

# DR HANS VAN HEERDEN B.ChD M.ChD

## General Information about dental implants

### What are implants?

Missing teeth can often be replaced by implants. Implants act like roots of teeth. After they have been fitted and have healed in place, dentures or crowns may be attached to them. When dentures are held in place by implants they do not slip around. If crowns are fitted on implants they act like normal teeth.

There are various types of implants of which your dentist will select the type most suited for your needs and general dental condition. Although there are many types of implants, the type can be divided into basic groups:

1. Those that are inserted into bone (root form or endosseous implants).
2. Those that are placed over the bone (subperiosteal implants) - not widely used.

Implants can only be placed if there is enough bone present in the jaw. When teeth are lost, the bone around the teeth gradually disappears. If too much bone has been lost it is sometimes possible to grow bone in its place.

*What are the alternatives?*

For people who have **NO** remaining teeth the alternatives are:

- Complete dentures
- Implants which secure their dentures in place
- Implants which support crowns and bridges

For people, who have **SOME** of their own teeth, the alternatives are:

- Partial dentures supported by teeth
- Bridges supported by teeth
- Partial dentures supported by implants and/or teeth
- Crowns and bridges supported by implants and/or teeth

*Partial dentures*

Is a removable partial denture the best option to replace missing teeth? Partial dentures are either tooth supported or tooth and gum supported. An entirely tooth supported partial denture, will fill the space, but the supporting teeth are no stronger than they were before. In other words, the stress has been increased on the remaining teeth. In the case of a partial denture, which is both tooth and gum supported, the number of teeth has not increased and once again, there is a lack of root support as there was before. The areas where teeth are missing have been filled with gum-supported denture teeth. Gum tissue and bone structure beneath these dentures will shrink gradually and the partial denture will have to be replaced or relined periodically. If these areas are not relined, a space develops under the denture. It is not bearing its fair share of the chewing load and the remaining natural teeth are all carrying the chewing load. The teeth are overloaded. Under these conditions, the remaining teeth will undergo accelerated bone loss.

*Bridges*

When a tooth is lost, it is best to replace the tooth with a fixed replacement as promptly as possible. For the replacement of a single tooth, a fixed bridge is often very satisfactory. However, replacing a number of missing teeth and at the same time restoring the chewing efficiency does not increase the support that was present when the natural tooth was in the mouth. The artificial tooth of the bridge does not have a root. In reality, this is no great concern when dealing with a single tooth replacement. But, assuming that we have lost two or three teeth next to each other, or have lost several teeth spread out intermittently throughout the entire jaw, it quickly becomes obvious, that a considerable amount of root support has been lost. Now, it does make a difference. In effect, we have increased the load on each remaining tooth because there are fewer of them. This can be compared with losing fence posts in a long fence. The fence is not any shorter, but there are fewer posts supporting the fence. The fence is no longer as strong as it was earlier. In the case of the fence, it is obvious that the fence posts need to be added so that the amount of support will be increased, and similarly these areas in the mouth need to be aided by replacing the missing root structure by means of implants.

General information about dental implants continued

*General dental health*

**The initial evaluation and additional diagnostic material**

To plan the most suitable treatment certain information is helpful - for example: photographs, x-rays and models of your teeth and jaws. X-rays are essential for proper diagnosis and follow-up after treatment is completed. In some circumstances, a more comprehensive three dimensional x-ray evaluation using a CT Scan may be requested to give greater detail of the shape of your jaws.

*Sometimes treatment is needed before you are ready for implants*

**Having a healthy mouth**

Implants survive best in a healthy environment. Any tooth decay or gum problems need to be corrected before implants are placed to give them the best chance of success.

**Gum health:** This may involve the use of special brushing methods, flossing and small “bottle” brushes. Some gum treatment may be necessary.

**Removal of unsavable teeth:** Despite advances in modern dentistry some teeth may have reached a stage when no treatment can save them. It is often best to remove them at an early stage, particularly if you are thinking of having implants so as to prevent further bone loss.

*Treat or remove all pre-existing oral infections where possible*

**Treatment of existing or potential oral infections**

The success of implant therapy can be seriously affected by infections resulting from failed gum or root canal treatments or untreated gum disease or nerve problems in sites adjacent to implants. Long standing infections of the soft tissues beneath the dentures can also adversely affect healing at the various surgical stages. Your treatment may be delayed while these areas are resolved. Although gum infections arising in opposite jaws have no clearly proven link with problems around implants, there is at least the theoretical risk of bacterial transmission. Therefore for the meantime it would be considered prudent to assume that there is a risk. Your mouth should be treated as a whole and not simply as unrelated regions

**How many implants are required?**

As a general principle, as many implants as possible should be used. This allows the stresses of biting to be spread over the maximum number of implants, thus diminishing the load on each particular implant.

*Some people find it more convenient to proceed in stages*

**Upgrading**

It is sometimes possible to have two or three implants placed, use them for a while and some time later add more implants to improve the treatment plan. This is not an approach, which is feasible in all situations and is probably most suited for treatment of the lower jaw where no teeth are present.

An example of this might be the patient with no teeth in the lower jaw, who has two or more implants placed in the first instance. By stabilising their denture using the implants, it can be held more firmly in position. Later on, if they have sufficient bone, more implants can be added and eventually fixed-teeth placed on the implants eliminating the denture altogether. The feasibility of upgrading should be confirmed rather than assumed.

*Before and after implants are fitted*

**What is it like having implants fitted?**

Just as with any surgery, there can be some discomfort. However, anaesthetics and sedation virtually eliminate discomfort during actual surgery.

**What is it like after having the implants fitted?**

The after-effects of having implants fitted is usually mild and may include slight bruising, dull ache and swelling, the amount of which will vary, dependent on the number of implants placed and the difficulty of the surgical procedures. Patients will be provided with medication to alleviate this discomfort.

When choosing a date for implant placement, avoid significant social engagements and work commitments for at least a week after. This is just to be on the safe side. Taking time off work is usually not necessary.

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*Creating more bone*

### **Additional procedures before implant placement**

It is a natural phenomenon that after teeth have been removed, the bone that once supported them slowly resorbs. This occurs faster when prolonged gum problems have been present or poorly fitting dentures are being worn, the results is that there is sometimes not enough bone to support implants.

When there is not enough bone present, it may be necessary to create new bone to fill in missing areas, allowing implants to be fitted. A variety of techniques are available to do this and these are referred to as “**bone grafting**”.

The bone used in these situations may be specially treated donor material from a “Bone Bank”, a synthetic substitute, or taken from areas in the mouth where there is some spare. In special cases where larger amounts of bones are needed, it is possible to move bone from other place such as the hip or shin, to the deficient area of the mouth. The area from which the bone is taken will regrow.

*Bone grafting and duration of implant treatment*

Where the clinical conditions indicate that bone grafting is required, to increase the amount of bone into which implants are placed, will generally increase the time taken to complete the treatment. Under circumstances where no bone grafting is required, the implants are commonly ready to begin function between 4 and 9 months later.

Where implant placement must be delayed until after the maturation of the bone graft, overall treatment may take 12 to 18 months.

*The purpose of sinus augmentation*

### **Sinus augmentations**

It is very common to find that the softer bone in the area above the upper molars is very shallow and not suitable for normal implant procedures. To solve this problem a procedure known as a “sinus augmentation” or “sinus lift” was developed.

Bone may be successfully grown in the sinus spaces above the upper molars, allowing implants to be placed. Specially treated donor bone from a “Bone Bank”, synthetic bone substitutes, or bone from other areas of the mouth or body is placed into these empty areas. Over a period of time this is replaced by new bone, thus providing a bed into which implants can be fixed. Implants can be inserted after 4 to 9 months, although occasionally it may be necessary to wait longer.

As with other bone grafting procedures, the implants, are left to become firmly attached to bone. Commonly a slightly extended healing period is chosen with an average of 6 to 9 months before a denture or crown and bridgework is fitted. However, all bone grafting is unique to each individual and this information is for guidance only.

### **Additional procedures at the time of implant placement**

Despite the thoroughness of the planning, extra procedures are sometimes required during the treatment to produce the best results. It is important that in this event you accept that appropriate alternative treatment is performed at the time of treatment, although it may be different to that already planned.

*Fee variations*

### **During treatment fees may vary due to:**

- Alternative procedures required due to changes in the treatment plan.
- New treatment becoming available in the course of your treatment.
- Treatment extending over a longer period of time than expected.

If for some reason it is not possible to proceed with the planned procedure at the treatment appointment, an alternative treatment may be performed if considered appropriate.

Sometimes bone may be lost around an implant. There are techniques available to treat these problems if the cause can be identified. In some situations however, progressive bone loss might result in the loss of the implant.

### **New advances**

Implantology is a rapid advancing science. We may take advantage of some of the new procedures or materials if they have been proven to significantly improve the outcome.

**General information about dental implants continued**

*How long does treatment take*

**How long does the treatment take to complete?**

This depends on the complexity of the treatment. Initially there is a treatment planning stage, which may last a month or so. Then there may be some time spent on such preparatory procedures such as improving gum health removing any unsavable teeth and bone grafting. This may take anything from a few weeks to a many months.

After the implants are placed they are left to settle in place from 6 to 9 months. The final fitting of crowns or the attaching of dentures to the implants takes a month or two. The time depends on your individual situation.

Special medication will be prescribed for you to help healing and produce minimal discomfort. To gain the most benefit please follow the instructions given carefully.

Even treatment that is well planned and executed can fail as a result of moving too quickly from stage to stage. If you do not have time available then it may be sensible to consider conventional forms of dentistry, which can be completed more rapidly.

**Precautions for denture wearers**

Denture wearers may require their dentures to be modified or be to leave them out for a period of time to prevent the resting on newly placed implants. During settling-in stages, metal framework dentures may need to be replaced with a plastic set, as they are more easily adjustable. The fitting surface can then be altered when the implants are placed.

**Reporting problems and queries**

If anything arises that you are concerned about, telephone immediately. Usually there is nothing to worry about, but no matter how apparently trivial, it is always better to check.

**Thorough daily cleaning is more important with implants than with teeth.**

**Follow-up appointments and regular check-ups**

To ensure that any problems are detected early, regular maintenance check-ups are advisable. Problems are more easily treated if the detected early. Check-ups may be recommended three, four or six monthly.

In most cases review appointments will be more frequent during the first year that the implants are in function.

**Regular check-ups are every bit as important as they are with natural teeth, if not more so!**

**Some examples of problems that can arise**

There are cases reported in dental literature in which there is a temporary loss of nerve sensation following certain surgical procedures. This does happen sometimes, but it is usually temporary and it is a loss of nerve sensation only and will not cause drooping or sagging of the face.

Porcelain crowns attached to implants can fracture when attached to natural teeth. However, removal of crowns from implants for repair is usually easier than from natural teeth. Implant supported bridges that become loose should be re-tightened immediately, to reduce the likelihood of further unnecessary damage.

Should it be discovered during a routine maintenance visit that an implant has failed or is failing, remedial action will be planned accordingly. Implants that become loose will not re-tighten and should be removed at the earliest opportunity. Should you notice any areas of soreness, discharge or pain on chewing near any implant or tooth you must immediately report this to the dentist responsible for your maintenance.

*Implant success and your commitment to long term maintenance*

**Successful treatment**

We will do everything we can do to make the implant succeed, but you will have to make the same commitment. Success depends on your body's reaction to implants and your personal care of them. Implants can fail due to gum disease just as teeth do. Success is constantly improving due to improved techniques. Natural teeth last longer today as awareness of the need for looking after them becomes more accepted. However, there would not be a need for implants if teeth were totally successful.

**“Success rates for implants compare very favourably with all other forms of dentistry”**

**Smoking and alcohol consumption**

Both smoking and heavy alcohol consumption, reduce the survival of implants (and teeth). If you think that either of these two habits could be a problem for you and your implants, it may be advisable to avoid this form of dental treatment or accept the higher risk of implant failure.