



This is the third article in our series on cosmetic dentistry and smile rejuvenation. A very important, and in the eye of the general public, a poorly understood area of dentistry I will try to lift the mystery of this life changing treatment!

Dental Implants

- The Solid Alternative To Replacing Missing Teeth

There are many available treatment options for restoring the consequences of partial or complete tooth loss of a patient's natural teeth. The established long-term efficacy of dental implants means that they have a potential role to play. The choice of whether to select implant treatment or one of the more conventional treatments is a difficult decision for both dentist and patient to make!

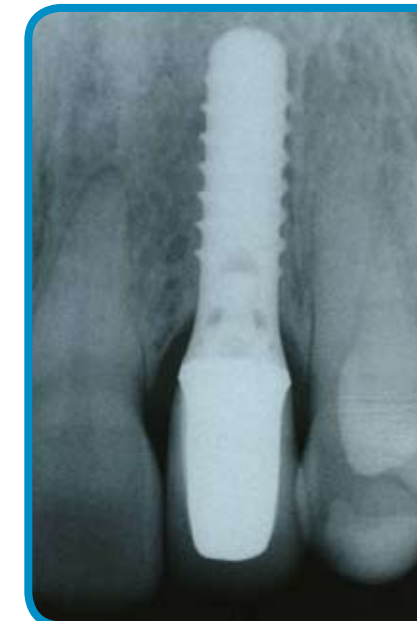
Brief History Of Dental Implants

4000 years ago the Chinese first improvised carved bamboo pegs and drove them into bone for fixed tooth replacement. In this day and age this seems a bit barbaric and luckily this technique did not take off!
In the more modern era, implants were first introduced by Dahl in **1943**. Bone "fusing" to titanium was first reported in **1940** by Bothe and Branemark began extensive experimental studies in **1952** which led to dental implant application in early **1960**. Branemark was the first to define the term osseointegration (connection of the implant to the bone) and no other person in recent history has influenced root form implant concepts more than Branemark.
Endosseous implants are the most common type of implants in use today and there are many systems (e.g. Straumann, 3i, Nobel Biocare and Osteo-Ti) currently providing excellent results. Most studies now show a greater than 95% success rate for dental implants and some studies even show a greater than 97.5% success rate which is a phenomenal achievement!

The Consequences Of Tooth Loss

Throughout the course of life, teeth are lost for many reasons, including cavities, gum disease, cracked roots and accidents. When a tooth is lost the bone that previously supported that tooth starts to resorb away. Missing teeth can compromise your eating habits, speech and appearance.

Tooth loss in the front of your mouth can result in a visible defect obviously, as the tooth will be missing. In addition, if it is restored (without using an implant) with time there can also be a defect in the bone which can be difficult to mask. Such losses can affect the appearance of your smile and self confidence. Missing teeth at the back of your mouth lead to the collapse of your bite, affecting the appearance of your face, your ability to eat and the health of your remaining teeth. Complete tooth loss results in facial structure collapse as the jaws deteriorate over time.



What Is A Dental Implant?

Dental implants are specially designed screws which are implanted into the jaw and act like natural tooth roots. Replacement teeth can then be attached, even dentures can be made to feel more comfortable and secure. With routine care dental implants have a high level of success, so you can smile, eat and laugh again with confidence!

Implants can be used in the following clinical situations:

- Single tooth replacement
 - Multiple tooth replacement
 - Edentulous cases – no teeth
 - To stabilise dentures
 - Orthodontic anchorage
 - Extra-oral reconstruction
- »» Their most common use in general dental practice today is either for single or multiple tooth replacement.
- »» The level of predictability is a major factor in considering implants as the treatment of choice for most cases of tooth loss.

How Does Your Implantologist Assess Suitability for Implant Treatment?

The patient journey begins with the initial consultation that aims to provide a framework from which the implantologist can devise a series of well defined stages to allow the information gained here to be transferred from the diagnostic preview to the final restoration.

Your dentist should treat every case using a full patient care approach. He will begin with a full clinical exam and take any necessary x-rays and photographs. He will also take some moulds to get study models produced which he will use to help him treatment plan the case. He will continue with a more in-depth analysis of the bone availability, space for the implant, your bite, soft tissues and smile line. If there has been substantial bone loss then the patient may need to be sent for a CT scan.

All of this information is then used to formulate an appropriate treatment plan. Once this has been decided, your implantologist should send the patient a full written estimate of the cost of the treatment together with a patient care and consent letter explaining the proposed treatment. This letter should detail any risks involved in order that the patient can make an informed decision on whether to proceed. At this stage the patient may want to come back and discuss any queries that they may have regarding the treatment. Once the patient is satisfied the consent letter is signed and treatment can be commenced.

The first step in the treatment sequence is placing the implant into the jaw using a gentle surgical technique. The bone forms a strong bond to the implant after just 6-12 weeks, providing a solid foundation for attaching a replacement tooth (crown). Following this brief period of time fabrication of the replacement tooth can begin. This process involves a few appointments for attaching an abutment or post to the implant, taking impressions (moulds) of your teeth and checking the proper fit and colour of the crown.

Implant treatment can take anything from 3 to 12 months to complete. The timescale depends on the complexity of the case and whether bone grafting is required or not.

Is Everyone Suitable for Dental Implants?

Modern techniques have made it possible for nearly everyone who is missing teeth to qualify as a candidate for implant treatment. The determining factors are a sufficient amount of quality bone, good oral hygiene and generally good health. Age is not a limitation for implant treatment provided the individual is healthy. The healing process may take longer with advancing biological age and this is pertinent with respect to the patient's mental well being and physical fitness. Prior to implant treatment, the remaining teeth and gums need to be healthy and as already discussed regular hygiene and check-up appointments are important for long-term success. In patients who have already lost significant amounts of bone then simple and predictable bone grafting procedures are available to replace such lost bone. These procedures may involve the use of an artificial bone graft or the use of the patient's own bone. This is dependent on the size, type and position of the bone loss (bone defect). Your implantologist will advise you if these procedures are required and the type of procedure that will be performed. This will also be included in your consent letter (as preciously stated this is provided before treatment is commenced).



Typical Treatment Phases Include:

- Diagnosis and treatment planning
- Surgical phase
- Healing phase
- Impressions
- Fitting restoration
- Recall / review

Although you cannot get decay in an implant it is not a fit and forget procedure. It is important to have any implant reviewed regularly and also visiting a dental hygienist is of utmost importance to maintain the health of the structures around the implant.

What Is The Cost Of Implant Treatment?

The cost of implant treatment is individual to each patient depending on for example the number of implants being placed, whether or not any grafting procedures are required and the type of restoration that is being used.

To give an indication of costs a single implant restored with a crown can range from between €2500 - €4000 (excluding any grafting that may be required). When inquiring about cost make sure that you ascertain if the cost includes the crown as some implantologist quote these fees separately.

You also do not require one implant per tooth if there a lot of teeth missing. For example if all of the upper teeth require to be replaced then we generally only require eight implants and then a fixed bridge is placed onto the implants to replace 12-14 teeth. Again the cost of this is variable depending on the complexity of the case. Your implantologist should provide you with a written estimate before commencing any treatment.

Benefits Of Dental Implants Over Other Treatment Options

- Maintains the integrity of facial structures by preserving the bone
- No need to grind down healthy teeth for a bridge
- Eliminates the pain of ill-fitting dentures
- Stable replacement teeth for eating and smiling with confidence
- Closest replacement possible to natural teeth

How To Choose Your Dental Implantologist!

It is important to choose someone with experience in this field. For example, consider additional qualifications in dental implantology, oral surgery or periodontology. These are just some factors that you can use to identify the competence of the implantologist.



Dr. David Nelson is the principal dentist at Bangor West Dental & Implant Clinic. He holds a Masters Degree in Dental Implantology from the University of Warwick and has a special interest in dental implants and cosmetic treatments. His practice regularly receives referrals from other dental professionals for complex implant and cosmetic dental treatments. He is the Northern Ireland facilitator for the British Society of

Oral Implantology and holds regular study clubs for other dentists. Bangor West Dental & Implant Clinic is based near Belfast in Northern Ireland. Please contact the practice for a complimentary brochure.

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