

JENKINS, MORROW & GAYHEART

PROCEDURE INFORMATION

DENTAL EXTRACTIONS

The information contained herein is important: You should carefully read it and ask any questions that you might have about it. Many of the side effects of having teeth removed are common and expected. Other, less common, events are not generally expected and are complications of tooth removal. This information is not supposed to be a complete list of all possible side effects and complications resulting from tooth surgery. However, it does include, what we believe to be the most important considerations.

Pain

Pain is common, but usually, and fortunately of short duration (a few days). The pain will be well managed with prescribed medication. New or dramatic increases in pain several days after surgery may represent a dry socket. Management of this problem is usually straightforward, but will require that you return to the Office, usually prior to the routine one-week follow-up appointment. Please contact the office if you experience a dramatic increase in pain prior to your follow-up appointment.

Swelling

Swelling is common, but rarely severe. Swelling usually peaks on the second or third day after surgery. A dramatic increase in swelling several days after surgery can be a sign of infection.

Please contact the office if you experience any problems with swelling. Bruising of the face and/or neck may also occur and may persist for a week or two, but is rarely severe.

Infection

Infection is uncommon and can usually be managed without hospitalization. Occasionally, infection will require hospitalization for intravenous antibiotics and/or a surgical drainage procedure. Even less common is a bone infection (osteomyelitis) that may require prolonged treatment including antibiotics and additional surgery.

Bleeding

A slight ooze of blood causing blood tinged saliva is common. Severe bleeding is rare. Oozing is treated with intermittent pressure applied by biting on a folded gauze pad. Severe bleeding may require an unscheduled return to the office for evaluation. It is important that you reveal any past history of bleeding problems, as well as any aspirin or blood thinner use prior to undergoing wisdom tooth removal.

Jaw Stiffness

Stiffness with jaw opening is common and temporary. Tooth removal may aggravate a pre-existing jaw joint (TMJ) problem leading to the possibility of joint pain, noise (popping) and/or locking. If you have experienced any of these jaw symptoms in the past, you should mention them before undergoing tooth removal. Aggravation of a pre-existing jaw joint problem will usually respond to simple measures; however, more prolonged treatment of the symptomatic jaw joint may be required.

Sinus Problems

Rarely, an opening into the sinus will result from removal of an upper wisdom tooth. Such openings may be closed at the time of tooth removal or will close spontaneously. In rare circumstances, a separate surgical procedure may be required at a later date to close a sinus opening. Sinus infection can be a complication of sinus exposure and may require antibiotics and, possibly, sinus surgery.

Tooth/tooth Parts Displacement Or Damage

Rarely in the process of removing a tooth, a tooth or part of a tooth (usually a tooth root) will be displaced from the socket into surrounding tissue or the sinus. This tooth/tooth part may not be visible and may not be removed or removal may be necessary at a later date. Damage to surrounding teeth and dental work is also a possibility.

BONE GRAFTING AND JAW PRESERVATION

Over a period of time, the jawbone associated with missing teeth atrophies or is resorbed. This often leaves a condition in which there is poor quality and quantity of bone suitable for placement of dental implants. In these situations, most patients are not candidates for placement of dental implants.

Today, we have the ability to grow bone where needed. This not only gives us the opportunity to place implants of proper length and width, it also gives us a chance to restore functionality and esthetic appearance.

Jawbone and Extraction Site Preservation

When you need to have a tooth or teeth extracted—whether it be due to decay, abscess, gum disease or injury—it is usually in your best interest to do so in a manner which preserves as much of your underlying jawbone as possible. From the time the teeth are removed, significant degeneration of the surrounding bone begins to take place. You have many options to prevent this, and it is important that you consider them BEFORE any teeth are removed. Some of these procedures are best performed at the time the tooth is removed. Drs. Jenkins, Morrow, and Gayheart are oral and maxillofacial surgeons who specializes in tooth removal, jawbone preservation and dental implant placement.

What happens when a tooth is removed?

There is a special type of bone surrounding your teeth. This bone is called alveolar “ridge” bone, and exists solely to support your teeth. As soon as the tooth is removed, this bone begins to degenerate and “melt away.” This occurs in two dimensions. The first is loss of horizontal width caused by the collapse of the bone surrounding the socket. This makes the remaining ridge narrower than when the tooth was present. The second is a loss of vertical height. This makes the remaining bone less “tall.” This process is faster in areas where you wear a partial or complete denture.

Why is it important to preserve the bone?

You will have several choices of how you can replace the newly missing teeth. All of the options rely on bone support and bone contour for the best function and esthetics. Here is a list of the possible options:

- You may choose to replace your missing teeth with dental implants. These are root-shaped supports that hold your replacement teeth. The more bone support you have, the stronger the implant replacements will be. In some cases, the bone can degenerate to a point where implants can no longer be placed without having more complex bone grafting procedures to create the necessary support. Obviously, preventing bone loss is much easier than recreating the bone later.
- You may choose to replace the missing teeth with a “fixed bridge.” This is a restoration that is supported by the teeth adjacent to the missing tooth space. The replacement tooth (or pontic) spans across the space. If the bone is deficient, there will be an unsightly space under the pontic that will trap food and affect your speech.
- Other replacement alternatives include removable partial or full dentures. These often perform better with more supporting bone.

How can the bone be preserved?

There are two important phases in retaining your alveolar ridge during and after the tooth extraction. Not all extractions are the same—Drs. Jenkins, Morrow, and Gayheart will use the most careful techniques to extract the teeth while preserving as much bone as possible. Second—and key to preventing the collapse of the socket—is the addition of bone replacement material to the extraction socket.

There are several types of bone grafting materials and techniques—Drs. Jenkins, Morrow, and Gayheart will discuss the most appropriate one with you. After the tooth is extracted, the socket will be packed with a bone-like material and covered with a small absorbable plug or suture. Early on, the grafting material will support the tissue surrounding the socket, and in time will be replaced by new alveolar bone. This bone will be an excellent support should you choose later to have dental implant-supported replacement teeth.

Although the bone created by socket grafting supports and preserves the socket, it will not do so indefinitely. Placing dental implants four to twelve months after the extraction and socket grafting will provide the best long-lasting support for preserving your jawbone and allow you to function as before. Otherwise the graft may “melt away” or resorb over time.

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Immediate Dental Implant Placement

In some selected cases it is possible to actually extract the tooth and place the dental implant at the same time. We call that immediate implantation. If you are interested in replacing your tooth with an implant and want to be considered for immediate implantation, please call Drs. Jenkins, Morrow, and Gayheart office for a consultation prior to your extraction.

How much does it cost?

All patients receive the most careful bone-preserving extraction techniques at no additional charge. There is an additional charge for performing a socket grafting procedure at the time of the extraction.

Charges vary depending on the tooth location and number of teeth. At the time you call Drs. Jenkins, Morrow, and Gayheart’s office for your appointment, you should state that you are interested in jawbone preservation when your tooth is removed. Our staff will be happy to provide you with an estimate of the procedure cost. The final exact cost will be provided at the time of your visit prior to the procedure.

Sinus Augmentation or Lift Procedure

The maxillary sinuses are behind your cheeks and on top of the upper teeth. Sinuses are like empty rooms that have nothing in them. Some of the roots of the natural upper teeth extend up into the maxillary sinuses. When these upper teeth are removed, there is often just a thin wall of

bone separating the maxillary sinus and the mouth. Dental implants need bone to hold them in place. When the sinus wall is very thin, it is impossible to place dental implants in this bone.

There is a solution and it's called a sinus graft or sinus lift graft. The dental implant surgeon enters the sinus from where the upper teeth used to be. The sinus membrane is then lifted upward and donor bone is inserted into the floor of the sinus. Keep in mind that the floor of the sinus is the roof of the upper jaw. After several months of healing, the bone becomes part of the patient's jaw and dental implants can be inserted and stabilized in this new sinus bone.

The sinus graft makes it possible for many patients to have dental implants when years ago there was no other option other than wearing loose dentures.

If enough bone between the upper jaw ridge and the bottom of the sinus is available to stabilize the implant well, sinus augmentations and implant placement can sometimes be performed as a single procedure. If not enough bone is available, the Sinus Augmentation will have to be performed first, then the graft will have to mature for several months, depending upon the type of graft material used. Once the graft has matured, the implants can be placed.

Ridge-augmentation with Onlay Grafting

In severe cases where the tooth supporting ridge has been reabsorbed a bone graft is placed to increase the ridge width and/or height. In these situations, the graft is taken from another area inside your mouth and transplanted into the deficient area. Once transplanted, it will grow in its new location. This in-office procedure is usually performed using sedative or general anesthesia and takes about an hour.

In severe cases, the ridge has been reabsorbed and a bone graft is placed to increase ridge height and/or width. This is a technique used to restore the lost bone dimension when the jaw ridge gets too thin to place conventional implants. In this procedure, the bony ridge of the jaw is literally expanded by mechanical means. Bone graft material can be placed and matured for a few months before placing the implant.

Major Bone Grafting

Bone grafting can repair implant sites with inadequate bone structure due to previous extractions, gum disease or injuries. The bone is either obtained from a tissue bank or your own bone is taken from the jaw, hip or tibia (below the knee.) Sinus bone grafts are also performed to replace bone in the posterior upper jaw. In addition, special membranes may be utilized that dissolve under the gum and protect the bone graft and encourage bone regeneration. This is called guided bone regeneration or guided tissue regeneration.

Major bone grafts are typically performed to repair defects of the jaws. These defects may arise as a result of traumatic injuries, tumor surgery, or congenital defects. Large defects are repaired using the patient's own bone. This bone is harvested from a number of different sites depending on the size of the defect. The skull (cranium), hip (iliac crest), and lateral knee (tibia), are common donor sites. These procedures are routinely performed in an operating room and require a hospital stay.

CORRECTIVE JAW SURGERY

Orthognathic surgery is needed when jaws don't meet correctly and/or teeth don't seem to fit with jaws. Teeth are straightened with orthodontics, and corrective jaw surgery repositions misaligned jaws. This not only improves facial appearance, but also ensures that teeth meet correctly and function properly.

Who Needs Orthognathic Surgery?

People who can benefit from orthognathic surgery include those with an improper bite or jaws that are positioned incorrectly. Jaw growth is a gradual process and, in some instances, the upper and lower jaws may grow at different rates. The result can be a host of problems that can affect chewing function, speech, long-term oral health and appearance. Injury to the jaw and birth defects can also affect jaw alignment. While orthodontics alone can correct bite problems if only the teeth are involved, orthognathic surgery may be required if the jaws also need repositioning.

- Difficulty in the following areas should be evaluated:
- Difficulty in chewing, biting or swallowing
- Speech problems
- Chronic jaw or TMJ pain
- Open bite
- Protruding jaw
- Breathing problems

Any of these can exist at birth or may be acquired after birth as a result of hereditary or environmental influences or trauma to the face. Before any treatment begins, a consultation will be held to perform a complete examination with x-rays. During the pre-treatment consultation process, feel free to ask any questions that you have regarding your treatment. When you are fully informed about the aspects of your care, you and your dental team will make the decision to proceed with treatment together.

If you are a candidate for Corrective Jaw Surgery, we will work closely with your dentist and orthodontist during your treatment. The actual surgery can move your teeth and jaws into a new position that results in a more attractive, functional and healthy dental-facial relationship.

PRE-PROSTHETIC SURGERY

The preparation of your mouth before the placement of a prosthesis is referred to as pre-prosthetic surgery.

Some patients require minor oral surgical procedures before receiving a partial or complete denture, in order to ensure the maximum level of comfort. A denture sits on the bone ridge, so it is very important that the bone is the proper shape and size. If a tooth needs to be extracted, the underlying bone might be left sharp and uneven. For the best fit of a denture, the bone might need to be smoothed out or reshaped. Occasionally, excess bone would need to be removed prior to denture insertion.

One or more of the following procedures might need to be performed in order to prepare your mouth for a denture:

- Bone smoothing and reshaping
- Removal of excess bone
- Bone ridge reduction
- Removal of excess gum tissue
- Exposure of impacted teeth
- Frenectomy

We will review your particular needs with you during your appointment.

IMPACTED CANINES

An impacted tooth simply means that it is “stuck” and cannot erupt into function. Patients frequently develop problems with impacted third molar (wisdom) teeth. These teeth get “stuck” in the back of the jaw and can develop painful infections among a host of other problems (see section on Wisdom Teeth/ Third Molars). Since there is rarely a functional need for wisdom teeth, they are usually extracted if they develop problems. The maxillary cuspid (upper eye tooth) is the second most common tooth to become impacted. The cuspid tooth is a critical tooth in the dental arch and plays an important role in your “bite”. The cuspid teeth are very strong biting teeth which have the longest roots of any human teeth. They are designed to be the first

teeth that touch when your jaws close together so they guide the rest of the teeth into the proper bite.

Normally, the maxillary cuspid teeth are the last of the “front” teeth to erupt into place. They usually come into place around age 13 and cause any space left between the upper front teeth to close tight together. If a cuspid tooth gets impacted, every effort is made to get it to erupt into its proper position in the dental arch. The techniques involved to aid eruption can be applied to any impacted tooth in the upper or lower jaw, but most commonly they are applied to the maxillary cuspid (upper eye) teeth. 60% of these impacted eye teeth are located on the palatal (roof of the mouth) side of the dental arch. The remaining impacted eye teeth are found in the middle of the supporting bone but stuck in an elevated position above the roots of the adjacent teeth or out to the facial side of the dental arch.

Early recognition of impacted eye teeth is the key to successful treatment

The older the patient, the more likely an impacted eye tooth will not erupt by nature’s forces alone even if the space is available for the tooth to fit in the dental arch. The American Association of Orthodontists recommends that a panorex screening x-ray along with a dental examination be performed on all dental patients at around the age of 7 years to count the teeth and determine if there are problems with eruption of the adult teeth. It is important to determine whether all the adult teeth are present or are some adult teeth missing. Are there extra teeth present or unusual growths that are blocking the eruption of the eye tooth? Is there extreme crowding or too little space available causing an eruption problem with the eye tooth? This exam is usually performed by your general dentist or hygienist who will refer you to an orthodontist if a problem is identified. Treating such a problem may involve an orthodontist placing braces to open spaces to allow for proper eruption of the adult teeth. Treatment may also require a referral to an oral surgeon for extraction of over retained baby teeth and/or selected adult teeth that are blocking the eruption of the all important eye teeth. The oral surgeon will also need to remove any extra teeth (supernumerary teeth) or growths that are blocking eruption of any of the adult teeth. If the eruption path is cleared and the space is opened up by age 11 or 12, there is a good chance the impacted eye tooth will erupt with nature’s help alone. If the eye tooth is allowed to develop too much (age 13-14), the impacted eye tooth will not erupt by itself even with the space cleared for its eruption. If the patient is too old (over 40), there is a much higher chance the tooth will be fused in position. In these cases the tooth will not budge despite all the efforts of the orthodontist and Drs. Jenkins, Morrow, and Gayheart to erupt it into place. Sadly, the only option at this point is to extract the impacted tooth and consider an alternate treatment to replace it in the dental arch (crown on a dental implant or a fixed bridge).

What happens if the eye tooth or Canine will not erupt when proper space is available?

In cases where the eye teeth will not erupt spontaneously, the orthodontist and Drs. Jenkins, Morrow, and Gayheart work together to get these unerupted eye teeth to erupt. Each case must be evaluated on an individual basis but treatment will usually involve a combined effort between the orthodontist and the oral surgeon. The most common scenario will call for the orthodontist to

place braces on the teeth (at least the upper arch). A space will be opened to provide room for the impacted tooth to be moved into its proper position in the dental arch. If the baby eye tooth has not fallen out already, it is usually left in place until the space for the adult eye tooth is ready. Once the space is ready, the orthodontist will refer the patient to the oral surgeon to have the impacted eye tooth exposed and bracketed.

In a simple surgical procedure performed in the surgeon's office, the gum on top of the impacted tooth will be lifted up to uncover or expose the hidden tooth underneath. If there is a baby tooth present, it will be removed at the same time. Once the tooth is exposed, Drs. Jenkins, Morrow, and Gayheart will bond an orthodontic bracket to the exposed tooth. The bracket will have a miniature chain or wire attached to it. Drs. Jenkins, Morrow, and Gayheart will guide the chain back to the orthodontic arch wire where it will be temporarily attached. Sometimes the surgeon will leave the exposed impacted tooth completely uncovered by suturing the gum up high above the tooth or making a window in the gum covering the tooth (on selected cases located on the roof of the mouth). Most of the time, the gum will be returned to its original location and sutured back with only the chain remaining visible as it exits a small hole in the gum.

Shortly after surgery (1-14 days) the patient will return to the orthodontist. A rubber band or spring will be attached to the chain to put a light eruptive pulling force on the impacted tooth. This will begin the process of moving the tooth into its proper place in the dental arch. This is a carefully controlled, slow process that may take up to a full year to complete. Remember, the goal is to erupt the impacted tooth and not to extract it! Once the tooth is moved into the arch in its final position, the gum around it will be evaluated to make sure it is sufficiently strong and healthy to last for a lifetime of chewing and tooth brushing. In some circumstances, especially those where the tooth had to be moved a long distance, there may be some minor "gum surgery" required to add bulk to the gum tissue over the relocated tooth so it remains healthy during normal function. Your dentist or orthodontist will explain this situation to you if it applies to your specific situation.

These basic principles can be adapted to apply to any impacted tooth in the mouth. It is not that uncommon for both of the maxillary cuspids to be impacted. In these cases, the space in the dental arch form will be prepared on both sides at once. When the orthodontist is ready, the surgeon will expose and bracket both teeth in the same visit so the patient only has to heal from surgery once. Because the anterior teeth (incisors and cuspids) and the bicuspid teeth are small and have single roots, they are easier to erupt if they get impacted than the posterior molar teeth. The molar teeth are much bigger teeth and have multiple roots making them more difficult to move. The orthodontic maneuvers needed to manipulate an impacted molar tooth can be more complicated because of their location in the back of the dental arch.

Recent studies have revealed that with early identification of impacted eye teeth (or any other impacted tooth other than wisdom teeth), treatment should be initiated at a younger age. Once the general dentist or hygienist identifies a potential eruption problem, the patient should be referred to the orthodontist for early evaluation. In some cases the patient will be sent to the oral

surgeon before braces are even applied to the teeth. As mentioned earlier, the surgeon will be asked to remove over retained baby teeth and/or selected adult teeth. He will also remove any extra teeth or growths that are blocking eruption of the developing adult teeth. Finally, he may be asked to simply expose an impacted eye tooth without attaching a bracket and chain to it. In reality, this is an easier surgical procedure to perform than having to expose and bracket the impacted tooth. This will encourage some eruption to occur before the tooth becomes totally impacted (stuck). By the time the patient is at the proper age for the orthodontist to apply braces to the dental arch, the eye tooth will have erupted enough that the orthodontist can bond a bracket to it and move it into place without needing to force its eruption. In the long run, this saves time for the patient and means less time in braces (always a plus for any patient!).

What to expect from surgery to expose and bracket an impacted tooth

The surgery to expose and bracket an impacted tooth is a very straight forward surgical procedure that is performed in our office. For most patients, it is performed with using laughing gas and local anesthesia. In selected cases it will be performed under I.V. sedation if the patient desires to be asleep, but this is generally not necessary for this procedure. The procedure is generally scheduled for 40 minutes if one tooth is being exposed and bracketed and 60 minutes if both sides require treatment. If the procedure only requires exposing the tooth with no bracketing, the time required will be shortened. These issues will be discussed in detail at your preoperative consultation with Drs. Jenkins, Morrow, and Gayheart.

You can expect a limited amount of bleeding from the surgical sites after surgery. Although there will be some discomfort after surgery at the surgical sites, most patients find Tylenol or Advil to be more than adequate to manage any pain they may have. Within 2-3 days after surgery there is usually little need for any medication at all. There may be some swelling from holding the lip up to visualize the surgical site; it can be minimized by applying ice packs to the lip for the afternoon after surgery. Bruising is not a common finding at all after these cases. A soft, bland diet is recommended at first, but you may resume your normal diet as soon as you feel comfortable chewing. It is advised that you avoid sharp food items like crackers and chips as they will irritate the surgical site if they jab the wound during initial healing. Drs. Jenkins, Morrow, and Gayheart will see you 7-10 days after surgery to evaluate the healing process and make sure you are maintaining good oral hygiene. You should plan to see your orthodontist within 1-14 days to activate the eruption process.

ORAL DISEASES

The inside of the mouth is normally lined with a special type of skin (mucosa) that is smooth and coral pink in color. Any alteration in this appearance can be a warning sign for a disease

process. The most serious of these is oral cancer. The following can be signs at the beginning of a disease process or cancerous growth:

- Reddish patches (erythroplasia) or whitish patches (leukoplakia) in the mouth
- A sore that fails to heal and bleeds easily
- A lump or thickening on the skin lining the inside of the mouth
- Chronic sore throat or hoarseness
- Difficulty in chewing or swallowing

These changes can be detected on the lips, cheeks, palate, and gum tissue around the teeth, tongue, face and/or neck. Pain does not always occur with pathology and, curiously, is not often associated with oral cancer. However, any patient with facial and/or oral pain without an obvious cause or reason may also be at risk for oral cancer.

We would recommend performing an oral cancer self-examination monthly and remember that your mouth is one of your body's most important warning systems. Do not ignore suspicious lumps or sores, please contact us so we may help.

FACIAL INJURIES AND EMERGENCIES

Oral and Maxillofacial Surgeons are trained, skilled and uniquely qualified to manage and treat Facial Trauma. Drs. Jenkins & Morrow are on staff at the University of Kentucky Hospital in Lexington, Central Baptist Hospital, Good Samaritan Hospital, and Saint Joseph Hospital. We provide emergency room coverage for facial injuries including:

- Facial lacerations
- Intra oral lacerations
- Avulsed (knocked out) teeth
- Fractured facial bones (cheek, nose, or eye socket)
- Fractured jaws (upper and lower jaw)

Injuries to the face, by their very nature, impart a high degree of emotional, as well as physical trauma to patients. The science and art of treating these injuries requires special training involving a "hands on" experience and an understanding of how the treatment provided will influence the patient's long term function and appearance.

There are a number of possible causes of facial trauma. Motor vehicle accidents, accidental falls, sports injuries, interpersonal violence and work related injuries account for many. Types of facial injuries can range from injuries of teeth to extremely severe injuries of the skin and bones

of the face. Typically, facial injuries are classified as either soft tissue injuries (skin and gums), bony injuries (fractures), or injuries to special regions (such as the eyes, facial nerves or the salivary glands).

Soft Tissue Injuries of the Maxillofacial Region

When soft tissue injuries such as lacerations occur on the face, they are repaired by “suturing”. In addition to the obvious concern of providing a repair that yields the best cosmetic result possible, care is taken to inspect for and treat, injuries to structures such as facial nerves, salivary glands and salivary ducts (or outflow channels).

Bone Injuries of the Maxillofacial Region

Fractures of the bones of the face are treated in a manner similar to the fractures in other parts of the body. The specific form of treatment is determined by various factors, which include the location of the fracture, the severity of the fracture, and the age and general health of the patient. When an arm or a leg is fractured, a “cast” is often applied to stabilize the bone and allow for proper healing. Since a cast cannot be placed on the face, other means have been developed to stabilize facial fractures.

One of these options involves wiring the jaws together for certain fractures of the upper and/or lower jaw. However, certain other types of fractures of the jaw are best treated and stabilized by the surgical placement of small “plates and screws” at the involved site. This technique of treatment can often allow for healing and obviates the necessity of having the jaws wired together. This technique is called “rigid fixation” of a fracture. The relatively recent development and use of “rigid fixation” has profoundly improved the recovery period for many patients by allowing them to return to normal function more quickly.

The treatment of facial fractures should be accomplished in a thorough and predictable manner. More importantly, the patient’s facial appearance should be minimally affected. An attempt at accessing the facial bones through the fewest incisions necessary is always made. At the same time, the incisions that become necessary are designed to be small and, whenever possible, are placed so that the resultant scar is “hidden”.

Injuries to the Teeth and Surrounding Dental Structures

Isolated injuries to teeth are quite common and may require the expertise of various dental specialists. Oral surgeons usually are involved in treating fractures in the supporting bone or in replanting teeth that have been displaced or “knocked out”. These types of injuries are treated by one of a number of forms of “splinting” (stabilizing by wiring or bonding teeth together). If a tooth is “knocked out”, it should be placed in lukewarm salt water. Do not wipe the tooth off. The sooner the tooth is re-inserted into the dental socket, the better for the survival of the tooth.

Therefore, the patient should see a dentist or oral surgeon as soon as possible. Never attempt to “wipe the tooth off”, since remnants of the ligament which hold the tooth in the jaw are attached and are vital to the success of replanting the tooth. Other dental specialists may be called upon such as endodontists, who may be asked to perform root canal therapy, and/or restorative dentists who may need to repair or rebuild fractured teeth. In the event that injured teeth cannot be saved or repaired, dental implants are often now utilized as replacements for missing teeth.

DENTAL IMPLANTS

The educational material provided in this section gives you important information about your how dental implants replace missing natural teeth, your treatment options, the treatment process and the restorative phase of your tooth replacement.

Usually, when you lose a tooth, it is best for your oral health to have it replaced. Missing teeth can affect your “bite” as well as your ability to speak and chew. Their loss can increase the burden on your remaining teeth and can cause muscle pain in your jaws and headaches. And of course, losing a tooth can affect your appearance.

The good news is that, most of the time, replacing a missing tooth is not an emergency. You have time to consider what replacement option is best for you and to make an informed decision. The following information reviews your general treatment options.

If you are missing one or more teeth and choose to have it or them replaced, several treatment options are available.

- A “flipper” is a removable plastic tooth that is inexpensive but fragile and temporary.
- A cast partial denture also is removable but is precision cast in metal for longer service life. Wire clips help hold it in place.
- A fixed bridge is cemented into place using crowns or “caps” on the teeth adjacent to the open space for support. Crown placement usually requires removing or reducing the outer layer of the tooth. In some cases, a “Maryland” bridge, a fixed bridge that does not need crowns, is glued onto the back of the teeth adjacent to the space so that minimal tooth structure is removed.
- Full dentures or “plates” are the traditional solution for people who have lost all their teeth in one or both jaws. The success of a full denture depends upon the individual’s

jaw size and shape, his or her oral habits, and his or her adaptability. Some people adapt well to full dentures, while others are not able to adapt.

- Dental implants can be used to provide support for the replacement of one tooth or all of an individual's teeth. After years of research and clinical trials, we can now provide this option in addition to the traditional treatments just described. Implant-supported teeth can be cemented, screw-retained, or removable and can be made attractive, stable, and comfortable for almost any patient.

Treatment Sequence for Dental Implants

1. The implant procedures take two surgical appointments. The first surgical appointment is when the implants are placed into the bone. The gum will heal in one or two weeks from this procedure; bone heals much more slowly. The implants need to be firmly attached in bone before they can support normal chewing forces, so we will allow them to heal for approximately 3 months in the lower jaw and 4 months in the upper jaw before exposing and activating the implants.
2. If you wear a denture, the denture will be modified with a soft liner. The liner will need to be changed several times during your healing period. Please report any sore spots under your denture and return to the office immediately.
3. We perform implant surgeries in our office using intravenous sedation, nitrous oxide, or just local anesthesia if you prefer. The sedation we use, along with local anesthesia, seems to be quite adequate for most patients.
4. After the initial healing phase, we will schedule the second surgery. The second surgery is not as involved as the first surgery, but the same basic pre- and post-operative instructions should be followed. It is possible that we could do the second surgery without sedation so that bringing a responsible adult with you to drive may not be necessary. Consult with us prior to the appointment concerning this.
5. Your general dentist or prosthodontist will begin taking the necessary impressions and records for construction of your new teeth shortly after the second surgery, approximately one week. They will also instruct you on how to clean the implants and maintain proper dental hygiene.

Please remember, if you do not keep the implants cleaned properly, there is a chance that your implants will fail.

Are Dental Implants an Option for me?

If you are considering dental implants, your mouth will be examined thoroughly and your dental and medical history will be reviewed to ensure that dental implants are appropriate for you. Dental x-rays and, frequently, panoramic (or complete) x-rays of your jaws will be taken to evaluate your jawbone and to determine if it will accommodate implants. Occasionally, more

detailed information is required and can be provided by special x-rays. They will help determine if additional tests or procedures are needed to place your implants properly.

What is a dental Implant?

The best way to describe a dental implant is to compare it to a real tooth. A natural tooth consists of a root and a crown. The part of the tooth that you see and eat with is called the crown. Beneath the crown is the root, which anchors the tooth through the gum tissue to the jawbone. When you lose a tooth, you lose both the root and the crown. To replace a tooth, we first have to replace the root. Essentially, a dental implant is a new root. This titanium root is fitted into a socket that we create in your jaw, replacing the lost root of your natural tooth.

Dental implants come in various shapes and sizes and have different types of surfaces. The actual implant selection will depend on a variety of factors related to your specific treatment needs and the most appropriate one(s) will be used. Once an implant has been placed in the jaw, the bone around the implant will need to heal for two to six months, depending upon how hard the bone is. When this initial phase of healing is completed, a support post called an abutment will be placed into the implant itself and then a new crown will be placed on top. If all of your teeth are missing, a variety of treatment options are available to support the replacement teeth.

How are Dental Implants Placed?

Usually, the office procedure to place a dental implant takes about an hour for one implant and no more than two or three hours for multiple implants. The placement process consists of the following steps:

- If indicated, you will be given medication such as antibiotics prior to the surgery. You may be offered sedation with nitrous oxide (“laughing gas”) or intravenous medications. Then, a local anesthetic will be administered to numb the areas where the implants will be placed.
- After you are comfortable, a small incision is made into the gum tissue, revealing the bone into which the implant will be placed.
- Using special instruments, a socket is created carefully, avoiding damage to the bone.
- The titanium implant is then inserted into the socket.
- Finally, if necessary, sutures will be used.

After the implant is placed, the area will need to heal for as little as six weeks or as long as six months. How long your mouth will need to heal will be determined by a variety of factors.

Follow-up care (one to four appointments) is usually needed to ensure that your mouth is healing well and to determine when you are ready for the restorative phase of your treatment.

The dental work required to complete your treatment is complex. It is, however, considered more comfortable and more pleasant than conventional dental care. Frequently, most of the work can be done without using even local anesthesia.

Your restorative treatment is provided by your general dentist. It begins with specialized impressions that allow us to produce a replica of your mouth and implants. "Bite" records will also be made so that we see the relationship of your upper and lower jaws. With this information, the abutments (support posts) that attach your replacement teeth to your implants can be chosen or made. Various types of abutments exist. Frequently, we can use "off the shelf" abutments. Other times, custom abutments must be made of gold or a tooth-colored ceramic material. As you can imagine, these custom-made abutments add to the cost and treatment time involved. Which abutment to use is a decision that often cannot be made until after healing is complete and impressions have been made.

The number of appointments and the amount of time required for each appointment is different for each patient. No two cases are exactly the same and regardless of the number of teeth replaced, the work must be completed with great precision and attention to detail. If you are having only a few teeth replaced, as few as three short appointments may be required. Between appointments, time is needed to complete the necessary lab work to make your replacement teeth.

If your final restoration is a removable denture, you will need to come to as many as five office appointments (although it may be fewer) over the following several months. During these appointments, a series of impressions, bites and adjustments will be needed to make your new teeth as well as the custom support bars, snaps, magnets, or clips that will secure your teeth to the implants. During this period every effort will be made to make certain you have comfortable temporary replacement teeth.

In general, once your implants are placed, you can expect your treatment to be completed anywhere from two to 12 months. For these reasons, it is difficult to predict exactly how much the restorative phase of your treatment will cost, although you should receive a reasonable estimate of costs. It also is difficult to give you a specific timeframe for completion of your treatment until after the implants are ready for restoration. Before you proceed with any phase of implant supported tooth replacement, talk with your general dentist as well as Drs. Jenkins, Morrow & Gayheart to better understand your comprehensive treatment plan.