maintenance of implant but none of them have mentioned in detail about protocols to be followed for implant maintenance. In this short communication, we have suggested the protocol for implant maintenance, which is recommended to be followed as listed below.

### **2.1 At Home Instructions for Implant Patients**

1. Brush twice daily with commercially available tooth paste and implant care tooth brush/electric toothbrush.

In case of Denture wearer use Implant Care Brush twice daily to clean the denture thoroughly.

3. In narrow areas use Implant Floss once daily.

4. In wider areas use compact tuft brush/angle interdental brush/soft implant interdental brush once daily.

5. Use Waterpik Oral irrigator/ Power flosser once a day.

6. Use a mouthwash to rinse once daily.

7. A rubber tip stimulator may be used to stimulate and massage your gums.

8. May use Hexigel for treating the local infection as a local application in consultation with your implantologist only.

9. Report every three months for a check-up. The dentist will evaluate the clinical situation and may take a radiograph to evaluate the bony changes around your dental implants.

### **2.2 At Office Measures by Clinicians**

1. Assess the clinical situation, check for inflammation and evaluate implant pockets.
2. Probe at the time of placing the implant restoration with a force of 0.25 N with a plastic probe
3. Monitor probing changes over time rather than being concerned about initial probing depth
4. Take radiographs at regular intervals (every 3 months in the first year and every six months, second year onwards) to evaluate bony changes around the implants.
5. Check for residual cement
6. Check for occlusal overload and/or signs of inflammation every 6 months
7. Occlusal adjustment to be done periodically in case of bone loss/ inflammation of Peri-implant mucosa
8. Use WaterPik professional flosser to remove the interimplant plaque from your patients.
9. Rubber cups with pumice, air abrasion, and plastic curettes is recommended to be used since they don't modify the implant surface.
10. Titanium Implant curette and disposable plastic ultrasonic points may leave gentle marks on the Titanium implant surface but can be used without excessive pressure.
11. The plastic sleeve insertion onto the metallic ultrasonic point may provide only polishing action, leaving plastic residues on the implant surface.
12. The clinician can also use ultrasonic implant scalers/softip ultrasonic implant inserts and special titanium implant scalers for scaling around implants.
13. If calculus around implants is adherent, use calculus scaling gel / EDTA gel to soften the calculus before removal
14. Use Implant Paste to polish exposed/visible implant surfaces post scaling.

15. Perform subgingival irrigation around the implants with Betadine / Chlorhexidine for anti-microbial action.
16. Can also use a commercial liquid preparation containing chlorhexidine, xylitol and essential oils for rinsing and irrigation.
17. Can use a commercial chlorhexidine varnish to coat the implant surfaces making it plaque resistant.
18. Can also use a commercial gel containing Chlorhexidine and fluoride combination for local application around implants.
19. Finally, clinician could also use Tetracycline fibres/Chlorhexidine chips/Minocycline gel/Minocycline microsphere/Doxycycline gel as local drug delivery agent in the implant sulcus to provide local anti-microbial effective action and to combat mild inflammation in Peri-implant mucosa noted at routine maintenance visits as an adjunct to mechanical debridement
20. If ozone generating unit available, use a cannula/microtips to inject ozonated gas or ozonated water inside of the affected gingival tissues or a wearable tray to expose the implants to ozone. An exposure of ozone per gingival site is enough to kill all the residual microorganisms.

### **3. CONCLUSION**

This paper has outlined a standardized, evidence-based assessment and intervention protocol to assist practitioners in the maintenance care of dental implants. If this recommended protocol is followed, majority of implants may remain successful thereby reducing incidence of mucositis and Peri-implantitis

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