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Dental Implants-information for patients

The concept of placing artificial teeth directly into the jaws is not a new one. It is an idea that has only become practical owing to the development of implants designed using the science of osseointegration. Prior to this time dental implants often failed to provide satisfactory long-term results secondary to infection or progressive bone loss around the implant.

Osseointegrated implants are specific types of dental implants that will become integrated or fused to the patient's jaw following surgical placement and appropriate healing time. There are a number of physical designs commercially available, the majority of which are made from commercially pure titanium or titanium alloys. There are various lengths and diameters available, and a number of types of surface coatings and configurations. The specific type used for each patient is determined following a complete evaluation of the planned site for implantation and the type of prosthesis being constructed. In some cases the intended site is not acceptable for immediate placement of the implant and must be surgically modified with bone and/or soft tissue grafting prior to the implant surgery. Following a period of healing the implant is firmly affixed to the surrounding bone and the restorative phase of treatment can begin.

Osseointegrated implants can be used for replacing single or multiple missing teeth in the upper or lower jaws. Implants are also used to anchor facial prosthetics such as artificial eyes, ears and noses. Implants are sometimes used in orthodontic treatment to provide appropriate anchorage for the movement of teeth. A sufficient quantity and quality of bone must be available, or must be surgically created for proper positioning and initial stability of the implant. The patient must be capable of maintaining the implant and the associated prosthesis with proper oral hygiene and regular professional dental care. There are very few reasons that a patient cannot be considered for implant dentistry. A complete medical and dental history will reveal such risk factors as uncontrolled diabetes, a history of heavy smoking, compromised immune status, active infection at the intended surgery site, extremely atrophic (small) jaws, presence of malignant disease, or severe psychiatric disease. How the implant may be used in your specific case will depend on factors such as the number and types of missing teeth, upper/lower jaw relationships, number and condition of remaining teeth, oral hygiene, patient functional considerations, and aesthetic considerations. These issues are all considered when developing the patients' treatment plan. The surgeon must plan the case carefully with the restorative dentist. Ultimately the patient will judge the results by the functionality and aesthetics of the final dental prosthetic work.

The surgical procedure requires precise placement of the implant. This is often done with the assistance of a surgical guide constructed from the patients' dental models. An incision is made in the gum tissue to expose the jaw bone. The site is then prepared to accept the dental implant.

Development of a close fit between the bone site and the dental implant is critical for the purpose of osseointegration and to the long-term success of the procedure. Surgery is carried out in the office, and can be done using local anesthesia in most cases. Both Dr Phillip Cary and Dr Nathan Cary are experienced with the use of intravenous anesthesia and can offer this to patients having more extensive procedures or for those who prefer this approach.

The postoperative course can be variable. The number and locations of the implants placed, as well as individual patient variables will influence such things as swelling, jaw stiffness, pain, and bleeding. A few days of discomfort and mild swelling should be expected following surgery. Medications will be prescribed to assist in the relief of pain and to help to avoid infection. Strict oral hygiene and adherence to the required office follow-up visits is essential. Sometimes implants are covered at surgery and are allowed to heal undisturbed under the gum tissue for three to six months prior to beginning the prosthetic care. There are cases where the implant is not covered at surgery. This technique is generally reserved for the placement of implants where there is no cosmetically adverse effect with exposure of the unrestored implant surface during the period of osseointegration. The patient may have some form of temporary prosthesis constructed to serve during the time required for the implant to become ready for restorative services. At the completion of osseointegration a second surgery is required for those implants that are covered when initially placed to expose the implant's top surface. This is a minor procedure and is done using local anesthesia. An "abutment" is placed at this time that allows the gum tissues to heal around it, and restorative services are then started. These services can be quite variable. Specifics of your reconstructive work are best discussed with your dentist.

Short-term success is largely dependent on proper patient selection, careful treatment planning, and atraumatic placement of the implant. Indications of failure include persistent swelling and/or discomfort at the implant site, wound breakdown, persisting wound drainage, and x-ray evidence of bone breakdown at the implant-bone interface. Long-term success is dependent on a healthy initial healing response, careful dental reconstruction with particular attention to how the prosthesis is "loaded". Long-term maintenance is also critical to the success of your implant supported dental prosthesis. Good and consistent oral hygiene coupled with regular professional dental care will assure the highest probability for continued health of the tissues that support the implant.

Complications can occur in the practice of implant dentistry. Careful planning, surgical placement, restorative care, and maintenance will keep the risk of complications quite low. The specific types of complications one might experience are somewhat unique to each case and are discussed by Dr. Cary in the course of the pre-surgical visits with the patient. Overall success rates in implant dentistry is impressive, with over 85% of implants retained and functional for two decades or more. Please feel free to discuss any questions you have with Dr. Cary or a member of our staff.