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 gingival sulcus and can effectively clean the peri-implant sulcus. In addition to mechanical plaque control, daily rinsing 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 bone 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 bone 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 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 5-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-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 re-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 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. 2) This acts as a barrier when insertion of a periodontal probe within the sulcus. The probe tip advances apically till the tip contacts the cementum between the fiber layers and is halted. This orientation is not seen around implants. With an implant, the gingival fiber orientation is parallel to the implant's long 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 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 concomitant with parallel-oriented collagen fibers adjacent to the body of any dental implant make dental implants more vulnerable to bacterial insult. Periodontal maintenance appointments, peri-implant periodontal probing should be performed only when signs of infection are present, ie. exudate, swelling, bleeding on probing, presence of mucositis, and peri-implant soft tissue, and/or radiographic evidence of peri-implant alveolar bone loss. Last, routinely periodontal probing of dental implants should not be performed, because this procedure could damage the weak epithelial attachment around dental implants, possibly creating a pathway for the ingress of periodontal pathogens. Commericably available plastic probes should be used when investigating the crevicular depth around dental implants. The probing of depth around dental implants may be related closely to the thickness and type of fibers surrounding the implant. A healthy peri-implant sulcus has been reported to range from 1.5 to 3.5 mm, which is greater than those depths reported for natural teeth. In essence, the best indicator for evaluating an unhealthy site would be a probing data gathered longitudinally.

For all of these reasons, personal home care and consistent professional care are necessary to prevent and treat the presence of peri-implant bone loss. According to present evidence, routine probing is not recommended.

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.

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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, because it can occur prior to histologic signs of inflammations or concurrently with other signs of implant failure, ie. bone loss. However, an adequately trained, 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 sauceration, is an average marginal bone loss of 1.5-2.5 mm during the first year following prosthetic re-habilitation followed by an average of 0.2 mm of vertical bone loss every subsequent year. Thus, 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, such as stainless steel, should be limited to natural teeth and not be used to probe or scale dental implants. The rationale for this well-documented and commonly accepted conclusion is that it is so hard it can scratch, contaminate,