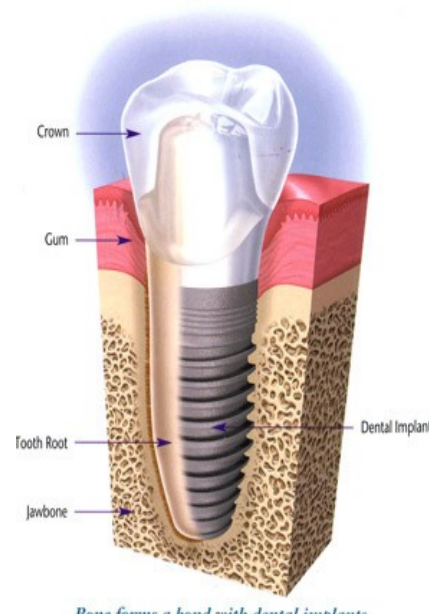




What is a Dental Implant?

A dental implant is like an artificial root, whenever a tooth or more teeth are lost one can use an implant instead. Most are fabricated from titanium or are titanium sprayed. They generally have the shape of a screw. Titanium is very biocompatible, meaning it won't be rejected by the human body, creating a bone guided integration in the jaw, also called osseointegration. Special treatment of the surface of the implant generates a better osseointegration and better healing. This process generally takes up from one month to three months. The success rate of dental implants, due to all this, is about 97%, if you had bone surgery, if you smoke or are diabetic, these rates are a bit lower.

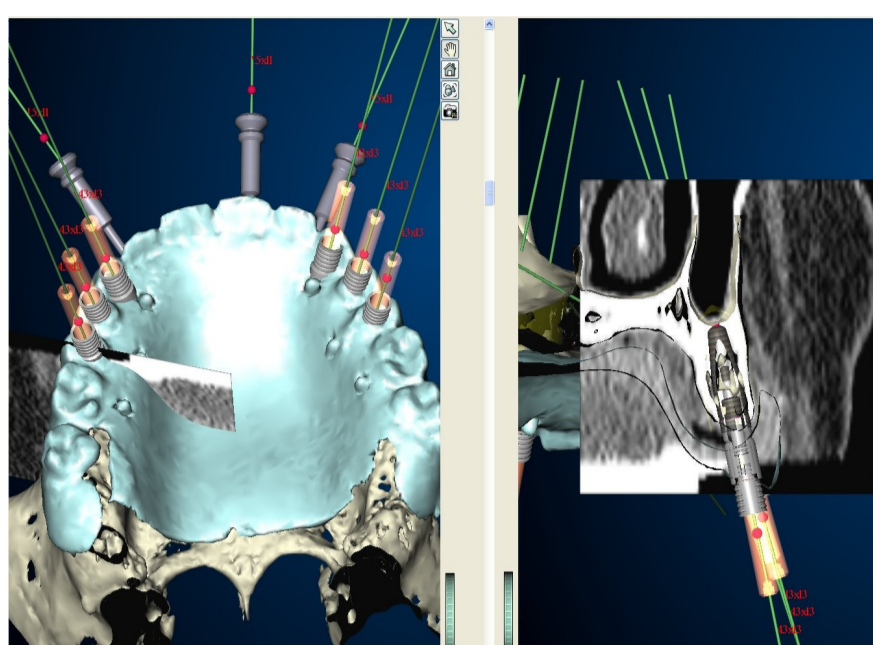


How many teeth can be supported by dental implants?

All the common forms of tooth replacement, such as bridges or dentures can be replaced by dental implants. If you are missing one natural tooth, then one dental implant is normally all that will be needed to provide a replacement. Larger spaces created by two, three or more missing teeth do not necessarily need one dental implant per tooth, however the exact number of dental implants will depend on the quality and volume of bone at each potential dental implant site. Occasionally, it is even possible to join natural teeth to dental implants with a conventional bridge. In the upper jaw, bone density is generally poorer than in the lower and if you have no teeth at all, most treatment providers will want to place a minimum of 6 dental implants to support a complete arch of 10 or more replacement teeth. In the lower jaw, the bone towards the front of the mouth is often very strong and as a direct result, fewer dental implants may be needed than are required to treat a whole upper jaw. A simple treatment plan to provide 10 or more teeth is possible with as few as 4 dental implants, although it is still more common to use 5 or 6.

The three step procedure

In the first step an X-ray is taken to see if there is enough bone and to look at the bone quality. One can do this by taking a big x-ray called OPG, but mostly a dental scan or CT-scan is taken to see the area in full 3D. The most recent are CT-CB scans, using a lot less radio-activity. The surgeon and the dentist will then decide how many implants can be put and where. They recently often do that with the guide of specialized computer programs. The latest development is a computerised prefabricated guiding model, so the surgeon can do a guided surgery.



In a second step the implant is brought into place. The patient gets normal local anaesthesia and the implant is placed in less than 20 minutes. Opening the gums is not necessary anymore, just a little hole is punched through it. Now a two month osseointegration period is respected.

In a third step a crown is placed onto the abutment, or a bridge is placed on several abutments. Or an overdenture is placed onto the abutments.

Single Implant or Implant bridge

A single implant is used to reconstruct a tooth where ever one tooth has gone bad, was broken or missing. The old tooth is removed and a single implant is brought into place. Upon the implant an abutment is screwed and a tooth is being cemented or screwed into place. A very nice and smooth way to replace missing teeth. If two teeth or more are missing you can make a conventional bridge on two or three implants.



Fixed Dental Bridge

Fixed dental bridge supported by dental implants over the entire arch is an option that is only considered when there is adequate tissue and gum presence and support. This option is considered when the patient wants the implant restorations to match as closely to the natural missing teeth as possible. The fixed bridge restoration options when doing full mouth implants reconstruction can be of two types: A single long span full arch fixed bridge across the entire arch where all of the implants crowns are connected together as a single unit. Or Multiple segment fixed bridges: only 2-3 implants are connected together as single segments. Adequate amount of bone and soft tissue "gums" support is essential in considering the above treatment options. The number of required for the above restorative options is 8-10 for the upper arch and 6-8 for the lower arch. There are some minor variations in the number of dental implants required between dentists depending on philosophy of practice, training and experience.



Hybrid bridge on implants

Hybrid dental implant fixed bridge or hybrid dental implant fixed dentures are a full mouth reconstruction with dental implants where adequate tissue support is not possible. The fixed bridge in this case will be connected along the entire arch in one segment and customized pink porcelain or acrylic will be added to reconstruct missing tissue. This is why they are called hybrid implant supported fixed bridges, "it includes teeth and tissue replacement". The number of dental implants required for the above restorative option is 6-10 for the upper arch and 4-8 for the lower arch. Keep in mind that there are some minor variations in the number of dental implants required between dentists depending on philosophy of practice, training and experience.



All on four

All-on-four dental implants is where the entire edentulous upper or lower arch is restored with a fixed restoration anchored by four implants. In all-on-four, a fixed temporary restoration is placed on the same day of surgery similar to teeth in a day concept. In all-on-four, the dental implants are placed in the front part of the jaw avoiding the need for bone grafting, sinus lifts, nerves, second surgery and other vital structures. Two of the implants are placed near the front midsection of the jaw while, the back implants are angled to avoid vital structures and to provide for a favorable restorative mechanics.



All-on-Four is a good option for patients who have battled with gum disease for a long time and have reached the point where the remaining teeth must be removed. These patients can have the teeth removed and implants placed along with a fixed temporary restoration on the same day. The result is very well received by these patients and at times it's emotional and dramatic as their lifetime struggles with bad teeth are resolved in a short period. All-in-Four dental implants require the presence of a considerable vertical space "arch height" for adequate restoration. If the space is not adequate, bone removal to reduce the height of the arches is required thus creating more space. In some patients bone removal may not be possible as they may exhibit a minimal amount of existing bone which is just enough to retain the implant. In these cases other alternatives must be explored.

There are several advantages of all-on-four over other fixed full arch restorative options: Less costly than other full arch fixed restorative options, there is no need for second surgery such as bone grafting and sinus lifts, greater measure of safety by avoiding vital structures and the simplicity of this concept produces higher level of predictability with less complications

Removable or click dentures

The addition of at least two dental implants per arch to support dentures can increase the degree of retention significantly. Retaining dentures with dental implants allows for much more chewing and biting ability of tougher foods like meat, lettuce and apples. There are several ways by which dental implants can support and help retain a removable denture: or by ball attachments, click attachments, a bar attachment or a locator attachment.

