Section III Preoperative General Assessment and Treatment Planning

The ultimate goal of dental implant therapy is to satisfy the patient's desire to replace one or more missing teeth in an esthetic and functional manner with long-term success. To achieve this goal, clinicians must first accurately and comprehensively assess the patient's overall physical and mental health. Treatment planning for implant dentistry usually requires a greater degree of attention to detail and precision than other forms of dentistry. This results from the less forgiving clinical situation if an implant's angulation is wrong or the implant-supported restorations are not in proper occlusion compared with when natural teeth are supporting dental prosthetics. In addition, anatomic factors should be considered owing to the nerves, maxillary sinus, nasal floor, and other important anatomic structures commonly present in the area where implants need to be placed. Thus, a close working relationship between the surgeon placing the implant and the clinician restoring the implant is critical from the time treatment planning begins to when the final restoration has been seated.

Initial Observations and Patient History

At the first meeting with the patient, experienced clinicians begin to make general observations about the patient, including items such as their physicality, physique, facial features, speech, attention to their appearance, and personality. These superficial characteristics help guide the clinician during the treatment planning aspects of patient care.

CHIEF COMPLAINT RELATING TO POTENTIAL IMPLANTS

The patient's chief complaint is a statement in their own words that conveys the perceived problem and concerns, and, in some cases, their initial expectations. When the patient's concerns relate to missing dentition, the clinician must assess the patient's current understanding of the restorative options, their knowledge of implant dentistry, and whether the patient's expectations are reasonable.

One question is whether the patient is looking strictly for a functional replacement of missing teeth or has a strong esthetic expectation, or both.

Another question is how the patient's expectations fit with their perceived timeline and financial circumstances.

Ultimately, it becomes the clinician's responsibility to distill all the information conveyed by the patient and determine the available treatment options that would meet or exceed the patient's expectations and then educate the patient about these options. A failure of the doctor and patient to understand each other's expectations is likely to compromise the patient's ultimate satisfaction.

MEDICAL HISTORY AND RISK ASSESSMENT

A thorough medical history is required for every dental patient. Just as with any patient for which a surgical procedure is planned, the patient must be assessed preoperatively to evaluate their ability to safely undergo the proposed procedure and for the surgical wounds to heal. Fortunately, only a few absolute medical contraindications to implant therapy exist. The absolute contraindications to implant placement based on surgical and anesthetic risks are limited primarily to patients who are acutely ill, those with an uncontrollable systemic disease, and patients with certain diseases or damage at the potential implant sites. Contraindications can be limited in duration; once the illness has resolved or the metabolic disease is controlled, the patient could become a good candidate for implant therapy. Relative contraindications relate to medical conditions that affect bone metabolism or the patient's ability to heal. These include conditions such as osteoporosis, immunocompromising disorders, medications (eg, bisphosphonates), and medical treatment such as chemotherapy and head and neck irradiation. Some psychological or mental conditions could be considered absolute or relative contraindications, depending on their severity. Patients with psychiatric syndromes (eg, schizophrenia, paranoia), mental disturbance (eg, neurosis, hysteria), or mental impairment (eg, Alzheimer's dementia), those who are uncooperative, and those who have irrational fears, phobias, or unrealistic expectations might be poor candidates for implant treatment. Certain habits or behavioral considerations, such as tobacco use, substance abuse (eg, drugs and alcohol), and parafunctional habits (eg, bruxing and clenching) must be scrutinized, because they can be potential contraindications as well.

Tobacco smoking, in particular, has been documented as a significant risk factor, resulting in decreased long-term stability and decreased retention of implants.

Dental History

A thorough dental history should be obtained from every dental patient for whom implants are being considered. Factors related to the patient's attention to oral hygiene and regular dental visits are especially important for potential implant patients. For example, if a patient presents with complex dental needs and has a history of seeking dental care in a consistent fashion and a good history of compliance, the clinician could consider the patient to have a below-average risk of failure with implant care. However, if a patient presents with complex dental needs, has shown very little commitment to previous dental treatment, and has demonstrated very little effort to take care of their dentition, the clinician would consider this patient to have a much greater risk of implant failure and might recommend a less complex treatment plan requiring less patient compliance and foregoing implant-supported restorations.

Equally as important, the clinician should explore the patient's emotional connection to their dental history. For instance, has the patient had positive dental experiences in the past or is the patent extremely apprehensive because of previous poor experiences. Surgical or restorative implant dentistry requires significant commitment from both the patient and the clinician. It is imperative that a strong relationship is established between the patient and all the members of the implant team.

Intraoral Examination and Records

The oral examination helps the clinician to assess the current health and condition of the existing teeth and of the oral hard and soft tissues. It is imperative to recognize any pathologic conditions present in any of the hard or soft tissues and the presence of acute or chronic infection or other pathologic features in or near the sites of potential implant placement. The implant-focused intraoral examination should address the restorative and structural integrity of the existing teeth and prosthetics, the vestibular and palatal depths, the periodontal status, occlusion, jaw relationships, interarch space, maximum opening, parafunctional habits, and oral hygiene. Specific attention should be paid to the edentulous ridge anatomy and soft tissue morphology. The height and width of the ridges should be evaluated visually, followed by palpation to help identify any topographic features such as undercuts or bony defects.

The soft tissue surrounding the dental implants contributes to their long-term success. While examining the periodontal health of the patient, the clinician must consider the health of the soft tissue around the existing teeth, the edentulous areas, and any previously placed implants. The soft tissue should be examined for zones of keratinization (eg, quantity and location), clinical biotype (eg, thin, moderate, or thick), redundancy and mobility, and pathologic features. Thick fibrous tissue can often mask a thin underlying bony architecture that will require careful assessment radiographically. In the locations planned for implant placement, a more site-specific evaluation should center on the quality, quantity, and location of the keratinized and nonkeratinized mucosa. If the clinician believes the keratinized tissue is inadequate to maintain the health of the implant or is lacking in esthetic support for the planned implant or restorative complex, soft tissue grafting or augmentation should be considered.

During the examination of the patient, the clinician should also evaluate the surgical ergonomics. These ergonomic factors include how wide the patient can open the mouth, the muscularity of the buccal tissues, the tongue size, the perioral musculature tone, whether an exaggerated gag reflex is present, airway adequacy, and overall patient cooperation and level of anxiety.

All the details of the intraoral examination should be documented. The intraoral examination will help the clinician determine what imaging studies and other diagnostic procedures might be required to further evaluate the patient.