

Dear Friend;

Thank you for requesting the "Free Implant Report" from Summit Dental Arts. I hope this report is educational and provides you with a solid starting point to learn about implant dentistry... what it is, how it works and most importantly, how implant dentistry might help you.

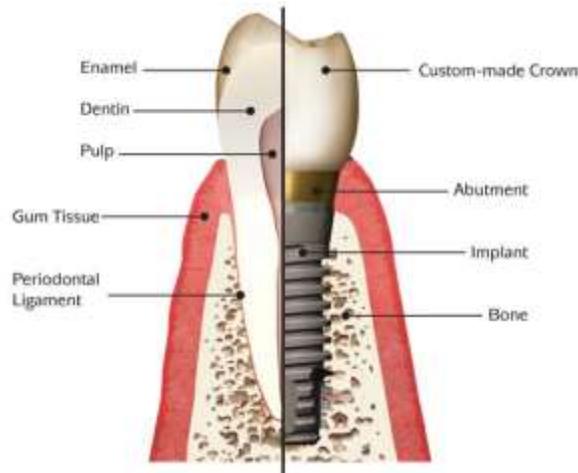
When you are done reading this report I hope you have a better understanding of implant dentistry as a whole and how implant dentistry might benefit you specifically. If I've done my job you will be armed with knowledge and it will be natural for you to have more questions concerning your specific situation. You should take those questions to your dentist so he or she can relate what you've learned to your specific case.

If you do not have a dentist, my name is Dr. Anthony Palombaro and I am at the Summit Dental Arts' Binghamton office where we provide free consultations for patients wanting to learn more about the benefits of implant dentistry or any type of dentistry for that matter.

So let's get started - First and most important, implant dentistry is about restoring function and esthetics by preserving the bone and supporting structures you have without modifying or touching any other remaining teeth. Implant dentistry can help you eat what you want without pain or compromise and let you speak and smile with confidence. With dental implants we can replace one tooth, multiple teeth or all your teeth. Dental implants can make a denture stay in better, can make it not move at all or even replace removable dentures completely. Dental implants preserve bone when teeth are lost and keep ridges from shrinking and smiles from collapsing. They are so versatile that they are now even used in orthodontics to provide temporary anchorage that allows the orthodontist to move teeth without using that outside headgear from the past.

What is a dental implant?

Modern dental implants are precision devices, available in several different designs to address your specific needs. The most common type is a titanium screw that is anchored into the jawbone where it serves as base for a custom-made tooth crown. Once the crown is in place, you may not be able to tell it apart from your natural teeth. Implants are also designed to have other types of attachments threaded into them so they can support or retain removable dentures or multiple non removable bridges or prostheses.



Natural tooth

Dental implant supported crown

Tooth replacement options - Traditional treatment options for tooth replacement include crown & bridge or full or partial removable dentures. These choices address the short-term cosmetic problem of missing teeth, but do nothing to stop bone loss where the tooth was lost. Crown & bridge requires that two or more healthy teeth be ground down to serve as abutments (posts) for a bridge, leaving them at a much greater risk for cavities and endodontic failure (tooth nerve death). If the original abutment teeth fail, more healthy teeth must be ground down to serve as posts, all the while you will continue to lose bone beneath the bridge where your teeth are missing.

With implants, however, the healthy teeth are left alone. Dental implants, like natural teeth, transmit chewing forces to the jawbone, which prevents bone loss. All leading dental organizations now recognize dental implants as the standard of care for tooth replacement.

Untreated Missing Tooth

Traditional Crown & Bridge

Implant with a crown



Unattractive appearance

Attractive appearance

Attractive appearance

Loss of chewing function

Cuts down healthy teeth

Full chewing function

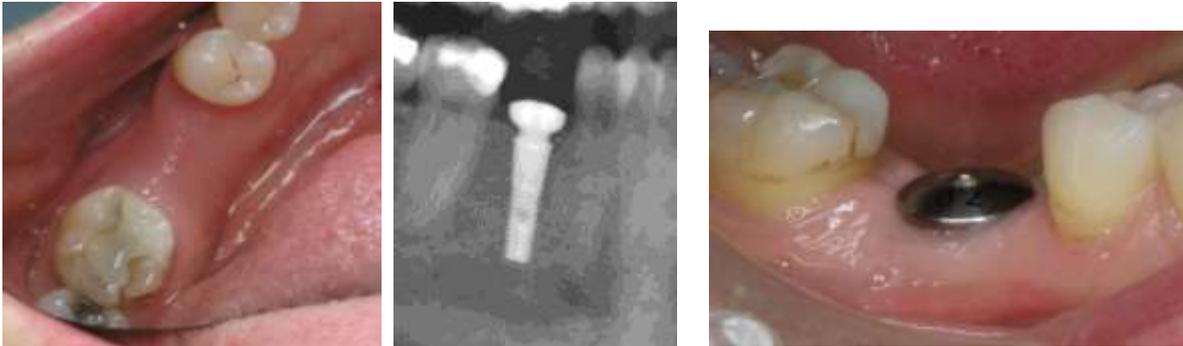
Accelerated bone loss

Bone loss under bridge

Prevents bone loss

Single Tooth Replacement - An implant may be used to replace almost any missing tooth provided there is adequate bone at the site. If not, modern procedures can usually be performed to regenerate enough bone to safely place an implant.

At the time of surgery, the implant is placed in the bone below the gum tissue. Then the implant is either covered with your gum tissue so it can integrate undisturbed or a healing "cap" may be placed on the implant to shape tissue healing and accelerate the process. A cosmetic temporary crown can also be made to fill the missing space and again shape tissue healing. A temporary crown instead of a healing "cap" is normally done in the anterior of the mouth so the patient doesn't have to go without a tooth during the time the implant is integrating into the bone.



Missing tooth site - x-ray of implant with healing "cap" - healing "cap" in place

After the implant integrates into the bone, a process that can take 2 -6 months depending on the health of the site, the "abutment" is threaded into the implant. The abutment serves to form the tissue as it emerges from the implant through the gum. It also acts as the base for a custom-made crown that your dentist will direct the dental laboratory to fabricate to match your existing teeth.



Left - Healing "cap" off, tissue shaped and internal threads of the implant exposed - Middle - the Abutment threaded to place - Right - final crown in place

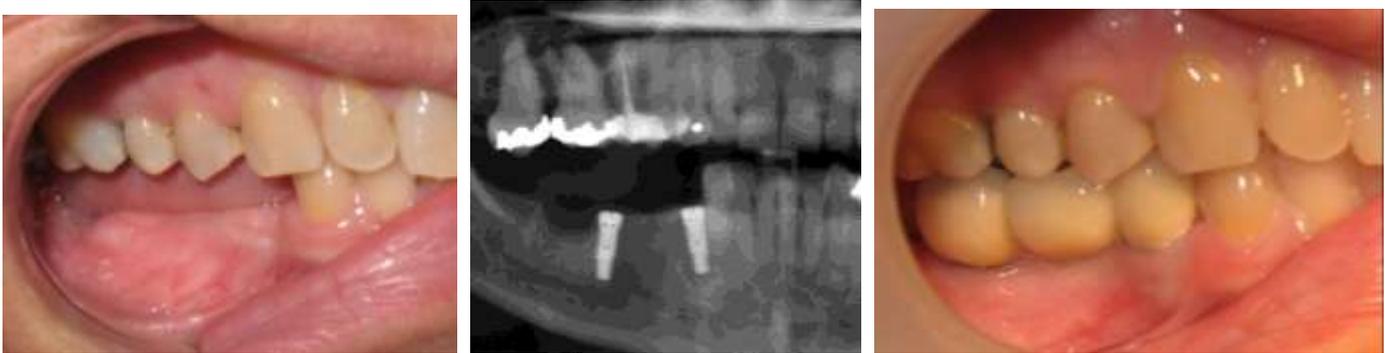
In the last step, the custom crown is cemented or screwed onto the abutment. The final result is that the tooth has been replaced without disturbing the healthy teeth next to it and further bone loss where the tooth was extracted has been prevented.

Multiple tooth replacement - Implants can also be used to replace several teeth in different areas of the mouth. This again eliminates the need to grind down healthy adjacent teeth to serve as posts for traditional crown & bridge therapy or in cases where a removable partial denture is being replaced; no teeth have to be reshaped to accept the clasps and rests of the removable partial.

Other than several implants being placed and numerous teeth being restored, these **multiple tooth replacement** cases follow the same sequence as the single tooth situation. The implants are placed in the bone below the gum tissue, healing "caps" or temporary crowns or removable "flippers" (retainers with teeth on them) may be placed until the healing phase is complete.

After the implants become integrated into the bone, the final abutments are attached to the implants. The abutments will support a custom-made bridge that your dentist will direct the dental laboratory to fabricate to match your existing teeth.

In the final step, the custom bridge is cemented or screwed onto the abutments. The teeth have been replaced without disturbing the healthy teeth next to them, and further bone loss has been prevented.



Left - Before treatment - Middle - x-ray of implant positions before the abutments are placed - Right - implant supported bridge in place

Full arch replacement - When you are missing all the teeth in an arch the treatment can be more involved and you have more choices when it comes to the final result.

If there is enough bone present you can have anything from a complete replacement of your teeth that never comes out, a complete replacement that only the dentist takes out or a choice where fewer implants are used to stabilize a denture you take out every day. The next few paragraphs describe these options and there is a picture at the end showing the different final results possible.

Implant-supported prosthesis - "bar retained denture" - the bar threads into the implants and the denture is resting on/supported by the bar, not the tissue, and is removable for cleaning by the patient. If all your lower teeth are missing, 4 or 5 implants may be required to support a bar retained lower denture.

If all your upper teeth are missing, 6 or more implants may be required to support a bar retained upper denture. As a rule, the bone in the upper arch is softer and requires more implants to support most types of restorations.

Like the previously described implant placement surgeries, the implants are positioned just below the gum tissue and given time to fuse with the bone. Healing "caps" may be placed on the implants until the healing phase is complete. Your existing denture may be modified so that it can be worn without disturbing the implants during the healing process.

You will be fitted for a custom-made bar that is screw retained into the implants to support the new denture. Your existing denture may be modified again to be worn during this period while the final denture is being fabricated.

The new denture will have attachments which snap or clip it into place on to the bar. Your new teeth are supported by bar which is supported by the implants which are firmly in the jaw, stimulating it and preventing further bone loss. You will be able to remove the denture easily for cleaning but in most bar retained cases the denture does not move during eating or speaking.

Implant-supported prosthesis - Non removable teeth that are either cemented to the implants or screwed into the implants so only the dentist can remove them.

If all your lower or upper teeth are missing, a permanent non removable bridge may be attached directly to the implants. These types of cases require the most implants for support and the number of implants is determined by the specific requirements of each case.

Again, the implants are surgically placed just below the gum tissue and given time to fuse with the bone. Healing "caps" may be placed on the implants until the healing phase is complete. Your existing denture may be modified so that it can be worn without disturbing the implants during the healing process.

You will be fitted for a custom full arch bridge that either cements over abutments on multiple implants or screws directly into the implants. The screw holes will be covered after insertion.

Your new teeth are firmly supported by the jaw, stimulating it and preventing further bone loss. If the prosthesis is screwed in, your dentist will be able to remove the prosthesis when necessary for cleaning and maintenance. If it is cemented, you and your hygienist will clean around it like when you had all your own teeth.

Implant-stabilized denture - multiple non splinted implants with snap attachments - the implants are not connected together by a bar or bridgework and the denture is removable.

If all your lower teeth are missing, 2 to 4 implants may be used to stabilize a lower denture. Since the bone in the upper arch is less dense, this option is not available for many patients and if it is, more implants are needed. It is usually best to splint multiple implants in the upper arch to help them resist chewing forces and for the best long term result.

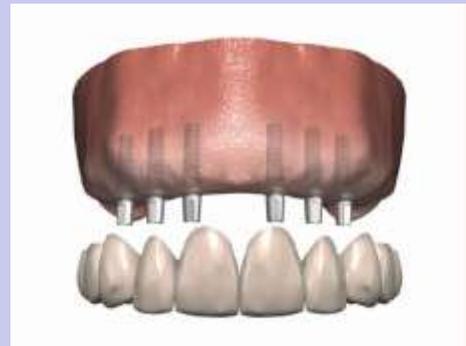
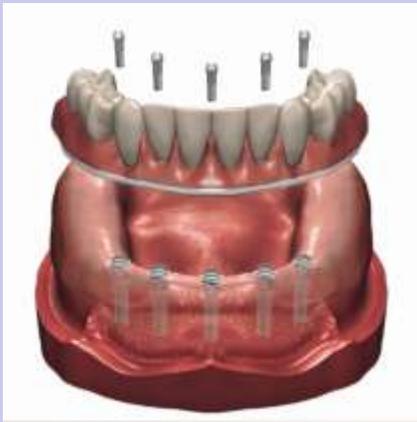
Just like the other full arch cases, the implants are surgically placed just below the gum tissue and given time to fuse with the bone. Healing "caps" may be placed on the implants until the healing phase is complete. Your existing denture may be modified so that it can be worn without disturbing the implants during the healing process.

After the implants become integrated into the bone, ball-top posts or other types of snap attachments are tightly threaded into the implants. Your old denture may be modified to hold clips that snap over these attachments or a new denture with retentive features will be made.

The final result is a denture that is snapped into place and retained by the implants and supported by the soft tissue. You simply snap the denture out each night for cleaning.

Dental implants holding these types of ball or snap attachments will provide stability and excellent retention for your existing loose denture but they do not support the denture... that is the denture does not sit on the implants like the other choices described but on the soft tissue and the implants serve only to hold the denture in place. In these types of cases fewer implants are needed and the denture is stable and tightly retained but the patient may notice that it will move a little during function. Be assured it is a huge improvement over a denture that has no implants for retention but is not as firm in function as the previously described bar retained or fixed restorations. This **implant stabilized denture** choice is usually also the least expensive choice when restoring a full arch using dental implants in combination with a removable restoration.

Options for Restoring Totally Edentulous Jaws



Gerald A. Niznick DMD, MSD

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In this section I want to give you a little insight into what your dentist is thinking about when he/she looks at your mouth and starts to plan out your case. Implant dentistry planning like all types of dentistry starts with the end in mind. The dentist starts by determining where the edges and inside and outside surfaces of the teeth should be and then looks to see where the bone is in relation to this position.

Many times if the patient has lost the teeth a long time ago the bone will be very far from where it used to be and the dentist and lab will have to design a plan that could include growing bone (bone grafting) and/or making a restoration that replaces "pink and white" (gum tissue and teeth). Sometimes the bone loss is so advanced that the dentist will need to discuss bone grafting procedures as the first step before implants can even be considered.

I won't go into too much detail here but simply put the ridge must be wide enough and tall enough so that it surrounds the implant with at least 2 to 3 millimeters of bone. I know that doesn't sound like a lot but it makes all the difference as to whether your case is going to be a success or failure. Bone grafting involves different procedures where the patient's bone, cadaver bone, bovine bone or synthetic bone is carefully placed next to the existing ridge so

that after 4-6 months the patient's bone grows out to the new dimension and is tall enough and wide enough to support a dental implant.

In the front of your mouth this is especially important because esthetics will depend more on a ridge dimension that allows for ideal implant placement position than anything else.



In the case above you can see the implant supported tooth is the patient's left central incisor. See how tall the crown is compared to the adjacent central incisor with the chip and also notice that pink porcelain was added to this restoration near the gum line so the tooth wouldn't look even taller. The implant is healthy and very functional but the restoration is not esthetically pleasing because the ridge was not treated first. If the ridge was treated first like the case below you could have ended up with a much more esthetic result.



So depending on where you are missing teeth your dentist knows that in the back of your mouth on the upper there is a sinus space that sometimes needs to be grafted and in the lower back there is a nerve that must have enough bone over it so you don't end up with numbness after the procedure. There must be the correct amount of thick gum tissue and all this must be measured and planned for before anything or anyone even comes near your mouth.

To get this information, your dentist will need to obtain diagnostic material including models of your teeth, different types of x-rays possibly including 3 dimensional x-rays (CT or Cone beam scans) to be sure of where the bone is and how much bone is really hiding under your gum tissue.

Once the final restoration is planned which is called the "restorative" phase, the "surgical" phase (placement of the implants and grafting if needed) needs to be planned. Many times in implant dentistry, your general dentist or prosthodontist will plan the restorative phase while working in tandem with a colleague who provides the surgical phase. Oral surgeons and periodontists in many cases provide the surgical part of your treatment, followed by the restorative phase with your GP or Prosthodontist. In the last 10 years there has been a trend where many general dentists have sought out advanced training and now provide the surgical treatment as well.

Needless to say the planning makes all the difference in the predictability and long term success of your case and the planning should start if possible before the tooth is actually being extracted.

So if you or a friend or loved one is about to have a tooth removed, discuss with your dentist if and how it is going to be replaced before it is removed. In many cases the dentist or surgeon who is extracting the tooth can place graft material immediately after the tooth comes out (this is called an extraction socket graft) and this will keep the ridge wide and tall and in as little as 3 to 6 months an implant can be placed into an ideal site and the predictability, function and esthetics your dentist can achieve will be the best possible.

Frequently Asked Questions

Q: What is a reasonable timeline to expect for the different steps in implant dentistry?

Usually if a tooth is extracted and socket grafted at the same time, depending on the amount of grafting needed, an implant can be placed in 4-6 months... then once the implant is placed it needs to integrate to the bone. The time needed for an implant to integrate depends on many factors but the goal is to allow the bone to grow tightly to the implant which is called osseo(bone) integration. Osseointegration can happen in as little as 2 months or as long as a year depending on how dense and healthy the bone was where the implant was placed.

Once osseointegration of the implant is achieved it can be "loaded" and restored... we sometimes say we are "loading the implant" which means you can chew on it or it is ready to support a denture or bar.

The last step is providing the final restoration... that usually takes 2-3 weeks to have an abutment and crown made for single or multiple tooth situation and a few weeks longer to make the full arch restorations. Total time usually 7 to 12 months from extraction to a new implant supported restoration.

In special cases an implant can be placed immediately the day a tooth is removed and again in the right situation it can be immediately loaded but that needs to be discussed with your dentist and done only if the ideal circumstances exist. That's why planning before you take a tooth out is so important

Q: Is the implant placement painful?

No pain on placement at all as it is usually done under local anesthesia. Further, ibuprofen or Tylenol is all that is usually needed to help the patient with any post operative pain. Certainly the more implants or grafts placed, the more your dentist will provide you with the proper medicine and post op instructions but in comparison to tooth extraction or other dental procedures, implant placement is one of the easiest.

Q: How long does it take to place dental implants?

Usually 45-90 minutes, depending on the location and the number of implants.

Q: What can I eat after having an implant placed?

Your dentist will outline a diet for the next few days including soft foods.

Q: How long does placement, healing and construction of the replacement teeth take?

As described above, the entire process usually takes from 3 to 9 months, depending on your treatment plan.

Q: How do I care for my implant?

Home care for your implants consists of brushing and flossing. Regular dental visits are required for long-term health and success.

Q: How long does an implant last?

If your body accepts the implant, it should last many years if cared for properly. Many implants have been in place for more than 40 years. Remember, dental implants are made of the same material as hip and knee replacements so once it integrates if it is taken care of and not overloaded it will last a lifetime. If anything is going to fail, the crown may wear out but that can be replaced without ever going near the implant.

Q: If my implant doesn't integrate, what happens?

If the implant doesn't integrate it is usually because the implant had some micro movement before the bone was able to grow up against it. When this happens, the implant is removed and the site is grafted and allowed to heal. Another implant can be placed after 3-4 month healing.

Q: Are dental implants covered by insurance?

Like most elective procedures, dental implants are not covered by most dental insurance plans but your dentist can submit a treatment pre approval request before you start so you can determine the level of coverage you might have. In some cases the insurance doesn't cover the implant but may cover the abutment and/or crown if the tooth it is replacing was lost while you were under the coverage of that plan.

Q: What are mini implants?

Mini implants were originally designed to be placed in the lower arch to temporarily help stabilize lower dentures. Their use over the years has increased but where they are placed and how they are "loaded" will make all the difference in how well they might work for you. Another great question for you to review with your dentist!

Q: What is the most important thing I should know so I can keep my implant restoration for a lifetime?

Overall success in conventional implant dentistry is over 98% especially as we learn more and plan better. Implants can develop gum infections around them if you don't keep them clean but the biggest cause of failure is when the implant restoration is overloaded... that means that the patient is hitting on the implant restoration first when they bite, or grinding or clenching on the implant system with more force than it can take. This excess force actually wiggles the implant away from the bone and everything the implant is supporting comes loose. This is usually not painful as it happens slowly over time but the patient just starts to feel things loosen.

Sometimes it happens because there are not enough implants placed to resist the patient's chewing forces or those forces are underestimated. Good planning and regular checkups to not only clean the implant restoration but carefully check the biting forces on them will keep them functioning for a lifetime. In many cases we recommend that you wear a night guard to protect your implant restorations from too much night time clenching or grinding force.

As you can see there is a great deal involved in providing excellent implant dentistry and I hope this report gives you a good start on basic knowledge so you can ask the right questions and work with your dentist to obtain the best result possible.

If you have any questions for me feel free to call the office or email me at apalombaro@summitdentarts.com.

Respectfully submitted,

Anthony Palombaro, D.D.S.