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Dental Implant Information

In the last decade dental implants have become widely used in mainstream dentistry and are usually the treatment of choice for a missing tooth.



1. What is a dental implant?

A dental implant is an **artificial replacement for a tooth root**, usually made from titanium. There are many different implant systems available and when competently used they all deliver a highly reliable form of treatment. The main aim during the placement of any implant is to achieve immediate close contact with the surrounding bone. Over time further growth of bone onto the implant surface enhances the stability of the implant.

In order to support replacement teeth, dental implants normally have some form of internal screw thread or post space that allows a variety of components to be fitted. Once fitted, these components provide the foundation for long-term support of crowns, bridges or dentures.

2. Who is suitable for dental implants?

Dental implants are suitable for **most adults with good general health**. They can only be used once the jawbone has stopped growing and so generally are not used with younger patients.

Habits such as heavy drinking or smoking can increase the number of problems associated with initial healing and thereafter may be bad for the long-term health of gum and bone surrounding each implant. Some dentists will decline to place implants if smoking cannot be reduced or given up altogether. However, each case is different and if you do have any medical problems then speak to your doctor or dentist prior to starting any treatment – it is only in some circumstances that health problems prevent the use of dental implants altogether.

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3. How will you know if you are suitable for implants?

At your initial consultation **the dentist will assess the feasibility of providing implant treatment**. You will be expected to answer detailed questions concerning your medical history and there will be a complete examination of your mouth and remaining teeth to discover the nature and extent of any current dental problems. Sometimes x-rays will be taken and models of the teeth prepared so that these can be examined after your visit.

These x-rays and models will be used to determine the optimal position for an implant, how many implants can be placed in the gap and the quality and volume of bone that is available.

Establishing good basic dental health is a key stage in any treatment plan. At this first appointment you should be made aware of which problems are urgent, and what treatment is required to stabilise any gum- or tooth-related problems. It would be reasonable to expect a verbal outline of how your particular implant treatment might be approached.

4. Do you need to have a healthy mouth?

When you first enquire about dental implants it is often in response to an awareness of ongoing dental problems or the recent loss of teeth. The cause of these problems will need to be understood and treated **before undertaking implant treatment**. If you are aware of bad breath, loose teeth, or have noticed excessive bleeding, particularly when your teeth are cleaned professionally, you may have gum problems. Gum disease (periodontal disease) is a major cause of bone loss, and with reduced bone dental implant treatment can be more complicated but not impossible.

5. How long does treatment take?

For routine cases, from the time of implant placement to the time of placing the first tooth/teeth, treatment times can vary **between six weeks and six months**. The availability of better quality bone can be used to decrease treatment time, whilst more time and care must be taken with poorer bone, which can therefore extend treatment times beyond six months.

6. What should you know before you start treatment?

It is accepted practice that you should be given a **written summary of your treatment planning discussion**, highlighting your current dental situation and any alternatives there are to dental implants. This summary should also include an overview of the anticipated treatment stages and give you some idea of how long treatment is likely to take, how many implants are required and **what the fees are expected to be**. There may well be other issues specific to your case and these would be dealt with accordingly.

7. How long will the implants last?

Once the implants and surrounding soft tissues are seen to be healthy and the new teeth comfortable and correctly adjusted, it is the quality of your personal attention to oral hygiene and willingness to attend regular maintenance reviews that will have most influence on how long they will last.

When poorly cared for, implants will develop a covering of hard and soft deposits (calculus and plaque), which is very similar to that found on neglected natural teeth. Untreated, these deposits can lead to gum infection, bleeding, soreness and general discomfort. **It could probably be said that implants will last as long as natural teeth.**

Well-maintained implants placed into adequate bone can be expected to last for many years and possibly for your lifetime. However, just as you would expect conventional crowns, bridges and fillings to need occasional repairs or replacements, your implant-supported teeth may also have similar maintenance requirements over the years.

8. How many teeth can be supported by implants?

Dental implants can be used to **replace one or several missing teeth**. All the common forms of tooth replacement, such as bridges or dentures can be supported by dental implants.

If you are missing just one natural tooth, then one implant is normally all that will be needed to provide a replacement. However, larger spaces created by two, three or more missing teeth do not necessarily need one

implant per tooth; the exact number of implants will depend upon the quality and volume of bone at each potential implant site.

Patients who have a habit of clenching or grinding (bruxing) their teeth may be at risk of overloading their implants. For most people bruxism occurs during sleep, which is why they are generally not aware of it. Heavily worn or flattened teeth, chipped enamel edges and/or regularly breaking pieces of heavily filled teeth are the most common clinical signs of bruxism. The effects of bruxism need to be considered during treatment planning and can be compensated for by placing additional implants, selecting appropriate restorative materials and providing a night time bite guard to protect the new teeth.

This will be discussed in your initial consultation and detailed in your treatment plan.

9. An overview of the implant process

Implant treatment normally **involves several stages that take place over a period of time from three to nine months**. Although there are various implant treatment methods, a typical process often includes:

- **Assessment and treatment planning:**

At initial consultation, following full discussion of all possible alternatives, the dentist will assess the feasibility of providing implant treatment. A CBCT scan and x-rays may be taken as well as an impression of the teeth and mouth.

A written treatment plan will then be formulated detailing the sequence of treatment and associated costs.

- **Implant placement:**

Implant placement is a relatively simple minor surgical procedure that can be performed under sterile conditions in a dental surgery. The treatment is performed under local anaesthesia. If, during assessment, the underlying bone is deemed deficient, a number of options are available for bone regeneration. Bone regeneration is carried out prior to or at the same time as implant placement depending on requirements.

- **Integration period:**

Implants can take from six weeks to six months to fuse with the patient's bone. During this integration period, temporary dentures or bridgework can be worn as appropriate. In some cases, temporary teeth can be fixed to the implants while they integrate in a process known as 'immediate loading'.

- **The restorative phase:**

Once integrated, the implants can be brought into function with a variety of new teeth options (definitive restorations) ranging from a single crown, small or large bridge or a removable overdenture. A dental technician who works closely with the dental surgeon constructs these definitive restorations.

- **Maintenance:**

Following completion of implant treatment, the patient must regularly and thoroughly clean the new teeth (restorations) as instructed by their dentist. A dental hygienist may also advise on care and maintenance of the restorations and natural teeth. Regular visits to your dentist are essential so that the health of the soft tissue, bone levels and the integrity of the restoration can be reviewed.

10. How do you know if you have enough bone for dental implants?

Routine dental x-rays show large amounts of detail, but in only two dimensions. From these views it is generally possible to judge the height of bone available for implant placement; however, more advanced imaging techniques are sometimes needed to determine the equally important bone width.

Dental CBCT Scans – there are now a number of advanced x-ray techniques that allow your jawbone to be looked at in all three dimensions. The most accurate and widely available is known as the CBCT (cone beam computed tomography) scan. Images obtained by CBCT scanning will normally be able to show all of the information required

about your bone, including quantity and quality, but most importantly the presence of anatomical structures that must be avoided.

11. What can cause bone loss?

- Whenever a **tooth is lost or extracted** a considerable amount of the bone that once surrounded the remaining root may disappear. This loss can be particularly rapid during the first few months and is described as 'bone resorption'. Although the rate and amount of bone resorption is highly variable between individuals, it will always occur to some extent, unless specific care is taken to reduce its effects.
- Many patients report that after a while their **dentures** become progressively looser and do not fit as well as they once did. Initially the increased rate of bone loss following extractions is responsible for the observed deterioration of denture fit. Over the long-term it is the direct effect of chewing forces that causes slow deterioration of the supporting bone. Therefore **the longer dentures are worn, the less bone is available for dental implants.**

12. What anatomical structures must be avoided during the placement of dental implants?

- In the *upper jaw*, provided the implants stay within the bone that once supported your own teeth there are really no important risk areas. If you have missing upper back teeth then the shape and location of the region above the roots (maxillary sinus) can be shown to you. The maxillary sinuses can be seen on most x-rays and are therefore readily avoided.
- In the *lower jaw* the most important anatomical structure to be avoided is the 'inferior dental nerve'. This nerve runs from the area behind the wisdom teeth, passes under the back teeth (molars) and emerges onto the skin of the face

in the region where your middle teeth (premolars) are or used to be. This is why a normal dental anaesthetic produces a numb lip even when the needle was placed right at the back of the mouth. If this nerve is disturbed or damaged during the placement of dental implants it can lead to temporary or even permanent numbness or altered sensation. This is a rare but important complication.

CBCT scans are generally the best means for identifying the location of this nerve and allow implants to be placed with considerable confidence; however, these are only sometimes available within a normal dental surgery environment. It may therefore require a visit to a suitable hospital where the scan is generally completed within a few minutes. Whilst CBCT scans are more expensive than routine dental x-rays, the information they provide is often invaluable for complex treatment planning and knowing where important anatomical structures are located.

If a tooth is inadvertently damaged by the placement of a nearby implant, any resulting problems can generally be resolved by root canal treatment in which the nerve of the natural tooth is removed.

13. Can dental implants preserve bone?

This is one of the most important features of dental implants. Once in place and supporting teeth, everyday functional forces (eating, smiling, talking) stimulate the surrounding bone, which **responds by becoming stronger and denser**. Like all things there are limits as to how much work an implant can do. Your treatment provider will be able **to discuss this in more detail as it relates to your individual case.**

14. Can you wear replacement teeth whilst going through implant treatment?

If the teeth being replaced by dental implants are in a clearly visible part of your mouth you will most likely want to have some teeth present whilst the treatment is underway. **There are a number of ways that this can be done, ranging from simple plastic dentures to removable bridges.** If replacement teeth are used during treatment stages

it is important that they do not apply uncontrolled pressure to the underlying implants. You should expect to make a number of visits after the implants are placed and before they are brought into function, for small adjustments to any temporary teeth. They may not look as aesthetically pleasing as your final restoration.

15. Can dental implants be placed next to natural teeth?

Dental implants are **routinely placed beside natural teeth and this is generally very safe to do**. The only exception to this would be if the natural root was very curved or tilted unfavourably in the proposed path of the implant. This could cause the root to be damaged by the implant; however, this can usually be avoided by careful pre-operative planning.

16. Are the new teeth joined together?

When multiple implants are placed, they are routinely **joined together in the same way that a bridge supported by natural teeth** would be designed. When implant-supported teeth are linked together, they are mechanically stronger than the individual parts.

If enough implants are available, it is often easier and just as effective to make several smaller sections of bridgework each supporting a few teeth. The overall effect in the mouth is the same and if you ever need to repair one of the small sections, this can be much easier to do.

Again the bone quality and the number and position of the implants will largely determine which option is most suitable for you.

17. Is it uncomfortable when implants are being placed?

Most patients will be familiar with the dental anaesthetics used for routine dentistry and will know how effective they are. **Implants are placed using the same anaesthesia**. Depending upon the complexity of your case, the operation might take anything from 30 minutes for a single implant, to several hours for complex bone grafting and multiple implant placements.

Since the surgery normally involves exposing the bone in the area where the implant and/or bone graft is to be placed you can expect some minor swelling and occasionally bruising afterwards.

For most patients, any of the over-the-counter/basic painkillers that you might take for a headache will be adequate for a few days. If you experience more discomfort than this, contact your treatment provider who can prescribe a stronger medication.

Healing is generally straight forward and any stitches are removed a week to ten days later. During the first few days you should report any unexpected levels of pain or swelling so that they can be assessed.

If in doubt always ask for advice, as early detection of a problem will often lead to a simpler solution. You may also be asked to take a course of antibiotics and to follow some simple procedures such as rinsing with salt water or an

Most patients will not require a general anaesthetic since conscious sedation is much safer and has fewer post-operative complications.

22. How do you look after the implants?

It is important that you maintain good oral hygiene with your implants to improve their life span. **Cleaning your implants is not difficult**.

For most implant-supported teeth you will be able to clean around each supporting implant by brushing and flossing in just the same way that you would around natural teeth and tooth-supported bridges. In some areas special floss, interdental toothbrushes and other cleaning aids may be needed to maintain good oral hygiene.

Cleaning your implants is not difficult

It is reasonable to expect some of the daily hygiene procedures to be a little more complex than around your original teeth and equally expect to spend more time than you may have done in the past if you wish to maintain optimum implant health.

For the first few months the implants are in place your dentist may ask that you are seen more frequently; however, once they are satisfied your treatment is performing as planned, ongoing care will be similar to any patient with natural teeth.

23. What can you do if an implant does not work?

In general **the success rate for dental implants is around 95%**; however, in practice this could mean that 1 in 20 of the implants placed might not survive in the long-term. It is a good idea to discuss how your treatment plan might be affected by the loss of an implant.

There are many reasons why a dental implant can fail including smoking, oral hygiene, and systemic disease. In these particular risk groups, the failure rate could be expected to be much higher.

If an implant does not integrate well with the surrounding bone it will eventually become loose and no longer be able to support replacement teeth. Commonly the failing implant causes no discomfort and if there are enough implants remaining, it may not be necessary to replace it at all.

It is important that you discuss the possible complications that may occur with your dentist.

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25. Frequently Asked Questions

Will I be able to eat what I like afterward?

Once completed, patients should be able to eat a normal, healthy diet with little or no difficulty.

What costs are involved in implant treatments?

The cost can vary, depending on the degree and extent of treatment required. The full cost is therefore explained and confirmed in a written treatment plan from your implant dentist.

How long will it take?

Implant treatment usually requires a number of appointments over a period of months. In some cases, however, implant work can be completed in a much shorter period.

How long will it last?

Once treatment is completed, a regular routine of dental hygiene and regular check-ups should ensure that implants last for many years.

Am I too old for implant treatment?

There is no upper age limit for patients to undergo implant treatment, provided they continue to enjoy reasonably good health.

Is the treatment painful?

Patients are often surprised at how little discomfort they experience during and after implant procedures.