leads to gingivitis and periodontitis, but also can induce the development of peri-implantitis. Thus, personal oral hygiene must begin at the time of dental implant placement and should be modified using various adjunctive aids for oral hygiene to effectively clean the altered morphology of the peri-implant region before, during, and after implant placement. For instance, interproximal brushes can penetrate up to 3 mm into a gingival sulcus or pocket and may effectively clean the peri-implant sulcus. In addition to mechanical plaque control, daily rinses using 0.1% chlorhexidine gluconate or Listerine provide a welcome adjunct.

Hygiene with dental implants is so tedious and critical to their long-term success that the patient and dental professional must exercise considerable effort. During the maintenance visit, the dental professional should concentrate on the peri-implant tissue margin, implant body, prosthetic abutment to implant collar connection, and the prosthesis.

Clinical inspection for signs of inflammation, ie. bleeding on probing, edema, mobility, probe-able pockets, and a radiographic evaluation of the peri-implant housing still remains the standard mode for evaluating the long-term status of endosseous dental implants. For instance, successful and stable endosseous dental implants exhibit no mobility. But, if there is clinically perceptible mobility, then subsequent to radiographic evaluation of the implant and its surrounding bony housing, the abutment retaining screw, and/or prosthetic abutment collar interface should be examined for looseness or breakage.

All these modes of clinical assessment are used routinely, except for periodontal probing around peri-implant tissues that appear to be in a state of good health, the baseline data and data from subsequent recare visits should be recorded in the daily progress notes to properly assess the peri-implant status longitudinally.

Subsequent to a thorough intraoral examination, unless there is visual evidence of soft tissue changes, ie. inflammation of peri-implant tissue with even slight attachment loss or mucositis, routine probing of the peri-implant tissue should not be performed.

Usually during the first year subsequent to restoring dental implants, a 3-month recare schedule should be implemented, especially if the patient lost teeth because of periodontal disease. But if after 12 months, the patient’s implants are stable and peri-implant tissues are healthy, then a 4-6 month recare regimen can be implemented. However, cognizant of each patient’s level of home care effectiveness, systemic health, and periodontal status of the peri-implant tissue when determining these recare intervals.

With dental implant patients, the dental professional must evaluate the prosthetic components for plaque, calculus, and the stability of the implant abutment. Radiographs of dental implants should be taken every 12 to 18 months following maintenance visits. For dental implant restorations that are screw retained, the dental professional needs to move the prosthesis at least once a year to more easily assess the status of the peri-implant’s hard and soft tissues, the existence of acceptable mobility of the prosthetic components or the implant fixture itself, and the patient’s level of home care effectiveness. Remember that the presence of any symptoms of infection, radiographic evidence of peri-implant bone loss, and/or neoplasms may be indicative of an ailing or failing implant.

Implants vs natural teeth

It is essential to understand the periodontal relationship between the gingiva and the structure it attaches to be it a natural tooth or an implant. (Figs. 1 and 2) The fiber orientation of the gingival cuff around a natural tooth attaches perpendicularly to the long axis of the tooth. (Fig. 1) This acts as a barrier when insertion of the periodontal probe within the sulcus. The probe tip advances apically till the tip contacts the gingival collagen fibers and is halted. This orientation is not seen around implants. With an implant, the gingival fiber orientation is parallel to the implant long axis. (Fig. 4) When a periodontal probe is inserted into the sulcus around an implant the probe tip advances parallel between the fibers of the gingival cuff till the crestal bone prevents it from further advancement.

The peri-implant mucosal seal may be less effective barrier to bacterial plaque than the periodontium around a natural tooth, tissue attachment. There is less vasculature in the gingival tissue surrounding dental implants compared to natural teeth. This reduced vascularity comonitant with parallel-oriented collagen fibers adjacent to the body of any dental implant make dental implants more vulnerable to bacterial insult. Because care appointment, peri-implant periodontal probing should be performed only where signs of infection are present, ie. exudate, swelling, bleeding on probing, prosthetic soft tissue, and/or radiographic evidence of peri-implant alveolar bone loss. Lastly, routine periodontal probing of dental implants should not be performed, because such procedure could damage the weak epithelial attachment around dental implants, possibly creating a pathway for the ingress of periodontal pathogens. Commericially available plastic probes should be used when investigating the crevicular depth around dental implants. The probing depth around dental implants may be related closely to the thickness and type of mucosa surrounding the implant. A healthy peri-implant sulcus has been reported to range from 1.3 to 3.8 mm, which is greater than those depths reported for natural teeth. In essence, the best indicator for evaluating an unhealthy site would be probing data gathered longitudinally.

For all of these reasons, personal home care and consistent professional supervision have proven to be critical to the success and longevity of endosseous dental implants. This is especially true in an environment with adjuvant natural conditions, which if affected by periodontal disease, could act as a reservoir for pathogenic bacteria, as gram-negative anaerobic rods, and seed the peri-implant sulcus.

The physical characteristics of the peri-implant soft tissue are the focus of all oral hygiene instruction. The presence or absence of keratinized tissue in this critical area has not been unequivocally documented to state that gingival inflammation, patholysis, and exudate are more vulnerable to the ingress of pathogenic bacteria with or without the presence of peri-implant bone loss. However, the ability of the patient to maintain orodental home care around dental implants is facilitated by the presence of keratinized tissue. Therefore, the implant professional should consider the patient’s ability to maintain autogenic home care following implant surgery.

When monitoring the health of the peri-implant soft tissues, the practitioner should be cognizant of changes in soft tissue color, contour, and consistency. The presence of a fistulous tract could indicate the presence of a pathologic process or implant fracture.

Bleeding

There is controversy in the literature as to the accuracy and significance of bleeding upon probing around dental implants. Presently, the literature advocates the use of bleeding on probing as an indicator of peri-implant disease. However, it can occur prior to histologic signs of inflammation or concurrently with other signs of implant failure, ie. bone loss. Therefore, when a lesion is identified, routine probing is not recommended.

Radiographic evaluation

Radiographic interpretation is one of the most useful clinical parameters for evaluating the status of an endosseous dental implant. Invasion of biologic width, predictable remodeling, or so-called sauscerization, is an average marginal bone loss of 1.5... During the first year following prosthetic re habilitation, it is limited to natural teeth and not to dental implants. The rationale for this conclusion is that this metal is so hard it can scratch, contaminate...