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 5 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, exudate, mobility, probe-able pockets, and a radiographic evaluation of the peri-implant housing still remain 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 screws, 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 introral 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 prosthodontic components for plaque, calculus, and the stability of the implant abutment. Radiographs of dental implants should be taken every 12 to 18 months for maintenance visits. For dental implant restorations that are screw retained, the dental professional needs to retrace the prosthesis at least once a year to more readily assess the status of the peri-implant’s hard and soft tissues, the existence of adequate mobility of the prosthodontic 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 neoplasias 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 a periodontal probe into the sulcus. The probe tip advances apically till the tip contacts the gingival fiber matrix and is halted. This orientation is not seen around implants. With an implant the gingival fiber orientation is parallel to the implant surface along the axis. (Fig. 4) When a periodontal probe is inserted into the sulcus around an implant the probe tip advances passing between the fibers of the gingival cuff till the crestal bone prevents it from advancing further.

The peri-implant mucosal seal may be less effective because the spaces around endosseous dental implants are not as close as in natural teeth.

Successful osseointegration27 is a necessary condition for clinical success of dental implants. The presence of keratinized tissue being present around endosseous dental implants is facilitated by the presence of keratinized gingiva. The reason a patient has not keratinized tissue around an implant, and a pull from a furred or a chronic peri-implant mucositis exists, then placement of a soft tissue autogenous or alloplastic connective tissue graft is recommended to facilitate the keratinization process. (Fig. 7)

Specific criteria for obtaining clinical data around dental implants that would allow proper monitoring and detect early possible failure of osseointegrated dental implants has not been clearly defined. Presently, the presence of mobility is the best indicator for diagnosis of implant failure. As opposed to natural teeth, dental implants exhibit minimal clinically undetectable movement because of the absence of a periodontal ligament. Therefore, healthy implants should appear nonmobile, even in the presence of peri-implant bone loss, if an adequate amount of supporting alveolar bone still exists.

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 on 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. Because it can occur prior to histologic signs of inflammation or concurrently with other signs of implant failure, ie, bone loss. However, a well-documented, 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 saucerization, is an average marginal bone loss of 1.5 mm during the first year following prosthetic reattachment. Usually, progressive bone loss around a dental implant that exceeds these averages may be indicative of an ailing or failing implant. Lastly, during radiographic evaluation, no evidence of a peri-implant radiolucency should be found, because such a radiolucency usually indicates infection or failure to osseointegrate.

Professional cleaning instrumentation

Instruments made of metal are not as affected to stainless steel should be limited to natural teeth and not to be used to probe or scale dental implants. The rationale for this well-documented and spoken conclusion is that this metal is so hard it can scratch, contaminate,

Instruments that cannot be used to probe or scale dental implants.