IMPLANT-SUPPORTED OVERDENTURES
An implant-supported overdenture is a type of denture that is supported by and attached to dental implants as well as resting on the gums. A regular denture rests only on the gums and is not supported by dental implants.

An implant-supported overdenture is used when a person does not have any teeth in their jaw, but has enough bone in their jaw to support dental implants. An implant-supported overdenture has special denture attachments that snap onto the implant attachments.

Implant-supported overdentures are commonly made for the lower jaw because regular lower dentures tend to be more problematic and less stable.
How Does It Work

There are two types of implant-supported overdentures: ball-retained and bar-retained. The prosthesis will be made of a chrome or acrylic base that will look like gums. Acrylic teeth that look like natural teeth are attached to the base.

- **Bar-retained overdentures** — A thin metal bar that follows the curve of your jaw is attached to two to five dental implants that have been placed in your jawbone. Clips or other types of attachments are fitted to the bar, the denture or both. The denture fits over the bar and is securely clipped into place by the attachments.
Ball-retained overdentures (stud-attachment dentures) — Each implant in the jawbone holds a metal attachment that fits into another attachment on the denture. In most cases, the attachments on the implants are ball-shaped (“male” attachments), and they fit into sockets (“female” attachments) on the denture. In some cases, the denture holds the male attachments and the implants hold the female ones.

Locator connections placed on titanium implants. Locators are fabricated in gold alloys which makes them biocompatible, very strong and long lasting. The denture will have female connections which allow the gold locator attachment to click and lock the denture into position. Locator connections are preferred as they are easy to clean.

The Implant Process

The dental implants are usually placed in the jawbone at the front of the mouth as there tends to be more bone there. This is generally the case even if the teeth have been missing for some time. When teeth are lost, the bone in that area is also lost and continues to resorb away. The front jaw also does not have many nerves or other structures that could interfere with the placement of dental implants.

Stages of Bone Resorption Following Tooth Loss

The time required to complete the dental implant procedure depends on many factors. The shortest time-frame is approximately two months in the lower jaw and four to six months in the upper jaw. This includes the surgical procedures and the placement of the overdenture.

Two surgical procedures are usually required. The first procedure involves the placement of the dental implants in the jawbone under the gums. The second procedure is completed three to six months after the first, and involves exposing the tops (heads) of the dental implants.

Alternatively, a one-stage procedure can sometimes be done. In this procedure, your dentist can place the implants and the supporting bar in one step. The success rate of this procedure is high, and your dentist will be able to determine whether this would be possible for you.
Initial Consultation

Prior to any treatment being completed, you should make an appointment with a Prosthodontist (dental specialist) who has advanced training in the placement and restoration of implants.

During the examination, your Prosthodontist will will review your medical and dental histories, take X-rays and create impressions of your teeth and gums so that models can be made. In some cases, you may require a computed tomography (CT) scan of your mouth. This shows where your sinuses (located above your upper teeth) and nerves are. It allows the dentist to make sure they will not be affected by the implant placement. A CT scan also shows how much bone is available and to determine the best locations for the dental implants.

If you are not already wearing a complete denture to replace your missing teeth, you will require one to be made. You will use this temporary denture until the implant-supported overdenture is placed. It generally takes four appointments, spanning several weeks to complete this denture. By making this temporary denture, your Prosthodontist is able to determine the best position for the teeth in the implant-supported overdenture. The temporary denture can also be used as a “backup” in case something happens to the implant-supported overdenture. It can sometimes be used as the final denture to reduce overall costs, however attachments would need to be added to enable it to fit securely to the dental implants.

Once the temporary denture is completed, your surgeon will use a copy of it as a guide to help place the dental implants in the correct positions. Holes will be drilled in the denture copy so that the surgeon can see where the dental implants should be placed.
First Surgical Procedure

The first surgical procedure involves placing the dental implants in the jawbone. An incision is made in the gum where the dental implant will be placed. A hole is created in the bone, the dental implant is placed into the hole, and the incision is stitched closed.

After this surgery, you should avoid putting pressure on the dental implants. The temporary denture can be made so that direct pressure is placed on other areas, not on the dental implants. The temporary denture may require a soft reline (new lining next to your gums) to help to reduce the pressure on your gums.

After the first surgical procedure, your surgeon will wait three or four months if dental implants were placed in the lower jaw, and five or six months if they were placed in the upper jaw, before scheduling the second surgical procedure. During this time, the bone and dental implants integrate (attach and fuse).

There are a number of sedation options available to ensure your comfort during the procedure. Pain and discomfort is not a significant issue with the correct medications and post operative care.

Titanium implant approximately 10mm in length is placed into the bone. Five dental implants with connections placed in the lower jaw.
Second Surgical Procedure

Once the dental implants have fused with the bone, the second surgical procedure can be scheduled. Your surgeon will confirm whether the dental implant is ready for this procedure by taking a radiograph. The second surgical procedure is less involved than the first. A small incision is made in your gum to expose the tops (heads) of the dental implants.

A healing cap (collar) is placed on the head of each dental implant after it is exposed. This guides the gum tissue to heal correctly. The collar is a round piece of metal that holds the gums away from the head of the dental implant. The collar will be in place for 10 to 14 days. Your temporary denture will need to be adjusted and another soft relinе may also be required. The relinе material will assist in securing the denture to the healing abutments.

Approximately two weeks following the second surgical procedure, the healing caps will be replaced with regular abutments. Your gums should now be adequately healed to enable an impression to be taken of your gum tissue and abutments. The impression is used to make a working model of your abutments and jaw. This model is used to make the overdenture framework and teeth.

Denture Try-In and Insertion

The first ‘try-in’ of your new prosthesis framework to assess the fit.

Metal chrome framework set in wax and acrylic teeth. A ‘try in’ allows the dentist and technician to make modifications before the prosthesis is permanently set. They need to look natural before the teeth are cured.
Once the metal bar or locators and the overdenture framework have been fitted together properly, the teeth are temporarily placed on the framework in wax. The overdenture is then tried in your mouth. If everything fits well, the teeth are secured in the denture framework permanently. The bar or ball attachments also will be secured.

You will need to return for another appointment to have the completed overdenture inserted. Once inserted, the overdenture is clipped onto the bar or snapped onto the ball attachments.

At this point, your temporary denture will be given a new reline. This will allow it to be used as a backup denture in case you lose or break your new overdenture. If you are using the “temporary” denture as a permanent denture, the bar or ball attachments are placed in that denture.
Caring For Your Implant-Supported Overdenture

You will need to remove the overdenture at night and for cleaning.

You will need to carefully clean well around the attachments.

Your new overdenture will be tested to check that all the components are secure. Even though your overdenture is stable, it can still move slightly when you chew. This slight movement can cause it to rub against your gums causing sore spots. In addition to checking your gums for sore spots, your dentist will check the way your upper and lower teeth fit together (your bite) following insertion of the overdenture.

The clip or other attachments on the bar-retained overdenture usually will need to be replaced every 6 to 12 months. They are made of a plastic material (nylon) and will wear after continued use.

What Will A Radiograph Show

A radiograph will show the dental implants in the jaw and any attachments to them. Your dentist will take radiographs several times during the procedure. They help the dentist see if the implants, abutments and attachments are in the correct positions and healing correctly.

Possible Complications

In addition to the risks of surgery and of the implants failing, a bar-retained overdenture carries certain risks of its own.

A bar-retained overdenture needs space on the denture framework for the special attachments that are fitted to the bar. This means that there is less space available on the denture framework for the teeth to be fitted. Because of this, the teeth sometimes can come loose from the base. This problem can be easily managed.

In addition, when the bar is attached to the dental implants it is important that the bar is evenly balanced on each implant. This is called a “passive fit”. If the fit is not passive, the extra strain on the bar can cause the screws to loosen. If you grind or clench your teeth, it is more likely that parts of the denture will break or that your dental implants will come loose.
What You Can Expect From Your Implant-Supported Overdenture

Your implant-supported overdenture will be more stable than a regular denture. You will find it easier to speak and you won’t have to worry about the overdenture becoming loose or falling out of your mouth. You generally will be able to eat foods you could not eat before. However, you will not be able to chew hard or sticky foods because they can damage the overdenture.

If you have an implant-supported overdenture in your upper jaw, it can be made to cover less of your palate (roof of your mouth) than a regular denture. This is because the dental implants are holding it in place instead of the suction created between the full denture and your palate.

Implant-supported overdentures have been a common treatment for edentulous patients for the past 20 years and predictably achieve good clinical results. Many patients, especially those who are uncomfortable with dentures, enjoy the additional retention and support dental implants provide for their dentures. The implant-supported overdenture has been accepted as the standard of care for fully edentulous patients. Implant-supported overdentures improve phonetics, the patient’s psychological outlook and quality of life. Conventional dentures rely upon the residual alveolar ridge and mucosa for support and retention. Many patients have problems adapting to their complete dentures, especially to the mandibular prosthesis. The widespread use of denture adhesives is one indication that these prostheses generally provide inadequate comfort and function.

Advantages Of Dental Implants

Implant-supported full bridges and dentures function like tooth roots, which preserves jaw bone.

Dental implants integrate with the jawbone and dramatically reduce the rate of bone loss attributed to conventional dentures.

The progression of bone loss around implant-supported mandibular overdentures decreases with time. Resorption following tooth loss can cause changes in bone shape making it necessary to continually repair and remake conventional dentures. The placement of dental implants reduces the degree of bone loss and facial support.

Implant-supported overdentures have superior retention to conventional dentures. Regardless of the type of attachment system used - bar, ball or magnet - patients are significantly more satisfied with implant-supported overdentures than with conventional dentures.

Patients find implant-supported overdentures significantly more stable and rate their ability to chew a wider variety of foods as significantly easier, thus improving their nutritional state. Implant-supported overdentures are more comfortable and speech is easier.

Implant-supported overdentures may reduce the amount of soft tissue coverage and extension of the prosthesis which is especially important for new denture wearers or those who have low gagging thresholds.

The cumulative success rates for all implant-supported overdentures is approximately 95%, with implant-supported overdentures placed in the lower jaw enjoying a slightly higher success rate than implant-supported overdentures placed in the maxilla.

Home maintenance procedures are improved with an overdenture prosthesis.
Opening Times
Monday - Friday  8 am - 5 pm
Saturday       8 am - 12 pm

Raine Square
300 Murray Street
Perth WA 6000

(08) 9226 2135
info@ariadental.net.au
www.ariadental.net.au