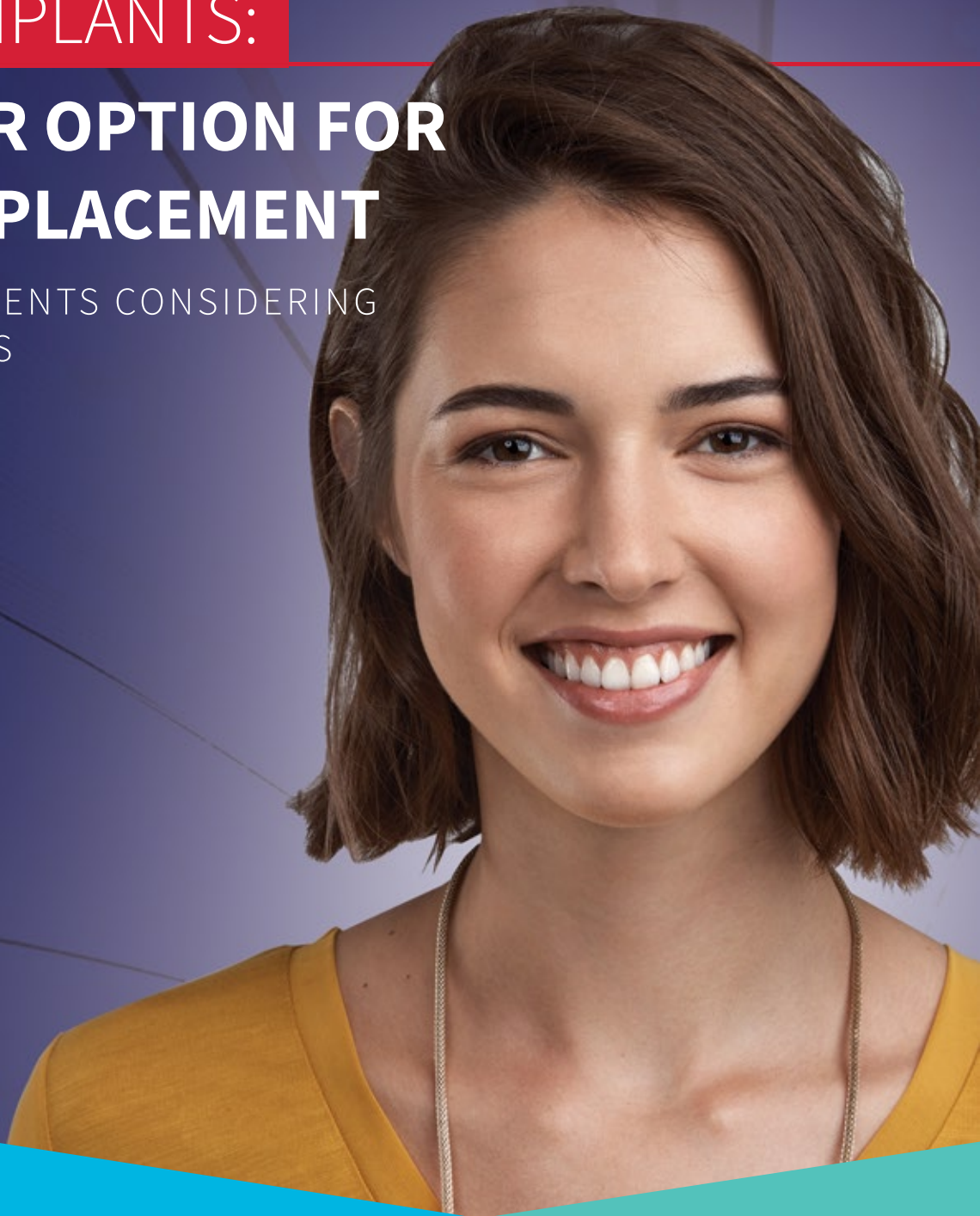


DENTAL IMPLANTS:

A POPULAR OPTION FOR TOOTH REPLACEMENT

A GUIDE FOR PATIENTS CONSIDERING
DENTAL IMPLANTS



**COLLEGE
OF DENTISTRY**





Regain your confidence to smile, eat, and engage in social activities without worrying about how your smile looks!

The next best thing to real teeth, dental implants are designed to look, feel, and function like your natural teeth so you can be confident in your smile. Whether you are missing a single tooth, or need a better alternative to dentures, dental implants are a long-lasting, low-maintenance solution to missing teeth with improved appearance, speech, and chewing ability. So get ready to put those hard-to-eat foods back on the menu!

And, dental implants provide better long-term value than conventional teeth replacement options such as dentures or bridges.

This guide answers some of the most commonly asked questions about dental implants. If you still have questions after reading, or are ready for a consultation, visit dentistry.uic.edu/patients to get started.

DENTAL IMPLANTS OFFER SEVERAL ADVANTAGES:

NATURAL LOOK AND COMFORTABLE FIT.

Dental implants are designed to look, feel, and function like your natural teeth. Implants also give patients much more confidence compared to dentures, especially during social activities. They are more comfortable and provide a more natural look as well.

LONG LASTING AND RELIABLE.

With proper care and maintenance, implants last as long as conventional restorations on teeth, with predictable outcomes.

IMPROVED FACIAL AND BONE FEATURES.

Dental implants preserve natural tooth tissue by avoiding the need to cut down adjacent teeth for conventional bridgework. They also will preserve bone and significantly reduce bone resorption and deterioration that results in loss of jawbone height. Dental implants also help restore your jawbone structure because they reduce the load on the remaining oral structures/teeth and preserve natural tooth tissue and reduce bone resorption and deterioration that results in loss of jawbone height.

HIGH SUCCESS RATE.

Well-planned and cared-for dental implants generally offer very good 'survival rates' comparable or better than other teeth replacement options. And, as implant technology and techniques improve, so should their success rate.

EXCEPTIONAL LONG-TERM VALUE.

While dental implants usually cost more compared to traditional teeth replacement options, they offer a terrific long-term value given their high success rate and long-life.



WHAT ARE DENTAL IMPLANTS?

A **dental implant** is an artificial replacement for a tooth root, usually made from titanium. When properly placed and maintained, dental implants can be a highly reliable, good-looking and long-lasting alternative to conventional tooth replacement options such as removable dentures or bridges. Because of this, they can also be a more cost effective solution to missing teeth in the long-run, even though the initial cost may be higher.

There are many different implant systems available, depending on the need. Most are comprised of an internal screw thread or post space that allows a variety of components to be fitted on top of the post, such as a crown or non-removable denture. These systems provide long-term support for such tooth replacements because they connect with surrounding bone. Through a process called *osseointegration*, the bone attaches itself directly to the implant, growing all around it and supporting it firmly. Over time, further growth of bone onto the implant surface enhances the stability of the implant.

Dental implants are an effective option to replace a single tooth, or several teeth:

- A single implant can be used to secure a dental crown
- Multiple implants can be used to secure multiple crowns or a dental bridge
- Several strategically placed implants can be used to secure dentures on the upper arch, lower arch, or both.



HOW SUCCESSFUL ARE DENTAL IMPLANTS?

While study conclusions vary based on length of time and treatment circumstances, well planned and cared for dental implants generally offer 'survival rates' comparable or better than other teeth replacement options. And, as implant technology and techniques improve, so should their success rate.

Of course, dental implants are not fail proof. There are many reasons why a dental implant can fail, including placement into insufficient bone, smoking or poor oral hygiene that leads to oral diseases such as periodontitis (gum disease). Also, medication and systemic diseases such as diabetes that are present during or after placement can affect the success of your dental implant treatment. If an implant does not integrate well with the surrounding bone, or if periodontitis (gum) disease develops around an implant, it will eventually become loose and no longer be able to support replacement teeth.

As with other treatment considerations, a dentist with specialized dental implant training will be able to discuss the success rate you can expect based on your specific case.

HOW MUCH DO DENTAL IMPLANTS COST?

While dental implants usually cost more compared to traditional teeth replacement options, they offer a terrific long term value given their high success rate and long life.

Costs can range widely depending on treatment and payment considerations. At UIC College of Dentistry, dental implant treatment costs range from \$1,500 to over \$25,000 depending on a number of factors:

- How many teeth are replaced (single tooth versus most or all teeth)
- Your preference for removable versus fixed in place tooth replacements
- Prerequisite treatment required such as bone or tissue grafting
- Health of the jawbone and gums

While many dental insurance plans cover dental implants, Medicare and Medicaid do not.

To provide you a specific cost estimate, we will first complete a full evaluation and take into consideration your dental needs and current health status. This is because dental implants are customized for your mouth. A written treatment plan will then be prepared detailing the sequence of treatment, and an estimate of time and associated costs.



At UIC, your dental care cost varies based on which care option you choose.

We offer care by students, specialists in training, and faculty. Student care is offered at a significantly reduced fee compared to private dentists. For more complex treatments, we have a team of highly qualified residents and faculty who regularly provide even the most challenging dental implant treatments.

HOW DO I KNOW IF DENTAL IMPLANTS ARE RIGHT FOR ME?

In general, dental implants are most suitable for adults with good general health and if you:

- Have sufficiently dense and healthy bone tissue in the jaw
- Are free from periodontal (gum) disease
- Have good oral and overall health
- Do not smoke or use tobacco products
- Are able to maintain a good oral hygiene regimen, and routine dental visits

Some other circumstances such as health problems or unhealthy habits may also make dental implants an unsuitable treatment. For instance, heavy drinking or smoking can increase the number of problems associated with initial healing and therefore may not support the long-term health of gum and bone surrounding each implant.

In some rare instances, dental implant treatment is prevented or complicated by abnormalities in nearby teeth, such as a curved root. These complications can be mitigated through careful pre-operative planning using advanced diagnostic imaging and treatment methods.

Implants are not suitable for children because they can only be placed once the jawbone has stopped growing.



UIC COLLEGE OF DENTISTRY

1500

DENTAL IMPLANT
TREATMENTS IN
2017

100

DENTISTS SPECIALLY
TRAINED
IN DENTAL IMPLANT
TREATMENT

DENTAL IMPLANT TREATMENT AT UIC

UIC College of Dentistry uses advanced digital technologies and methods to offer patients the highest levels of precision and accuracy, and minimally invasive treatments - which translates to less time overall, and more comfort. For instance, we can reduce the time spent to receive a new crown from several days - to a matter of hours. For more complex restorations and surgeries, we can pre-plan and coordinate the entire treatment virtually across multiple specialties, and even provide restorative and surgical services in the same appointment - so patients get the advantage of expert consultation and care, quickly and easily.

DIGITALLY GUIDED PROCEDURES (CAD/CAM)

Through the use of computer-aided design/manufacturing (CAD/CAM) technology, our dentists can plan and fabricate implants, crowns and other restorative treatments through digital modeling. For patients this means a more comfortable and time-saving dental experience. Procedures that used to require weeks and an outside dental laboratory are now possible in just a few days, or even on the same day. With the addition of digital impression systems, no longer do patients have to experience the mouth full of impression material formerly required for procedures such as crowns, bridges or dental implants.

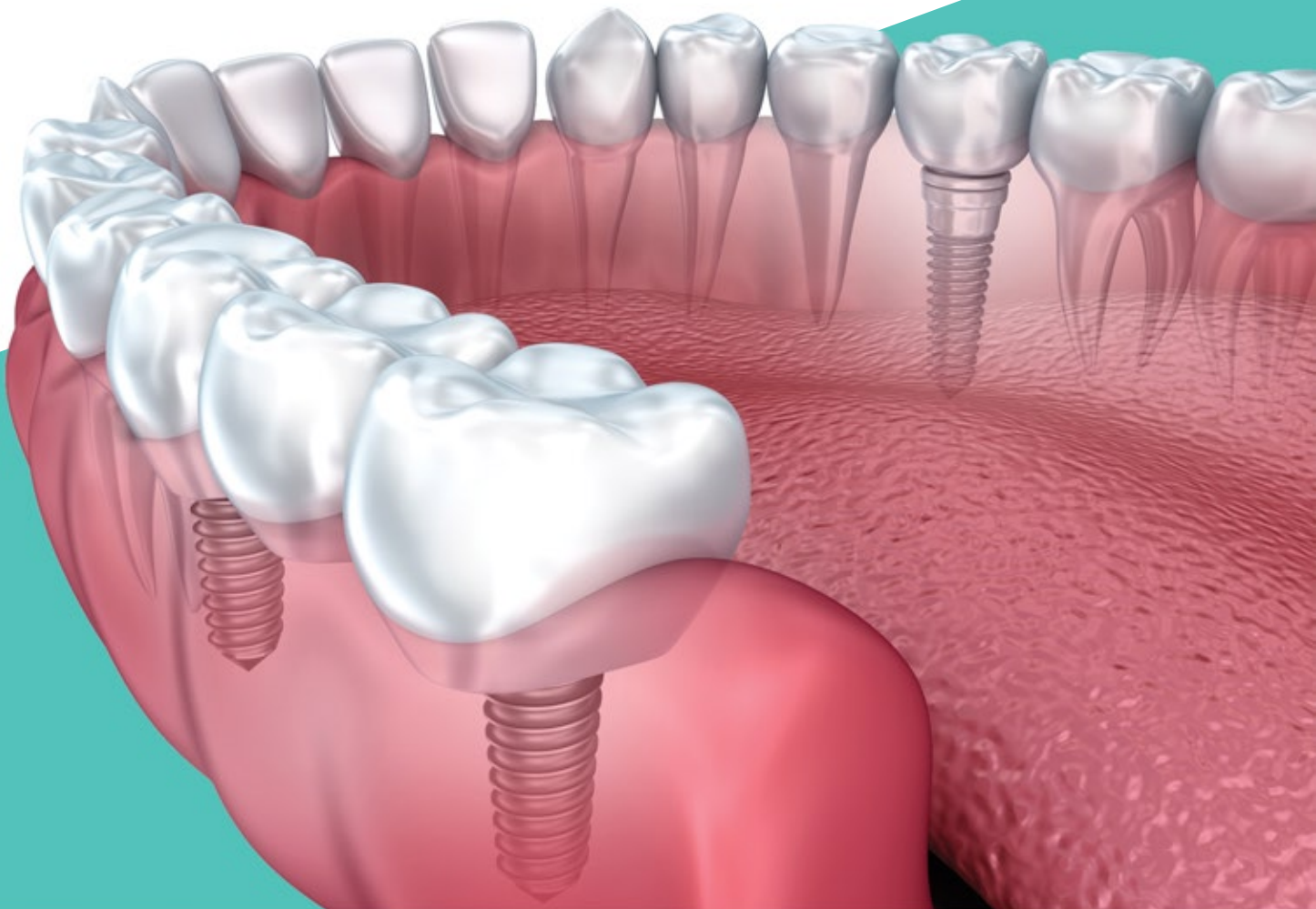
DIGITAL WORKFLOW AND RECORDS

UIC dental clinics use a secure, integrated electronic health record (EHR) system to enhance diagnosis, prevention, treatment and patient education. Whether visiting for a routine check-up, or comprehensive treatments, patients benefit from secure transfer of records between our general and specialty clinics, and referring doctors.

WHAT TO EXPECT FROM A DENTAL IMPLANT CONSULTATION

Each case is different, and the best way to determine if dental implants are right for you is to consult your general dentist or specialist with additional expertise in dental implant treatment. Through consultation and evaluation, our dentists will assess the feasibility of providing implant treatment based on medical history, current health status, maxillofacial bone condition, presence of oral disease, and other considerations. Prior to treatment they will perform a complete oral examination to discover the nature and extent of any current dental problems. Generally, x-rays are taken and models of the teeth are prepared to help determine the optimal implant positions, the number of implants recommended, and the volume and quality of the surrounding bone.

After the consultation, you will be provided a written summary of the recommended treatment plan (or options) highlighting your current dental situation, any issues that may complicate treatment, and alternatives to dental implants if needed. This summary will also include an overview of the anticipated treatment stages, and estimated cost and time to complete. With this information, you can make an informed decision, in discussion with your dentist, on the best treatment options for you.



WHAT IS INVOLVED IN DENTAL IMPLANT TREATMENT?

Implant treatment normally involves several stages that take place over a period of time from 10 weeks to 12 months from the time of implant placement, through integration of the bone to the implant, and final restoration and teeth replacement. The time it takes depends largely on bone quality. With poorer bone or other related issues, the time can be longer than normal.

In some cases, 'immediate loading' may be suitable after implant placement which can provide a restoration in much less time, even during the same visit.

The period of time to complete implant treatment can vary based on the chosen placement method, the number of implants needed, and your overall oral health.

Advances in surgical methods and innovations in implant technology have reduced the overall time, and number of visits needed to replace teeth with implants. There are many methods available, and your dentist will discuss which of these methods are viable options for you, based on your particular needs.

Although there are various methods, **a typical process includes:**

- 1. Assessment and treatment planning:** At initial consultation, following a discussion of all the possible alternatives, our dentists will assess the feasibility of providing implant treatment. During subsequent visits, X-rays will be taken and models of the teeth prepared. Written treatment plan options will then be prepared detailing the sequence of treatment, and an estimate of time and associated costs.
- 2. Implant placement:** In most cases, implant placement is a relatively simple surgical procedure that is performed under sterile conditions with local anesthesia, with sedation as needed. If during assessment the underlying bone is deemed deficient, a number of options are available for bone regeneration. Bone regeneration is carried out prior to or at the time of implant placement, depending on requirements.
- 3. Integration period:** Over the next two to six months, the bone bonds tightly against the implant, through a process called osseointegration, forming an anchor for the implant. In some cases, it may be necessary to uncover the implant and attach a healing cap. This temporary healing cap allows the gums to heal for a couple of weeks following placement. During this period, temporary dentures or bridgework can be worn as appropriate. In some cases, temporary teeth can be fixed to the implants while they integrate in a process called 'immediate loading'.
- 4. Restorative phase:** Once healed, the implants can be brought into function with a variety of new teeth options (restorations) ranging from a single crown, small or large bridge or a removable overdenture.
- 5. Maintenance:** Following completion of implant treatment, the patient must regularly and thoroughly clean the new restorations as instructed by the dentist. A dental hygienist may also advise on care and maintenance of the restorations and natural teeth. Regular dental checkups are essential so that the health of the soft tissue, bone levels and the integrity of the restoration can be reviewed.

IMPLANT PLACEMENT METHODS

The period of time to complete implant treatment can vary based on the chosen placement method, the number of implants needed, and your overall oral health. Advances in surgical methods and innovations in implant technology have reduced the overall time, and number of visits needed to replace teeth with implants. There are many methods available, and [your dentist](#) will discuss which of these methods are viable options for you, based on your particular needs.

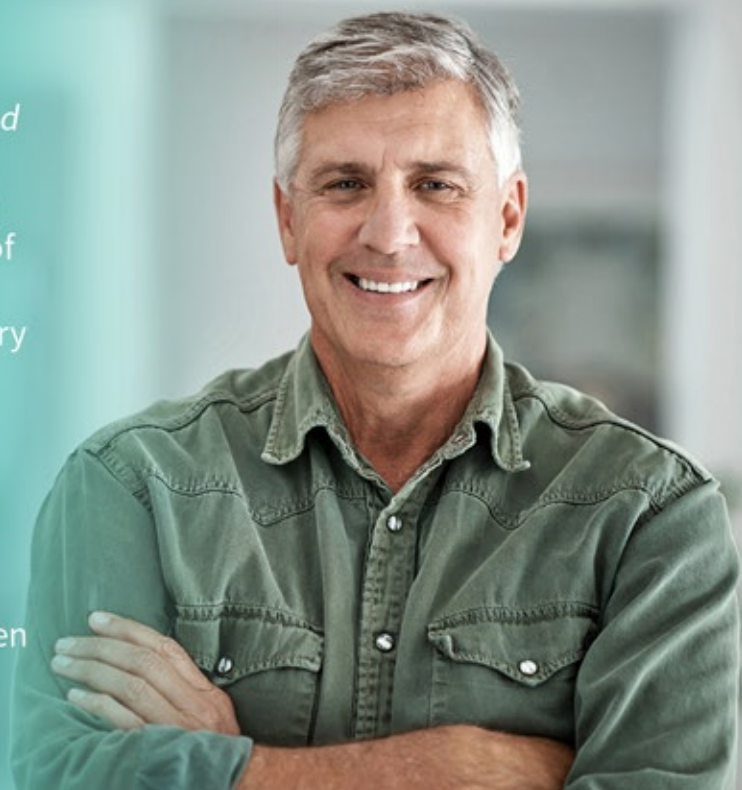
- **ONE-STAGE IMPLANT** – The implant is placed into a new, healing or healed extraction site (where the original tooth has been removed from) and is visible above the gum line immediately after placement. The advantage of this method is that a second surgical stage is not necessary to expose the implant.
- **TWO-STAGE (CONVENTIONAL)** – After placement in the bone, the implant is then covered by a layer of gum– this is the first stage. At the second stage after a healing period of three to six months, the implant is uncovered and components added to bring it above the gum line ready to receive a replacement tooth.
- **SAME DAY** – This method is most often used to treat the lower jaw and requires considerable planning before the actual day of surgery. Several implants are installed and a few hours later a complete arch of temporary or permanent teeth can be fixed into place. If temporary teeth are used these will normally be replaced with a permanent bridge after a healing period. Not all patients are suitable for this method of treatment.
- **IMMEDIATE** – Immediate placement offers the advantages of fewer surgical procedures and an esthetically pleasing replacement within 48 hours. In this method, a tooth is removed and an implant is placed immediately into the extraction site in the same visit. Depending upon the condition of nearby bone and gums, the implant surgery may be a one- or two-stage procedure. Not all patients are suitable for this method of treatment.
- **IMMEDIATE EARLY LOADING** – This may be a desirable option when optimal esthetics are important, such as in the front of the mouth. It is effectively a one-stage placement where the implant is placed into a new, healing or healed extraction site and is fitted with a provisional replacement tooth in the same visit. After a healing period of six to eight weeks, the permanent replacement tooth will be placed.

WHY MIGHT I NEED ADDITIONAL X-RAYS?

Routine dental x-rays show large amounts of detail, but in only two dimensions. From these views, it is generally possible to judge the height of bone available for implant placement. More advanced imaging techniques are often needed to determine the equally important bone width. For instance, A CBCT (*cone beam computed tomography*) scan can provide additional important information, including quantity and quality, and the presence of anatomical structures that must be avoided during treatment.

Advanced Digital Imaging at UIC

Dentists at UIC use CBCT (*cone beam computed tomography*) scans to produce three dimensional images that allow the jawbone to be more fully and accurately reviewed. Some of these features include the 'inferior alveolar dental nerve' in the lower jaw and the 'maxillary sinus' in the upper jaw. In some cases, these features may need to be considered in the development of the treatment plan. Additionally, a CBCT can uncover problems in nearby teeth that may need to be addressed, such as severe decay requiring root canal therapy, or other conditions that may have been missed using traditional x-rays.



IS DENTAL IMPLANT SURGERY PAINFUL?

Dental implant treatment is usually performed under local anesthesia, local anesthesia with I.V. sedation, or occasionally general anesthesia. Since dental implant surgery normally involves exposing the bone in the area where implants are placed, you can expect some minor swelling and occasional bruising after the implant placement. For most patients, over-the-counter medications are adequate to help alleviate pain and swelling. During the first few days you should report any unexpected levels of pain or swelling so they can be assessed. In some cases, a course of antibiotics or an antiseptic rinse will be prescribed.

WHAT MAY PREVENT OR COMPLICATE MY IMPLANT TREATMENT?

Addressing dental problems found during examination - such as issues related to bone, gums or surrounding teeth - are a prerequisite to implant treatment. In some cases where dental problems are severe, the underlying causes of these issues must first be discovered and addressed before implant treatment. For instance, placing a dental implant without first treating the presence of gum disease (periodontitis) -- which leads to bone loss and loose teeth -- may cause additional issues or lead to implant replacement later.

WILL I HAVE TO GO WITHOUT TEETH UNTIL IMPLANTS ARE READY?

There are several alternatives to have a temporary restoration placed while the bone is integrating and until a final implant restoration is complete. This is most desirable when the teeth being replaced are in a clearly visible part of the mouth (i.e. part of your smile). Choices include temporary single crowns, dentures or bridges, depending on the number of teeth being replaced. Either of these can be prepared to match the look of your natural teeth.

HOW MANY TEETH CAN I REPLACE WITH DENTAL IMPLANTS?

Dental implants can be used to replace one, a few, or all of your missing teeth. Even conventional replacement appliances such as dentures or bridges can be supported by dental implants. If you are missing just one natural tooth, then one implant is normally all that will be needed to provide a replacement. Larger spaces of two, three or more missing teeth can be possibly supported by fewer implants.

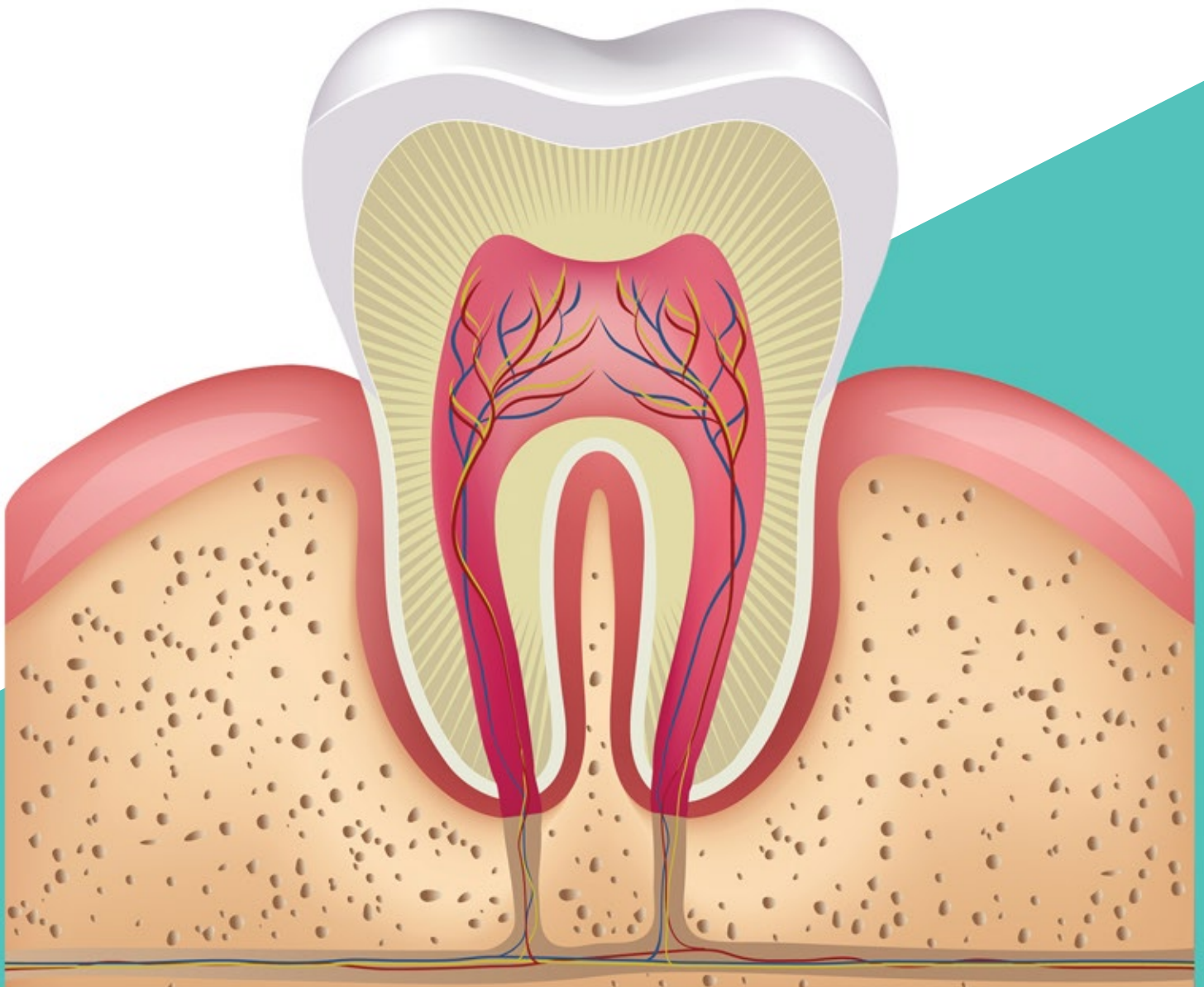
HOW LONG DO THE IMPLANTS LAST?

Once the implants are placed and adjusted with healthy surrounding gum and bone, their lifespan is mostly dependent on maintaining good dental hygiene at home and maintenance. As with conventional tooth replacement options such as removable dentures or bridges, dental implants may require occasional maintenance or adjustment. And as with all teeth, maintaining good dental hygiene is extremely important to keeping dental implants healthy. Without proper care, plaque buildup can affect implants and surrounding gums similar to natural teeth. During regular dental visits, dentists will check implants along with other teeth and perform maintenance as needed.

WHAT IF MY BONE IS INSUFFICIENT – CAN I STILL GET DENTAL IMPLANTS?

Over time, missing teeth can lead to loss of jaw bone tissue. Whenever a tooth is lost or extracted a considerable amount of the bone that once surrounded the remaining root may disappear. Without stimulation of the bone from teeth, bone resorption gradually breaks down the bone tissue that surrounded the missing teeth. Although the rate and amount of bone resorption is highly variable from person to person, it will always occur to some extent, unless specific steps are taken to reduce its effects. One way to do this is implant placement to assist in maintaining the remaining bone.

For some people, bone loss after loss of teeth leaves them without enough bone to properly secure an implant. This missing portion of bone is frequently called a "bony defect". Examples of jaw bone defects include defects surrounding roots of teeth (periodontal defects); defects which occur following tooth extraction; generalized decrease in quantity of jaw bone from trauma or long-term tooth loss; defects surrounding existing dental implants; or defects resulting from cyst or tumor surgery.



In these cases, there are specialized procedures that can be performed to prepare the mouth for dental implant treatment:

- A '*sinus lift*' (or sinus augmentation) is surgery that adds bone in the area between your upper jaw and the maxillary sinuses, which are on either side of your nose. Without this technique, many patients would be unable to have implants because they have lost bone in that area due to periodontal disease or tooth loss. Sinus lift surgery raises the sinus floor and commonly involves grafted materials to allow for new bone and tissue to regenerate for the placement of dental implants.

- '*Bone grafting*' is a surgical procedure that replaces missing bone with a material called a bone graft. Bone grafting involves grafting a small portion of natural bone from another healthy area (such as the chin, hip or tibia) onto the deficient area. The new bone will slowly join to the new area and when fully healed, an implant can be placed into that area. This material not only replaces missing bone, but also helps your body regrow lost bone. This new bone growth strengthens the grafted area by forming a bridge between your existing bone and the graft. Over time the newly formed bone will replace much of the grafted material.

- In cases where a natural bone graft may not be desirable or safe, a '*guided bone regeneration*' (GBR) or '*guided tissue regeneration*' (GTR) may be an alternative. In this technique, a membrane is placed over the bone graft site. This membrane further encourages new bone to grow and also prevents the growth of scar tissue into the grafted site. Over time, cells from the graft material fill the space left after removing defected bone or tissue.

WHAT IF I TEND TO GRIND MY TEETH? (BRUXISM)

Patients who have a habit of clenching or grinding (bruxing) their teeth may be at risk of overloading their implants. For most people, bruxism occurs during sleep, which is why they are generally not aware of it. Heavily worn or flattened teeth, chipped enamel edges and/or regularly breaking pieces of heavily filled teeth are the most common signs of bruxism.



WHAT IF I HAVE A LOT OF ANXIETY ABOUT DENTAL PROCEDURES – CAN I GET SEDATION?

Most patients won't require sedation for dental implant surgery, in addition to normally administered local anaesthetics to remove pain and remain comfortable. However, for those who are especially anxious about the surgical procedure, there are several effective methods dentists at UIC use to help patients remain comfortable:

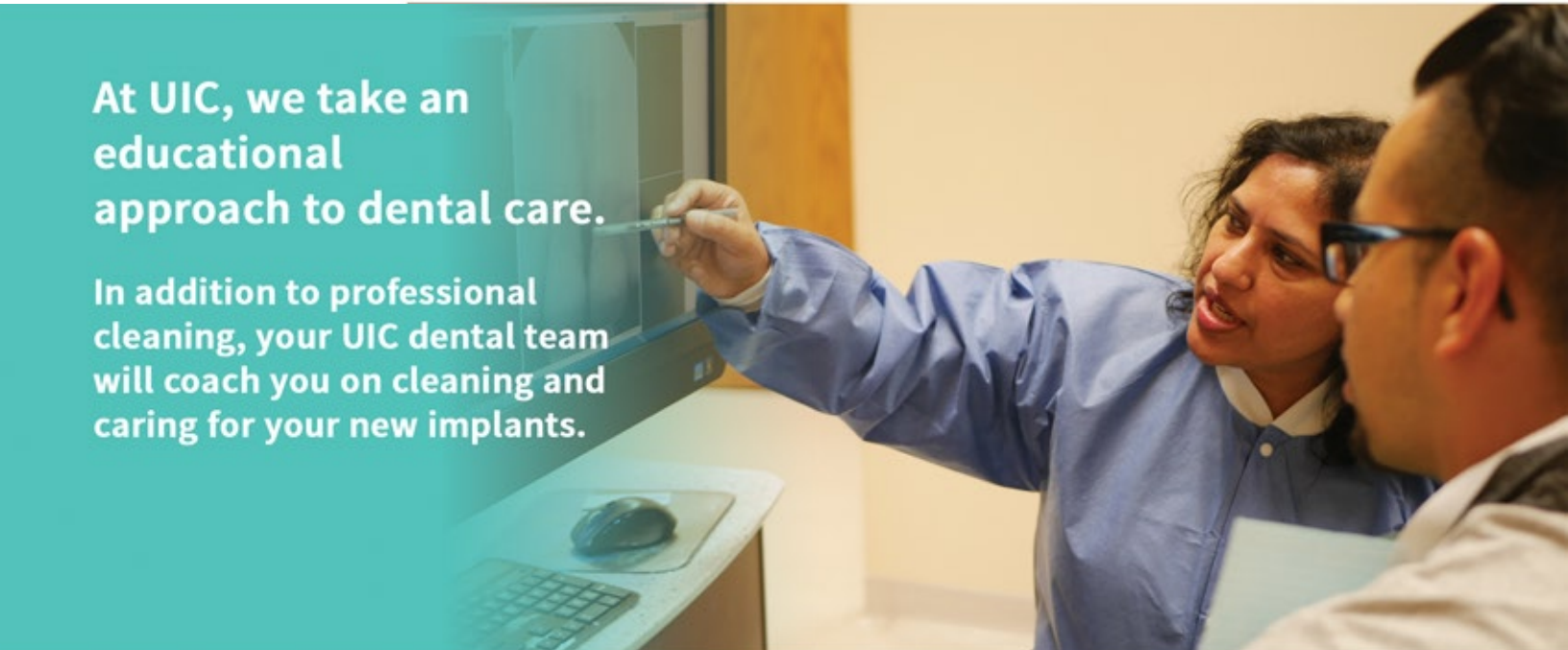
- **RELATIVE ANALGESIA** – this is a procedure whereby a mixture of nitrous oxide and oxygen is administered through a small mask placed over your nose to further aid in relaxation.
- **ORAL SEDATION** – this typically includes a dose of a short-acting medication which reduces anxiety during surgical procedures taking one hour or less.
- **CONSCIOUS SEDATION** – a combination of medicines to help you relax (a sedative) and to block pain (an anesthetic) delivered intravenously (I.V., or into a vein). You will remain alert and responsive to instruction during the surgery, however you will remember almost nothing about the treatment undertaken during sedation. Your heart rate and oxygen levels are monitored throughout by an anaesthetist trained to administer anaesthetics. Conscious sedation is beneficial for procedures taking more than an hour where a hospital admission isn't required.
- **GENERAL ANAESTHESIA** – general anaesthetics usually require a hospital admission and are mainly, but not exclusively, used for complex cases such as where bone is being grafted from other parts of the body to the mouth, or where large numbers of implants are being placed at the same time. Most patients don't require general anaesthesia for dental implant treatment.



HOW DO I TAKE CARE OF MY NEW DENTAL IMPLANTS?

As with all teeth, it is important to maintain good oral hygiene with implants, including regular brushing, flossing and dental visits for maintenance as needed. In some cases, your dentist may suggest special floss, interdental toothbrushes or other cleaning aids to care for implant teeth.

In most cases, you will be able to brush and floss around implants similarly to your natural teeth, or tooth-supported bridges. In some cases, implants may require additional care. For instance, large restorations may require additional cleaning steps and additional routine dental visits. Your dentist may recommend special floss, interdental toothbrushes and other cleaning aids to enhance cleaning. For the first few months after placement, your dentist may ask for more frequent follow-up visits to ensure treatment is performing as planned, and to help you with home care questions you may have.



At UIC, we take an educational approach to dental care.

In addition to professional cleaning, your UIC dental team will coach you on cleaning and caring for your new implants.

WHAT CAN I DO IF I HAVE PROBLEMS WITH MY IMPLANTS LATER?

There are many reasons why an implant may fail, including failed bone integration, smoking, poor oral hygiene, diseases such as diabetes, and even medications. If an implant does not integrate well with the surrounding bone it will be loose and no longer be able to support teeth. The causes of future bone loss around implants are related to gum inflammation and the primary cause of implant inflammation is dental plaque.

As part of regular follow-ups, your dentist can evaluate implant health on an on-going basis, and will discuss with you any possible complications that may arise, and may prescribe treatment to resolve them.

As your health changes, your implant failure risks can change. It is important to keep your dentist informed of your health and what medications you are taking so that your implant care plan can be adjusted as needed. Some medications are associated with implant failure or loss.

PATIENT TESTIMONIALS



Derrick Roberts, UIC Patient

“I always wanted to have a better smile because I’m in front of a lot of people in my work. After reviewing the options and costs of implants, I chose UIC because they did a great job of explaining the options, and the cost and quality was the best overall. For me, it was a great learning experience. I highly recommend UIC for anyone considering dental implants.”

Robert Young, UIC Patient

“I’ve had a lot of dental work done over the years by other dentists -- fillings, crowns, root canals, and extractions and implants. Once I found UIC, I realized, I should have been coming here from day one. I had a whole team of specialists using the latest knowledge and techniques. I was able to get everything done in one place with all the specialists coordinating – implants, with a bone graft and sinus lift – and I feel totally confident about the results.”



Lorie Travis, UIC Patient

“For years, I couldn’t smile around people because of my teeth. I considered seven different specialists for a full mouth reconstruction – 14 teeth in all, and bone leveling - before settling on UIC. Now I can smile again – and it has changed my life.”

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The University of Illinois at Chicago College of Dentistry is a worldwide leader in oral health education, clinical care and research that is patient-centered and evidence-based, with a foundation in preventive and public health sciences. We are a part of UI Health.

Location:

801 S. Paulina St.
Chicago, IL 60612

Visit Us Online:

dentistry.uic.edu

The information in this guide is intended to provide an overview of routine dental implant treatment. Your individual treatment plan is customized to best match your specific needs, preferences and the recommendations of your dentist. Additionally, your unique case may warrant guidance and treatment not included in this guide.

ACKNOWLEDGEMENT

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