ISSN: 0975-8585

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Dental Implant: An Ideal Tooth Replacement.

Uttarwar RR*, Gaikwad VB, Bhagat AN, and Sharma PH.

Department of Pharmaceutics, Padmashree Dr. D.Y. Patil College of Pharmacy, Akurdi, Pune-411044, Maharashtra, India

ABSTRACT

Dental implant is a "root" device, usually made of titanium, used in dentistry to support restorations that resemble a tooth or group of teeth to replace missing teeth. It involves surgically placing a titanium artificial root (the implant) into the space that the root of the lost tooth occupied1. the dental implant is not connected to the adjacent teeth it can be flossed and maintained exactly as you would your natural teeth. Dental implants are metallic cylinders that are placed into the jawbone where original teeth once existed. These root-like cylinders are used to secure a replacement tooth in place in a spot where a tooth is missing. all dental implants placed today are root-form endosseous implants, i.e., they appear similar to an actual tooth root (and thus possess a "root-form") and are placed within the bone (endo- being the Greek prefix for "in" and osseous referring to "bone"). The bone of the jaw accepts and osseointegrates with the titanium post. Osseointegration refers to the fusion of the implant surface with the surrounding bone. Dental implants will fuse with bone; however, they lack the periodontal ligament, so they will feel slightly different from natural teeth during chewing.

Keywords: dental implant, tooth, titanium

Corresponding author

ISSN: 0975-8585

INTRODUCTION

Dental implant is a "root" device, usually made of titanium, used in dentistry to support restorations that resemble a tooth or group of teeth to replace missing teeth.

The dental implant can be the best method for replacing a missing tooth in most cases. It involves surgically placing a titanium artificial root (the implant) into the space that the root of the lost tooth occupied. A crown is then connected to the implant. One benefit of this tooth replacement method is that the adjacent teeth are left unaltered. The dental implant and its crown are a free-standing self-supporting total tooth replacement. That is, the root of the tooth as well as the crown of the tooth are replaced and the new tooth does not rely on the adjacent teeth for support. Clinical studies show that unaltered teeth adjacent to an implant have a much better long-term prognosis than teeth supporting a fixed bridge. Because the dental implant is not connected to the adjacent teeth it can be flossed and maintained exactly as you would your natural teeth. Modern dental implants have been in use since the late 1950's and research & development have improved the technology to now be one of the most successul forms of treatment in dentistry today. The cost of the single tooth dental implant can be nearly the same as that of the fixed bridge depending on the circumstances. Finally, the dental implant has the same chance to last a lifetime as one of your natural teeth.

Dental implants are metallic cylinders that are placed into the jawbone where original teeth once existed. These root-like cylinders are used to secure a replacement tooth in place in a spot where a tooth is missing. Dental implants can also be used to secure loose teeth in place by being installed alongside the loose teeth and anchoring to them with splinted crowns. This will allow the loose teeth to function better and last longer in the mouth.

Dental implants are made of various biomaterials. Most commonly, a surgical metal called titanium is used, because it is the most compatible with human biology. They are surgically placed in the jawbone, right in the dentist's office, using a local anesthetic. Approved and tested implant systems are very successful. In fact, some have lasted more than 20 years with a better than 90% success rate. Patients who have good oral hygiene and take care of their new teeth can enjoy implants that last a lifetime.

Virtually all dental implants placed today are root-form endosseous implants, i.e., they appear similar to an actual tooth root (and thus possess a "root-form") and are placed within the bone (*endo-* being the Greek prefix for "in" and *osseous* referring to "bone"). The bone of the jaw accepts and osseointegrates with the titanium post. Osseointegration refers to the fusion of the implant surface with the surrounding bone. Dental implants will fuse with bone; however, they lack the periodontal ligament, so they will feel slightly different from natural teeth during chewing [1].

Evolution in Dental Implant [2-7]

Actually, archaeological evidence suggests that ancient Mayans and Egyptians were using rudimentary dental implants made of shells and ivory to replace missing teeth. Thanks

to scientific advances beginning in the mid 20th century, modern patients have access to vastly improved dental implant materials and oral surgery techniques. The foundation of this evolution was formed in the 1950s when Swedish professor Per-Ingvar Bran mark discovered that bone could fuse and integrate with titanium on a microscopic level. Because it is capable of this "osseointegration", the titanium used in the implant is the keystone of the device's durability and stability. Titanium dental implants were first placed in a patient in 1965. The pioneers of dental implants continued to refine the devices through further clinical research, and by the early 1980s, its value was recognized by the scientific peer-review community. The U.S. Food and Drug Administration gave its approval to titanium dental implants in 1982.

In 1981, a company called Bofors Nobelpharma was founded to bring this innovative technology to the market, making it commercially available for dental professionals and their patients. This company would later become Nobel Biocare, which today is a leader in dental implant technology and solutions.

Regardless of their valuable characteristics, simply stated, dental implants in themselves are merely metal screws. They do not realize their full potential until they are topped with the prosthetic crown, bridge or arch that replaces the visible portion of missing teeth.

Progress in that aspect of dental implants occurred in the 1980s, when a reliable system for mass production of prosthetic crowns and bridges was developed. Improved ceramic materials followed in the 1990s.

As a result, today's prosthetics are lifelike creations that blend in with a patient's biological teeth, making them almost imperceptible to a casual observer.

Over the past several decades, scientists have built on the work of their predecessors resulting in the modern dental implant, which is now successful in well over 90 percent of cases, which make them one of the most successful and predictable medical procedures available. Their future efforts undoubtedly will continue to improve and enhance the devices and their delivery system, leading to better experiences for patients and oral surgeons alike.

Causes of Tooth Loss

- Being older than 35
- Being male
- Never getting professional dental care
- Never using a toothbrush
- Smoking (current or past)
- Having diabetes
- Having high blood pressure
- Having rheumatoid arthritis
- Gum disease

The ninth finding was that front (anterior) teeth were more likely to be lost to gum disease than teeth at the back of the mouth.

Consequence of Tooth Loss

The effects of a missing tooth can be quite dramatic. The first one that comes to mind for most people is an immediate cosmetic issue – the unsightly gap that's left behind in the smile.

That factor alone will motivate many patients to seek replacement teeth, but addressing other outcomes of tooth loss is just as important, if not more so.

Teeth are essential to a person's ability to chew, and even a single missing tooth can cause problems in that process. Besides losing the chewing efficiency of the lost tooth, its opposing tooth suddenly becomes non-functional as well with nothing to chew against. For example, when one tooth is absent, the forces normally absorbed by that tooth may be transferred unevenly to others, causing extra wear and tear on the neighboring teeth and eventually damaging them.

Through their roots, the teeth also help to promote stability in the jaw bone density and volume. When there are no roots in place, the jawbone in the area will begin to atrophy. If the root is never replaced, that atrophy can progress and lead to the progressive loss of other teeth in the vicinity.

Surrounding teeth next to and opposing the lost tooth space will begin to shift and drift into the space causing a misalignment in a persons bite as well as angulation that leads to hygiene challenges and periodontal disease.

Your teeth are also involved in your speech, and depending on the location of the absent tooth, your speech may be compromised, as well.

Fortunately, an oral and maxillofacial surgeon can help patients replace their missing teeth with dental implants to avoid these problems.

Dental implants are the only devices that replicate the entire structure of the missing tooth, not merely the visible crown component, and that structure maximizes functionality.

Dental implants are the only devices that replicate the entire structure of the missing tooth, not merely the visible crown component, and that structure maximizes functionality.

The jaw bone fuses and bonds with dental implants, becoming a permanent part of the mouth and replacing the missing root. Due to their design, dental implants look and work just like natural teeth do.

After tooth loss, patients should begin the process of planning its replacement as soon as possible before jawbone erosion can occur.This is particularly important for dental implant candidates, who must have enough remaining jawbone material to sustain the dental implant.

Ways to Prevent Tooth Loss

The best way to prevent tooth loss is to practice good dental health habits, which include brushing and flossing regularly. You should also see your dentist at least once every six months and make an appointment as soon as possible if you experience tooth pain or other problems with your teeth.

In addition to seeing your dentist, it's important to maintain a healthy diet so that you minimize the risk of tooth decay and loss. Make sure your diet contains adequate calcium, protein and other nutrients, and talk to your doctor and dentist about dietary changes if you seem to be having tooth problems. You also should get tested regularly for diabetes, especially if it's common in your extended family or if you experience tooth loss or decay on a regular basis.

Your teeth are more important to your overall health than you might think. Losing your teeth not only makes you look unhealthy, but also may be the sign of a serious health problem. Identifying dental and overall health issues early gives you a greater chance to recover quickly and prevent future complications.

Benefits of Replacement of Missing Tooth

It is not an insignificant condition and four main factors can adversely affect you. Each time that a natural tooth is lost, your chewing ability, your remaining teeth, your health and your appearance are compromised. In light of these facts, considering replacement teeth in Chicago can certainly be beneficial from several standpoints.

As soon as a single tooth is lost, a number of changes begin to take place. Fortunately, our dual-degreed oral surgeons can use dental implants to replace the absent tooth and eliminate the inconvenience and negative consequences of tooth loss. Replacing a missing tooth can help to provide support for the neighboring teeth.

A missing tooth changes your biting and chewing pattern. Tooth loss will typically lead you to favor the side of the mouth opposite the lost tooth. This chewing pattern can lead to undue stress on the surrounding teeth and teeth on the other side with resultant jaw joint imbalance. Simply replacing the missing tooth with a proven solution such as dental implants can balance your bite and enhance your chewing ability.

Tooth loss is directly related to bone loss. Without the tooth root present to stimulate the bone, resorption or bone loss is inevitable. This bone loss can affect the neighboring teeth as well as change your outward appearance. Bone loss near the back teeth can cause the cheeks and jowls to appear sunken. Without proper support in the front of the mouth, the lips can appear to sag or look flattened and increase wrinkling. Choosing a tooth replacement that also replaces the missing tooth root is the best way to prevent this type of permanent bone loss.

Replacing a missing tooth can help to provide support for the neighboring teeth. In addition to biting and chewing, your teeth are designed to support one another. Each tooth

helps its neighbor to maintain its proper position. An absent tooth usually leads to crowding or shifting. The adjacent teeth can be expected to eventually drift into the space once occupied by a natural tooth. The recommended solution for this scenario is tooth replacement.

The pleasure of smiling or speaking without gaps and spaces in the teeth can truly change the quality of your life. If you are interested in your options for restoring your smile, call ORA Oral Surgery & Implant Studio at 312-328-9000 today mage to your teeth.

Since the ideas and techniques were so "new," not much was heard about it, and it was not recommended as often as it should have been. Today, we hear more and more about this exciting technology as tremendous success with these techniques has been sweeping our nation! When a tooth is lost, the bone that once held the tooth in place is lost, too. Not only does this situation create a defect in the mouth, but it also creates a defect in facial appearance since the structure that supported the face is missing. We have all seen friends and family members who have lost their teeth—the dramatic aging process that their faces experience occurs almost overnight. Nothing ages us more than losing our teeth prematurely—believe it!

A dental implant is a metal replacement of the lost root, which is composed of titanium. If this replacement is planted soon enough, it will act like a natural tooth root, retain the bone in the area, and cease the natural aging process caused by the loss of a tooth. With the implant in place, the newly designed crown can be attached to replicate the earlier chewing efficiency. Natural teeth are capable of imparting hundreds of pounds in chewing force, whereas false teeth can only impart tens of pounds of pressure.

Dental Implant And Denture, Bridges and Partical

Dental implants and mini dental implants can be use to hold dentures, bridges and partial dentures securely in place. Many patients have a hard time keeping their dentures and partials comfortably in place all day, even more so when they are eating hard, brittle food or even worse.

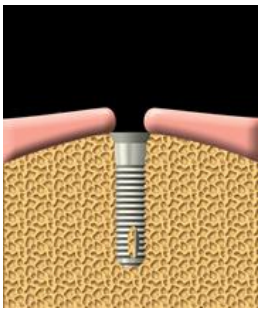
In recent years it has become very common to use mini dental implants or full dental implants to solve this problem. The results are amazing. Imagine having your denture or partial lock into place during the day, and then be able to remove it for cleaning and sleep. Dental implants can make his possible.

Procedure For Dental Implant

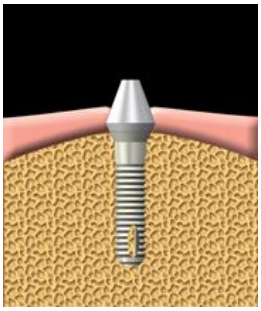
- Your dentist or specialist will carefully examine your mouth and take x-rays of your head, jaw and teeth to find out if dental implants are right for you.
- During the first stage of surgery, your dentist or specialist will put a dental implant into your jawbone beneath the gum tissue. The gum tissue is then stitched back into place. As the tissue heals, the implant will bond with the bone and attach to the gum. It can take several months to heal.

ISSN: 0975-8585

- During the second stage of surgery and once the tissue is healed, your dentist or specialist will attach an abutment to the implant. An abutment is a post that connects the replacement tooth to the implant. In some cases, the first and second stage of implant surgery may be done in one single stage.
- An artificial replacement tooth is made and your dentist or specialist attaches it to the abutment. It may take several appointments to properly fit the replacement tooth to the abutment.
- When replacing several teeth or all of your teeth, a fixed bridge is anchored to your dental implants. A bridge is a dental restoration that replaces one or more missing teeth by spanning an area that has no teeth. The bridge is held firmly in place by dental implants on each side of the missing tooth or teeth.



A dental implant is inserted into the jawbone.

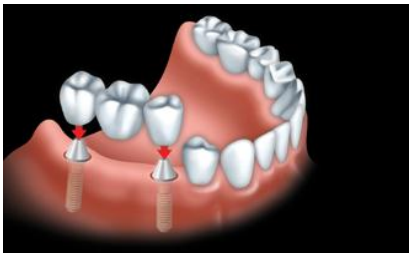


An abutment is attached to the implant. The abutment connects the artificial tooth to the implant.

An artificial tooth is attached to the abutment. Properly fitting the artificial tooth may take several appointments.

A fixed bridge is anchored to dental implants to replace one or more teeth.

ISSN: 0975-8585



A fixed bridge is anchored to dental implants to replace all teeth.

The Best Way To Replace A Missing Tooth Or Teeth

Whether it was lost due to gum disease, severe decay, or trauma, you're still stuck with the same problem...a missing tooth. Your dentist may have spent a couple of minutes explaining your options and now a staff member is standing over you asking you to decide how you want the tooth replaced. Obviously if there were an easy answer to the question I wouldn't feel the need to write this article.

The method you choose to replace a missing tooth depends on a number of different factors, all of which are nearly equal in importance. The factors to consider include cost, time, longevity, comfort, esthetics, convenience, and the effects of the treatment on the adjacent teeth and the rest of the mouth. You have the four basic options below, and remember we are speaking about replacing a single missing tooth here.

- Do not replace the tooth
- Removable partial denture
- Fixed bridge

These options are listed in order of increasing desirability and not surprisingly also in order of increasing cost. Let's examine each choice in more detail.

Not Replacing a Tooth

Is it OK to not replace a single lost tooth? Yes! (*Well the real answer is "It depends....*") It is not the end of the world to lose a tooth, although there are consequences depending on the location of the lost tooth. If it is a wisdom tooth (what we refer to as the third molar) I would definitely say do not replace it. In fact, for wisdom teeth, I would say take the other three out as well! Few people have room in their jaws for the wisdom teeth and they are usually impacted or crowded. If your wisdom teeth did erupt properly and you do have space for them and lost one I would still say do not replace it. They are too far back in the mouth for accessibility to perform restorative procedures well. You will not percieve a loss of chewing ability, you will not see a defect in your smile, and you will not see any effect on your facial structure (like "sunken in" cheeks). If the tooth you have lost is the second molar, that is, the last tooth in the back (assuming there is no tooth behind it, i.e. the wisdom tooth), you could seriously consider not replacing it as well. Clinical studies indicate that even with all four of your second molars missing, you ability to chew food properly is not significanly altered. A lost second molar rarely effects your smile or facial structure and appearance. However you must be aware that the tooth that opposes the lost tooth may

supererupt. That is, an upper tooth that does not have a lower tooth to chew against will migrate down until it finds something to stop it, and vice versa. This does not always happen, but your dentist can monitor for it at your semiannual check-ups. A supererupted tooth may not necessarily cause problems. Problems can be prevented or dealt with simply by your dentist. Like a lot of things, early detection leads to simple solutions. Any other lost tooth should be replaced as a loss of chewing abiltity will be noticed as well as a change in your appearance. If there are one or more teeth behind a lost tooth, drifting and tilting of these teeth usually occurs. This can lead to a number of serious complications that include developing bite problems and even loss of additional teeth. So if you have lost an important tooth, get it replaced! One of the three tooth replacement options below should suit you. All three of these options will provide the benefit of preventing tooth movement and maintaining your appearance.

The Removable Partial Denture

The most inexpensive tooth replacement option is the acrylic removable partial denture, AKA "the Flipper." One study in the Journal of Dental Research (J Dent Res.1996 Feb;75 Spec No:714-25) reported that one in five people aged 18 - 74 wear a removable partial denture of one sort or another. There are many varieties of removable partial dentures and they are made to replace from one to many missing teeth. The "Flipper" is most inexpensive type. However for replacing just one tooth, it is a lot of "hardware" in your mouth. That is, along with the artificial denture tooth that fills the gap in your smile, there is a plastic framework that covers all or a part of the roof of you mouth. This is necessary to keep the denture tooth in position and provide retention to keep the partial denture in your mouth. Additionally, flexible wire clasps are sometimes present to grab onto key teeth for additional retention of the partial denture. All of this material in your mouth is one of the drawbacks of this technique for tooth replacement. Because the denture tooth is not rigidly fixed in your mouth, the partial denture will always have some movement when chewing. Patient's often find this movement unsatisfactory. Sixty-five percent of partial denture wearers have some problem or complaint with it (J Dent Res. 1996 Feb;75 Spec No:714-2). Despite it's drawbacks, because of the much greater costs of the other tooth replacement options, the "Flipper" is a popular choice.

Adjacent teeth prepared for bridge.

Bridge in place.

The Fixed Bridge

ISSN: 0975-8585

The fixed bridge, or what we refer to as a fixed partial denture, is the next tooth replacement option we'll discuss. A fixed bridge requires preparing, that is cutting down, the teeth on either side of the missing tooth. This is not terribly conservative treatment. Tooth preparation of the adjacent teeth is irreversible and involves the removal of quite a bit of tooth structure. See the photo on right. I know it may seem a bit barbaric, but for the longest time it was the only way to provide a fixed, non-removable replacement tooth. Providing this service well is technically demanding and will require all of your dentist's skill.

A well made fixed bridge can look natural, function well, and potentially last a lifetime. However, 75% of fixed bridges fail within 7 years. The fixed bridge is at least three teeth connected together with the false tooth (the replacement tooth) in the middle. Because the teeth are connected, you cannot pop dental floss between them. Instead you must thread the floss through underneath where the teeth are connected or use a special small brush to get under the connectors. People tend to neglect to perform this inconvenient extra step in their oral hygiene routine. This contributes to the relative high rate of failure. Also, the extra stress on the teeth supporting the fixed bridge can lead to mechanical breakdown and thus adds to the failure rate. The fixed bridge is still the treatment of choice for many patients.

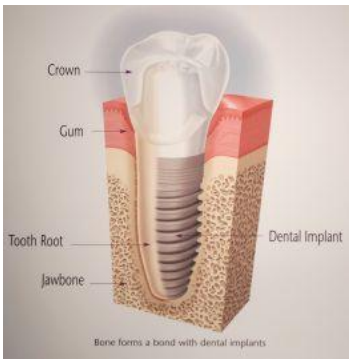


Diagram comparing natural tooth (on left) with implant tooth (on right). Image courtesy of Nobel Biocare patient education materials.

Implant crown in place (same patient as top 2 images) .

Condition In Which Patients Can Not Be Treated With Dental Implant

There may be additional steps to take before the end result, but the procedure is still possible. Have you become uncomfortable with using dentures, even though you've had them for a while now? We utilize specific techniques for patients just like you and are able to provide you with the proper chewing ability and the youthful appearance you desire. Do you have an upper denture that does not allow for the typical tasting of your food? Dental implants can solve that problem! Are you constantly visiting your current dentist to adjust

your denture because of the recurring discomfort of sore spots? The solution for this problem comes hand-in-hand with dental implants as well! Does your denture fail to support your teeth in an upright position, exhibiting a “sunken-in” appearance on your face? Dental implants allow the teeth to remain in their proper position at all times!

Mini Implants

Many doctors will try to market the mini implant to their patients. Dr. wants you to know that these mini implants were initially designed as a temporary implant to hold the teeth in place while the larger implants healed. Then, they began to be utilized as a tooth replacement. The problem with such implants is their inherent weakness due to their small diameter. The implants can stress and eventually break because of normal chewing forces. A large tooth over a small implant will especially direct unfavorable forces against it. Also, because the implants are so small, there is less surface area for the bone to bond to. Given this preliminary information, our office does *not* use mini implants, except for their primary purpose—retaining a temporary replacement for your teeth. You can be assured that our treatment planning involves an implant size and shape that was specifically designed to solve *your* problem. Implants are a remarkable development in the treatment of tooth loss, but certain engineer designs must be followed, otherwise the tooth replacement system will be compromised in terms of strength.

Grafting

Whenever teeth are removed, bone around the area begins to fade *immediately*. The reason behind this phenomenon is that the bone was there solely to hold the tooth; if the tooth is gone, there is no purpose for the bone. That’s why people’s facial appearances change so drastically after they have lost their teeth! The body slowly removes the bone structure which holds the tissue of the face upon tooth removal, and consequently, the remaining facial tissue tends to collapse inwards.

Implants placed in a timely manner may prevent this process from occurring at all!

Once implants have become part of the bone structure, the body will work to exercise and maintain the bone structure into which they reside. Typically, implants are put in place once the area of the mouth is numb. A small incision is made to expose the area in which the implant will go. With surgical precision, an opening is formed in the bone and is strategically enlarged to allow for placement of the dental implant The implant is usually in the shape of a modified screw, and this titanium device is threaded into the bone. The gum

tissue is then sutured around the implant. The implant is usually left undisturbed for 6-8 weeks. After that timeframe, an image is taken of the area. If the bone has adapted to the implant, and if pressure against the implant causes no sensation, then it is time to proceed with the restoration—actually replacing the tooth!

Sometimes when a tooth is removed, an implant can be placed at the same time!

But there is no way to know if this is possible until after the tooth has been removed. A sufficient amount of bone needs to remain for the placement of the implant in intact bone structure. If the bone happens to be damaged from the extraction or is non-existent, then the area needs to be repaired by grafting of the bone. What if you have already lost the bone? Fortunately, there are ways which we can "convince" the bone to grow back. We call this process grafting. Bone grafting is a process in which we can figuratively turn back the hands of time to regain the shape and size of the bone before the loss began! Usually, this process is accomplished with a bone formation material set in place next to the bone that needs growth. This can either be composed of synthetic material or an actual bone material either taken from a cow or human source.

In any case, the material has been changed to a form that is absolutely safe and effective for the patient.

After the material is placed in position, a very thin cellophane layer is placed over the top, which keeps the bone grafting material safe during the healing process. Depending on the material and the amount of bone addition necessary, this procedure can take 3-12 months. If the bone needing replacement is very large, then actual bone from somewhere in the patient's body will be used. Most times, this bone is from some other location in the mouth. This makes the acquisition of the bone relatively easy, and there isn't any discernable defect. Occasionally, the bone defect is so large that bone needs to be obtained from the hip, but this need is very rare. For instance, the patient who lost a large amount of his lower jaw due to treatment of bone cancer needed the defect fixed by a piece of bone in his hip. Looking at his face today wouldn't give the typical person the slightest clue thata large portion of his facial skeleton had been removed, especially since all his teeth lost were replaced. What a marvelous time we live in, when problems like that can be repaired! Another type of grafting occurs in the back portion of the upper jaw. When the upper molar teeth are removed from the upper jaw, an interesting phenomenon occurs. Rather than the bone simply being removed from where the tooth originally resided, another process takes place. There is an air bubble in the bone above the upper teeth, which is called a sinus. Many times, the roots of the upper teeth are actually in this sinus, or there is just a paper thin layer around the roots in the sinus cavity. When the teeth are removed, the sinus continues to invade the bone where the roots were located. After several years, there may be little bone left where the molar roots used to be. If we want to place dental implants in this area, we need to have more height of bone. To recreate this bone, we make a small opening to where the sinus cavity is. We loosen the skin lining the sinus and push it up. Technically, we should *never* go into the sinus cavity itself, so we create a space between this skin or membrane and the existing bone, where the bone grafting material is placed. We fill in the sinus space just enough to create he bone we need for the dental implant placement. After the area is closed back up, the area is left undisturbed for 3- 6 months

depending on the size of the graft and also the type of material used to accomplish the graft.

A large portion of his facial skeleton had been removed, especially since all his teeth lost were replaced. What a marvelous time we live in, when problems like that can be repaired! Another type of grafting occurs in the back portion of the upper jaw. When the upper molar teeth are removed from the upper jaw, an interesting phenomenon occurs. Rather than the bone simply being removed from where the tooth originally resided, another process takes place. There is an air bubble in the bone above the upper teeth, which is called a sinus. Many times, the roots of the upper teeth are actually in this sinus, or there is just a paper thin layer around the roots in the sinus cavity. When the teeth are removed, the sinus continues to invade the bone where the roots were located. After several years, there may be little bone left where the molar roots used to be. If we want to place dental implants in this area, we need to have more height of bone. To recreate this bone, we make a small opening to where the sinus cavity is. We loosen the skin lining the sinus and push it up. Technically, we should *never* go into the sinus cavity itself, so we create a space between this skin or membrane and the existing bone, where the bone grafting material is placed. We fill in the sinus space just enough to create the bone we need for the dental implant placement. After the area is closed back up, the area is left undisturbed for 3- 6 months depending on the size of the graft and also the type of material used to accomplish the graft.

One reason to graft bone is so that an implant can be placed; the other is for the appearance of the actual tooth when the restoration is complete.

Occasionally, when a tooth is just removed and the bone healing is enhanced by bone graft material, the implant restoration will mimic the tooth that the implant is replacing in every respect. Most times when the implant is placed, the tooth will be slightly longer in appearance than normal. Usually this difference is not noticeable, but as the bone changes are more severe, the replacement tooth is longer. If the lip will hide the area, this should not be a concern—but this situation should be totally undetectable. If, because of normal display of the area or personal preference this situation is unacceptable, the implant sit should be corrected prior to the implant placement. A further extension might be required if there is more bone loss and longer teeth—the situation can be improved by having the laboratory work on mimicking the lost bone and gum tissue with a pink porcelain or plastic finish. In any case, if the tooth that needs replacement is close to the front of the mouth, then an investigation of its appearance should be accomplished prior to any of the procedures to ascertain which final restoration process would be acceptable and what needs to be done in order to accomplish this objective.

Dental Implants for the Denture Patient Implants Can Help *You* … and *Your* Options!

The first way that implants can help a denture patient is by allowing the dentures themselves to hook onto the implants with a snap attachment. This solution is primarily for the patient who needs a little extra holding power for their dentures, but dentures can function in every other way as well. These are for patients who have recently had their teeth removed or a bone that hadn't resorbed dramatically over time. These attachments hold the

denture, but the denture still rests on the gum tissue of the mouth. If the patient has had sore ridges or several areas that need to be readjusted, the procedure probably wouldn't be the best option for them. Since the dentures still rest in gingival tissue, food or small particles may get under the denture and cause pain or tenderness. In many respects, the process is typically a temporary or transitioning type of treatment. Because the denture fits so much better, patients are able to chew with more vigor. Over time, since the denture still rests on the gum and bone tissue, pressures will be transmitted to the bone and eventually cause the bone to remold and in most cases, the bone will go away. This resorption may not cause a problem and might just require a relining of the denture. Other times, the attachments will not be strong enough to hold the denture in the same firm fashion. If *you* happen to be a denture patient experiencing soreness of your gum tissues, you should consider a restoration, which will take the pressure off the tissue. When enough implants are placed in this case, they are connected by a bar. This bar first acts as a place where the denture will rest (rather than on the gum tissue), and will also contain the attachment system that will hold the replacement teeth in place. If enough implants are placed, the bar can extend far enough back that the denture no longer rests on the gum tissue, but only the bar. This will help all the replacement teeth feel more like natural teeth.

Even if food would get under the replacement teeth, there would be no discomfort; chewing would not mash the food against the tissue.

Because the attachments are on the bar, the attachment system is not subject to a large amount of wear, which allows the restoration to have relatively low maintenance, and the attachments do not need to be changed very often. Consider a single tooth that is missing in the mouth. If an opening is left in the arch, there is a distinct chance that the teeth on either side can tip or shift, and the teeth on the opposing arch will move. This can set up a domino effect over time that could potentially cause the loss of more teeth.

The tooth needs to be replaced

There are two options when it comes to replacing teeth, and they are both fixed and not removable. One way is to prepare the teeth on either side of the space for a fixed bridge. In order for this to happen, the teeth have to be reduced in every dimension to allow for the restoration to fit over the teeth and to be cemented into place. The preparation is potentially irritating to the remaining tooth structure. Also, the cement may give way on one component of the bridge, by allowing one of the teeth to decay so badly by the time it is discovered, that the only remedy is to remove another tooth.

Once an implant is placed in the location of a missing tooth, a replacement tooth can be attached to it. This replacement tooth looks and feels like a natural tooth (floss can even be used normally!), and any treatment needed on the teeth on either side can be completed as a separate event. When there is a bridge in place and one of the teeth has an area of decay, however, all three teeth need to be involved with the specific dental treatment at hand.

How Many Implants Do *You* Need? It doesn't matter which teeth are missing. Whether a first molar or a canine is lost, replacement with an implant is necessary

If the implant restoration goes through an area in which a sinus elevation graft was accomplished, one implant will be placed for every tooth. Otherwise, there will usually not be more than one tooth in a row without implant support. One implant will not be used to replace more than that one tooth. Generally speaking, when more than one implant is placed in an area, the implants are held together by crowns, which are attached to one another. When the crowns are connected together, there is a fair share of the load of chewing between the implants, and one implant is not asked to withstand a direct load. By connecting the crown, there is a *virtual elimination* of the possibility that the components will loosen. In a general sense, it will be necessary to place more implants to replace the same number of teeth, because the bone is less dense on the top.

Time Period of Dental Implants

Though every implant case is unique we allow four to six months of healing time once the implant is placed. During this time your natural bone is growing up to and integrating with your newly place dental implant. Implants are made of titanium which is safe, strong and light. Once the bone has healed around your implant we place the abutment and the crown. This is the last step. Start to finish usually takes four to six months.

Dental Insurance and Dental Implants

Dental Insurance usually covers as much as 50% of the total cost of your dental implant. However, every dental insurance plan is different so we would need to check with your plan. Just call or e-mail our office to set up a free consultation appointment. We will give you an insurance estimate of your copay after we make sure you're a candidate for dental implants.

REFERENCES

[1] www.rewardme.in
[2] http:**//**www.google.com
[3] http://www.webmd.com/oral-health/features/tooth-loss-risks
[4] www.webmd.com/oral-health/news/.../9-risk-factors-for-tooth-loss
[5] http://www.doctordent/index/doct1/startpage.php
[6] www.nidcr.nih.gov/DataStatistics/.../ToothLoss/ToothLossAdults20to64
[7] http://www.mddoc.in/home/dental.php