

# **A PATIENT'S GUIDE TO IMPLANT SURGERY**

## **HISTORY**

Dental implants have experienced a long and difficult history. Although various types have been around for many decades, none were really reliable until an orthopaedic surgeon by the name of Per Ingmar Branemark devised the use of a threaded titanium screw, which could be inserted into the jaw bone, and after being left to "sleep" under the gum for some months could be uncovered to receive a false tooth.

Since Professor Branemark devised his technique in Sweden in the late 1950's, thousands of patients have been benefiting from this expertise. These implants have now been in place in some patients for in excess of 30 years, and have proven that they can withstand the wear and tear of every day chewing.

Patients who receive dental implants after many years of having no teeth, find that it revolutionises their life, and they are once again able to eat sticky, hard and chewy foods just as if they once more had their natural teeth.

The gaps left by missing teeth are not only unsightly, but also allow other teeth to shift out of position, making cleaning more difficult and hastening tooth loss. Implants are now a realistic way to avoid this, without the sacrifice of other teeth to fit a bridge, or the social embarrassment of a removable denture.

If you are considering having dental implants placed and you would like to speak with someone who has been similarly treated, your surgeon would be happy to arrange for you to speak with one of these patients who has previously undergone the procedure.

## **TYPES OF IMPLANTS**

Implants can be used to replace a single missing tooth - or several. If all the teeth in either the top jaw or the bottom jaw (or both!) are missing, implants can be used to rebuild the whole arch of teeth. Alternatively, they can be used as locking devices onto which an upper or lower denture can be firmly secured – which will only come out when you want it to. Your surgeon will give you a leaflet explaining the type of implants that may be suitable for you. They can show you pictures of previously treated patients, and diagrams and computer simulations of how the implants are actually placed.

Your surgeon will work closely with your dentist or prosthodontist to ensure that your implant-based restoration gives you the very best result in both function and aesthetic appearance.

## **SEQUENCE OF TREATMENT**

### **Treatment Planning**

Your surgeon and your dentist or prosthodontist will work together to plan your program of treatment with you. They will use your dental and facial X-rays and dental plaster models. Using these models a custom bite plate may be constructed, which you may be asked to wear whilst having special CT scans performed, which will reveal in three-dimensions the amount of bone remaining in your jaws, to optimise the placement of the implants.

Whilst treatment planning begins at your initial visit, no treatment will begin until you are fully informed of the recommended procedures and a firm treatment plan has been established.

### **Surgery**

The surgical procedure may be performed in either one or two phases. At least two phases will be required if a bone graft is required to rebuild the bone at the implant site.

Phase one involves placing the implants into the jaw, under the gums, and placing small cover screws over the implants to prevent the bone or gum growing into the inside of the implants, before closing the gums. If the implants

are firm, healing caps (abutments) can be placed, eliminating the need for another operation, and sometimes a temporary crown can be placed very shortly after the surgery. One or two implants may be placed under local anaesthetic, but because the procedure of placing implants is delicate and precise, and can take some considerable length of time, most patients who are having multiple implants placed prefer to be asleep.

There may be some swelling, numbness and perhaps even some bruising present for 5 – 6 days after the surgery. It may be necessary to take some bone from another area of the jaw (or in extreme circumstances from the hip) to add to the bone in the area for implant placement. If this is the case, there will also be some swelling and bruising of this donor site. Occasionally, bone grafting will require a separate surgical procedure some months prior to implant placement. Bone harvesting for the graft can also cause some lip numbness although this is almost always temporary. The material used to assist with bone grafting are animal products sourced from sterile herds and fully approved for use by the Australian Therapeutic Goods Administration, and by the Australian Red Cross for use in blood donors. Please ask your surgeon if you require more details.

Patients who normally wear full dentures may not be able to do so for up to 2 weeks after the surgery due to the discomfort from the swelling, and also the need for the dentures to be re-lined with a soft compound to accommodate the new shape of the jaw. Most partial dentures can be immediately adjusted to accommodate implants.

Some weeks following phase one surgery; an OPG X-ray is taken of your jaw to determine the position of the implants.

Phase two surgery may be necessary to uncover the implants and can commence 3 months later in the lower jaw, but a wait of 6 months is necessary for procedures in the upper jaw, to ensure the implants are firm (integrated) into the bone. At this phase, which is frequently performed under local anaesthetic, the cover screws are removed, and titanium abutments or temporary crowns are screwed into the implants such that the top protrudes through the gum. Again, it may be necessary for full denture wearers to go without their teeth for a few days until such time as the plates can be re-lined once more to accommodate the abutments.

It is usual for the abutments to stay in place approximately four weeks following phase two surgery, before the dentist or prosthodontist will remove them to take impressions and begin construction of the final restoration.

Your surgeon or your dentist or prosthodontist will recall you on a regular basis even following final placement of your teeth, to take records and to ensure that the implants are healthy and that you are maintaining them correctly – this is an essential part of your treatment to avoid late failure.

## **COST**

Before beginning treatment, your surgeon will discuss with you the cost of the surgical placement of implants (which includes both phase one and phase two surgery) and any additional costs such as bone grafting, anaesthesia, and hospital fees. Many of these costs will be covered by private medical insurance. Even if you are in the top levels of cover there will still be a gap between your cost and reimbursement, but information will be provided to you prior to your surgery to enable you to determine from your health fund, the exact amount of the reimbursement which you will receive. Arrangements can be made with this office, for an appropriate time payment if required. Please ask your dentist or prosthodontist regarding the additional costs of the crowns or dentures to be placed on your implants.

## **COMPLICATIONS**

Whilst complications with implant treatment are relatively rare, it must be understood that it is a sophisticated and demanding form of treatment, which is subject to occasional failure.

Worldwide, the success rate for each individual implant in the lower jaw is approximately 95%, and in the upper jaw, approximately 85%. In patients who are smokers, or who suffer from diabetes, or an otherwise compromised immune system, the success rate is significantly lower. Your surgeon will advise you if your implants are particularly difficult to place and thus the success rate could be expected to be lower. Failure can occur at any stage but is usually detected at second stage surgery or prior to the construction of crowns or dentures. Soft tissue (gum) contour may not be ideal and may require further operations to correct.

Your implants will be ultrasonically tested to ensure they have integrated, prior to your return to your dentist or prosthodontist for denture, crown or bridge construction. Up to this point, in the absence of any special circumstances, a failed implant will be replaced free of charge, under the manufacturer's warranty. An additional general anaesthetic however may attract further fees from the hospital and the anaesthetist.

Dental implants are now considered state of the art for the replacement of one or more missing teeth and are considered to be a successful, reliable and aesthetic dental restoration, which will last for many years if carefully monitored and protected from damage.