



WISDOM TEETH REMOVAL **A PATIENT'S GUIDE**

What are "Wisdom Teeth"?

"Wisdom teeth" are a type of molar teeth. Molars are the chewing teeth found furthest in the back of the mouth. Most humans have first, second, and third molars.

Third molars, which are the "wisdom teeth", come in behind the 2nd molars (if there is room for them and they are aligned properly) usually during a person's late teens or early twenties. A person will have four wisdom teeth: upper left, upper right, lower left, and lower right.

What are "Impacted Wisdom Teeth"?

In dental terminology "impacted" means that a tooth has failed to emerge fully into its expected position in the mouth. This may occur either because there is not room enough in the jaw for the tooth, or else because the angulation of the tooth is improper.

Classifications of impacted wisdom teeth

Oral & Maxillofacial Surgeons use specific terms to describe the positioning of impacted wisdom teeth. The most common type of impacted wisdom teeth are those which are Mesially impacted. The term "mesial" simply means that the wisdom tooth is angled forward, towards the front of the mouth.

The other types of impactions, in order of occurrence, are the Vertical, Horizontal, and Distal types.

In addition to Mesially, Vertically, Horizontally, and Distally impacted, wisdom teeth can also be classified as being a Soft Tissue or Bony impaction. The term "Bony" impaction indicates that the wisdom tooth is still fully encased in the jaw's bone. A "Soft Tissue" impaction is one where the wisdom tooth has penetrated through the bone, but not yet fully through the gums.

Why don't wisdom teeth always grow in right?

Most theories regarding impacted wisdom teeth relate to the observation that the jaws of many people just seem too small to adequately accommodate their wisdom teeth. These theories postulate that here in modern times human jaws are smaller and less developed than those of our prehistoric predecessors, mainly because our relatively soft diet does not demand big strong jaws with which to chew.

This theory also suggests that as the human race continues to develop and evolve, there will be some point in the future where human bodies will no longer even develop wisdom teeth. In fact it is not uncommon that in the general population some persons never do grow some, or even all, of their wisdom teeth.

Why do impacted wisdom teeth need to be extracted?

The precise reasons why an individual's wisdom teeth should be extracted should be explained to them by their dentist or surgeon, after an examination which almost certainly will need to include x-rays. While each person's situation is different, some of the more common topics dentists/surgeons discuss when describing to a person why their wisdom teeth should be removed are listed below.

The first group of reasons given here each relate to the fact that wisdom teeth, either partially or fully erupted ("erupted" means through the gums), can often be very difficult to effectively clean. In any location in the mouth where plaque is allowed to accumulate and persist you will run the risk of developing dental problems such as tooth decay ("cavities"), periodontal disease ("gum disease"), or reoccurring infections.

Reoccurring Pericoronitis (infection around the wisdom tooth)

A common condition which occurs in relationship to impacted wisdom teeth is termed "pericoronitis". Pericoronitis refers to an infection located in the tissue surrounding a wisdom tooth which has not fully emerged through the gums into its proper position (this type of tooth positioning would be termed "partially erupted").

Gums attach to all teeth at pretty much the same level. If even just a small portion of a wisdom tooth has poked its way through the gums an opening will have been created which connects down into a space which lies between the gums and the crown of the wisdom tooth. (The "crown" portion of a tooth is the "non-root" part, the portion of a normally positioned tooth which is visible above the gum line.)

Plaque will accumulate in this space and, unfortunately, there is no way for a person to effectively clean it out. As a result, it is not uncommon that from time to time the bacteria

contained in the plaque will cause an active infection, which then spreads to the tissues surrounding the wisdom tooth. Dentists give the name "pericoronitis" to this type of infection.

The signs of pericoronitis are tenderness and swelling in the gums surrounding a wisdom tooth. There can also be severe pain, an unpleasant mouth odor, or a bad taste coming from the infected area.

Persons who have pericoronitis should be seen by their dentist. Usually a dentist/surgeon will place a patient on antibiotics and also show them how to flush out the space between the tooth and gum which harbors the bacteria causing the infection.

Even wisdom teeth which eventually do come into position properly will have to go through a period where they are only "partially erupted", because it takes time for a tooth to fully penetrate through the gums. Anytime a tooth is only part way through the gums it is at risk for developing pericoronitis.

A dentist/surgeon evaluating you during a period when you have pericoronitis will have to determine whether the pericoronitis is just a transient phase of the normal eruption process of the wisdom tooth or if the wisdom tooth is impacted, and thus it is likely that pericoronitis will be a constantly reoccurring phenomenon. In the later case, extraction of the offending wisdom tooth is usually indicated.

New or recurrent tooth decay on the wisdom tooth

Cavities develop in teeth as a result of plaque being allowed to remain on a tooth's surface for prolonged periods of time. If the position of a wisdom tooth is one where you are not able to thoroughly clean it, then the tooth will be at risk for developing decay.

If decay does begin, wisdom teeth often can, just like any other teeth, have their cavities fixed by placing a "filling" in them, especially in cases where the amount of decay is small. Sometimes, however, a dentist will advise against filling a wisdom tooth. The decay on the tooth might be in such an awkward location that the dentist feels they cannot adequately access it so to place a filling. As you can imagine, if a tooth has been hard for you to clean with a toothbrush and floss, it is likely your dentist will have the same problem of access also.

Even if a filling has been successfully placed, if a wisdom tooth still cannot be cleansed properly and plaque is allowed to continue to accumulate on its surface you run the risk of developing recurrent decay on the tooth. The term "recurrent decay" simply means that a new cavity has formed on an aspect of a tooth adjacent to an existing filling. If a tooth can't be cleansed properly, and has developed a cavity, it is possible that the best, and possibly even the easiest and cheapest, solution is to have the tooth extracted.

New or recurrent tooth decay on a wisdom tooth's neighbouring tooth

Misaligned wisdom teeth can have a positioning which creates a trap for plaque and debris between the wisdom tooth and the next molar forward (the 2nd molar). Because this debris trap cannot be cleansed properly not only is the wisdom tooth placed at risk for developing decay but the 2nd molar is also. The worst case scenario in this type of situation is that decay will begin on both teeth and it will advance to such a great extent that both the wisdom tooth and the 2nd molar will need to be extracted.

Periodontal disease (gum disease)

Whenever a tooth cannot be properly cleansed (brushed and flossed), the bacteria found in the plaque which accumulates on and around the tooth can lead to the development of periodontal disease ("gum disease"). If allowed to advanced, periodontal disease can significantly damage not just the gums but also the bone surrounding the tooth. Enough damage can occur that the tooth may need to be extracted.

It may seem a bit of a conundrum that a dentist will recommend the removal of a wisdom tooth now just so you won't develop periodontal disease around it and subsequently have to have the wisdom tooth extracted later. What you need to realize is that a portion of the gums which surround the wisdom tooth are the same gums (and bone) which abut the back side of the next molar forward (your 2nd molar). Gum disease is not an isolated event around an individual tooth, it also affects a tooth's neighboring teeth. It would be a shame to damage or loose a valuable 2nd molar simply because a wisdom tooth you could not clean properly was not extracted.

This second grouping of reasons to have one's wisdom teeth removed each adopt a philosophy that if a wisdom tooth does not or cannot erupt into its proper position, and thus it is not a functional tooth for you (meaning it's a tooth you don't chew with), then the tooth has no benefits to offer and instead is only a source of potential problems. Listed below are some of the types of problems which can develop in association with impacted wisdom teeth.

Cysts and tumours

While not a common occurrence, cysts and tumors can develop in the tissues associated with impacted wisdom teeth. (If a decision is made to not remove impacted wisdom tooth a surgeon will often recommend that a x-ray should be taken of the tooth periodically. This allows the surgeon to evaluate the tooth and the tissues which surround it for changes which might suggest a cyst or tumor is developing.)

Crowding

There is a theory that impacted wisdom teeth, as part of their efforts to come fully into place, can put pressure on a person's other teeth and cause them to become misaligned (crowded and shifted). This theory, while possibly being true, has never been conclusively proven by any scientific studies. This is not to say that people don't have teeth which shift, but rather that the

shifting which does occur has *not* been scientifically proven to be caused by a person's wisdom teeth coming in.

Damage to neighbouring teeth

While uncommon, the attempted eruption of a misdirected impacted wisdom tooth can cause damage to a person's 2nd molar (the next tooth forward of the wisdom tooth).

This event is somewhat similar to what happens to baby teeth. Baby teeth, when they fall out, look as though they have no root portion. The tooth did have a root at one time, but the action of the permanent tooth erupting up underneath the baby tooth causes the resorption of the root, hence the baby tooth looks rootless.

Similarly, when misdirected wisdom teeth attempt to erupt they can cause resorption on the root of the 2nd molar. The worst case scenario in this instance is that both the offending wisdom tooth and the damaged 2nd molar will have to be extracted.

In some cases a dentist simply will not be able to know for certain that a person's wisdom teeth will definitely create a problem for them. In other cases, even after being informed of the potential risks their wisdom teeth may pose, some patients will prefer to not have them removed. In these instances your dentist will probably recommend that your wisdom teeth be re-evaluated periodically, including evaluation using an x-ray.

At what age should wisdom teeth be extracted?

If a surgeon can clearly ascertain that there are good reasons to remove a wisdom tooth, then it is usually best to go ahead and remove it as soon as is reasonably possible. While there are no hard and fast rules regarding a specific age by which a person's wisdom teeth should be extracted, as a rule of thumb, the younger in age a person is when they have their wisdom teeth extracted the fewer the number of complications they experience.

If wisdom teeth can be removed in a person's later teens or early twenties there is a greater chance that the roots of the teeth will not yet be fully formed and the bone surrounding the teeth will be less dense. Both of these factors will make the extraction go easier. Also, it seems as we age we are simply less resilient. The healing process is usually more of an ordeal for "older" people than "younger" persons. Studies have shown that complications related to the extraction of wisdom teeth increase even as a patient just enters their 40's.

What are the common complications and risks associated with wisdom teeth removal?

A very important part of your surgeon's pre-extraction examination will involve a discussion with you covering the potential risks and complications related to having your wisdom teeth

removed. Some of the complications which surgeons usually discuss are given below.

Dry Sockets

One of the more common complications experienced with wisdom tooth removal is that of developing a "dry socket". It is thought that dry sockets occur when either a blood clot has failed to form in the extracted tooth's socket, or else the blood clot which did form has been dislodged and lost. Since the formation of a blood clot is an important part of the healing process, healing is delayed.

The typical dry socket is a dull pain which doesn't appear until three or four days after the tooth has been extracted. The pain can be moderate to severe. There is often a foul odor associated with this condition.

A dry socket needs to be treated by your dentist. Commonly a dentist will place a medicated dressing in the dry socket which soothes and moderates the pain. This dressing is usually removed and replaced every 24 hours until symptoms subside. Dry sockets are found to occur more commonly in women (even more so in those taking oral contraceptives), persons over the age of 40, and smokers.

Paresthesia

A less frequently occurring complication associated with the removal of wisdom teeth is that of "paresthesia". Wisdom teeth can be positioned in the jaw in a manner in which they lie in close proximity to nerves. Sometimes during the process of extracting a wisdom tooth these nerves can be bruised or damaged. As a result, numbness of the tongue, lip, or chin may occur. (Having this condition is termed "paresthesia".)

The sensation of paresthesia can be similar to that feeling you have when a dentist uses an anesthetic to "numb up" a tooth, only instead of disappearing in a few hours the numbness persists. Usually paresthesia is temporary, lasting days, weeks, or a few months, however if a nerve has been severely damaged the paresthesia may be permanent (**it's a 0.07% risk**).

What should you expect when you get your wisdom teeth extracted?

Much of the difficulty associated with the removal of wisdom teeth has to do with their positioning in the jaw. In general, the further through the gums a wisdom tooth has erupted the less involved both the extraction and the subsequent healing process will be. Don't necessarily expect the worst. Some wisdom teeth will be no more difficult for your dentist to extract than any other tooth. As part of your pre-extraction examination your dentist should be able to give you an idea of what to expect, both during the extraction procedure and subsequently during healing.

If there has been an active infection associated with a wisdom tooth (such as pericoronitis) a surgeon will usually delay the timing of the extraction. In these instances your surgeon will prescribe a course of antibiotics for you to take, usually for 7 days or so. The antibiotics will diminish the amount of infection which is present at the time of the extraction, thus allowing both the extraction process and your subsequent healing go more smoothly.

To extract a wisdom tooth a surgeon must gain access to it. If the tooth is underneath the gums and still encased in bone then the surgeon must first make an incision in the gums and then remove a portion of the bone which lies over the tooth. So to minimize the amount of bone which must be removed so to get the tooth out, a surgeon will often "section" a wisdom tooth into parts during the extraction procedure. Because each part is smaller than the whole tooth, each can be removed through a smaller opening in the bone.

Numbing a wisdom tooth with local anaesthetic

Before a wisdom tooth is extracted the tooth and its surrounding tissues will of course need to be numbed. Surgeons numb teeth and tissues by way of administering a "local anesthetic". In generic terms the local anesthetic used is called "lignocaine".

Surgeons administer local anesthetics by way of an injection (a "shot"). Numbing up a tooth prior to extracting it is not unlike the way teeth are numbed prior to placing fillings in them. Many people seem to be convinced that all injections will hurt, and this type of mind set usually results in a self fulfilling prophecy. Don't prejudge. Ask your surgeon what to expect, you may be pleasantly surprised.

Sedating patients before wisdom teeth are removed

Some patients can be apprehensive about the tooth extraction process and in these cases the surgeon and patient may together decide that additional medication is indicated so to control their anxiety. Listed below are some of the common ways in which these sedating medications are administered. Please realize that sedatives are used to control anxiety, not pain. Beyond administering the sedative, your surgeon will still need to numb up your tooth in normal fashion using a local anesthetic, so you won't feel pain during the tooth extraction.

Oral Sedatives

Oral sedatives can be used to provide anxiety control. The term "oral" here simply means that the sedative medication is administered by way of your swallowing a liquid or a pill. A very common oral sedative used in minor surgery is Diazepam (Valium).

Your surgeon will provide you with the instructions you need in regards to the specific oral sedative you are given. Often a patient is instructed to take their sedative one hour before their appointment. Because these medications can make you drowsy and also affect your behavior and capabilities, when taking oral sedatives it is necessary to have someone drive and escort

you to your surgeon's office and then drive and escort you home too.

Intravenous (I.V.) sedatives

Intravenous sedatives are anxiety controlling medications which are administered by way of injecting them into one of your veins ("I.V."). In general, a deeper and more controlled level of sedation can be achieved when using intravenous sedatives as opposed to nitrous oxide or oral sedatives. Some intravenous sedatives have an "amnesia effect". This means that the patient will have no recall or memory of the procedure.

Your surgeon will need to provide you with specific instructions regarding their use of intravenous sedatives and it is very important that you follow them. Usually included in these instructions are rules about not eating or drinking for some hours prior to the administration of the sedative. When intravenous sedatives are used you will need to make arrangements for someone to drive and escort you home after your surgical appointment.

Post extraction healing

In general, the easier it has been for the surgeon to access and remove a wisdom tooth, the less involved the healing process will be. Since the degree of difficulty related to removing wisdom teeth can vary greatly, your surgeon will need to explain to you what to expect in your specific case.

After your tooth extraction, In general there will be instructions regarding things to do, and not to do, during the first 24 hours after your extraction and then another set of instructions for things to do, and not to do, after this initial 24 hour period.

Regarding the first 24 hours after your tooth extraction

Controlling bleeding from the extraction site

Some bleeding may occur for some hours after your tooth extraction. This bleeding can usually be controlled by placing a piece of moist clean gauze over the empty tooth socket and then biting firmly on this gauze for 45 minutes. Make sure that the gauze is positioned so when you apply pressure to it by biting that the gauze in turn applies pressure directly to the extraction site. It is both the firm pressure and maintaining this pressure for a constant 45 minutes which are important factors in this technique.

A moistened tea bag can be a very effective substitute for gauze. A component of tea is tannic acid. Tannic acid can help in the formation of blood clots.

If a small amount of bleeding persists after 45 minutes then repeat these instructions. If heavy bleeding is still present then contact your dentist/surgeon.

About the blood clot which forms in the empty tooth socket

The blood clot which forms in the extraction socket is an important part of the healing process so be careful not to do anything which will dislodge the clot.

Avoid rinsing or spitting during the first 24 hours after your tooth extraction. Also, creating a suction, such as using straws or smoking, may dislodge the blood clot. Hot liquids will tend to dissolve blood clots so stay away from hot coffee or soup.

Swelling

Trauma from a tooth extraction can cause swelling. In general, the more difficult the extraction has been the more likely swelling will occur. Any swelling which does occur can be kept to a minimum by placing ice on your face in the area where the extraction took place. Position the ice on your face for 10 minutes on and then leave it off for the next 20 minutes. Repeat this cycle as you feel is necessary for up to 24 hours after the extraction.

Smoking

Persons who smoke tend to have more complications with extraction site healing than those people who don't (including the development of "dry sockets"). If you can avoid smoking for the first 48 hours after your tooth extraction it will be to your benefit.

Pain and pain medications

You may not experience much pain after your tooth extraction. If you do, for minor pain, you might use non-prescription drugs, such as acetaminophen (Panadol) *with* diclofenac sodium or ibuprofen. Follow the directions and warnings which accompany these products.

Alternatively, if your surgeon has prescribed pain relief medication for you and you decide to take them, make sure you follow the directions and precautions which accompany them. If you have any questions about your medicine, the manner in which it should be taken, or else problems with taking your medicine ask your dentist, surgeon or pharmacist.

The pain reliever your surgeon prescribes may contain a narcotic (such as codeine). If so, most narcotic pain medications will have a tendency to upset your stomach so it is usually best to take them with food. Narcotics can also make you drowsy or even act strangely. If you take narcotics you should let those around you know you are doing so. Also, you should limit your activities such as driving or operating machinery while taking narcotics. Ask you dentist, surgeon or pharmacist for specific instructions.

Antibiotics

Your surgeon may have placed you on antibiotics some days before your tooth extraction. If any of this medication remains, even after your tooth has been extracted, continue to take the antibiotic as initially directed. Failure to do so can lead to the development of bacterial resistance to the antibiotic.

Activities

So to reduce the amount of bleeding which occurs and to promote the formation of a blood clot in the tooth socket, avoid strenuous activities or exercise for 24 hours after your tooth has been extracted. If you lie down use an extra pillow so to elevate your head.

Foods and eating

After difficult extractions a soft or liquid diet may be indicated for 24 hours after your dental surgery. For simpler extractions just making sure you do your chewing with those teeth which are away from the extraction site will be sufficient. Hot liquids will tend to dissolve the blood clot which has formed in the extraction socket so avoid them for the first 24 hours. Also, you should avoid alcoholic beverages for at least 24 hours.

Brushing and cleaning your teeth

It is important to maintain good oral hygiene during the healing process. On the day of the extraction it is best to avoid brushing the teeth directly neighboring the extraction site. The next day you can resume cleaning these teeth in a gentle manner. Do not rinse with commercial mouth rinses.

Regarding the time period beginning 24 hours after your tooth extraction

Swelling

Swelling which is related to the trauma of the tooth extraction process should reach its maximum after 24 hours. To bring this swelling down more quickly, apply a warm moist towel to the swollen area for 20 minutes followed by 20 minutes of no heat application. Repeat this cycle as you find necessary.

Keeping the extraction site clean

In general, the cleaner you keep the extraction site the quicker it will heal. Beginning 24 hours after your tooth extraction you can gently rinse the socket with warm salt water (1/2 teaspoon of salt in a cup of water) after meals and before bed. Do not use commercial mouth rinses, they can have a tendency to irritate the surgery site.

Stitches

Your surgeon may have found it necessary to place sutures ("stitches") in the extraction site after removing the tooth. Some types of stitches will resorb (dissolve away) on their own, others will not and need to be removed by your surgeon. Make sure, if stitches were placed, you know which type have been used. Usually a surgeon will want to remove stitches which don't resorb in about a week or so after the extraction. The process of removing stitches is usually very easy and quite painless.

Dry sockets

One of the more common complications people experience after a tooth extraction is that of developing a "dry socket". It is thought that dry sockets occur when either a blood clot has failed to form in the socket of an extracted tooth, or else the blood clot which did form has been dislodged and lost. Since the formation of a blood clot is an important part of the healing process, the healing of the extraction site is significantly delayed.

Dry sockets are most frequently associated with difficult tooth extractions or those extractions which have been traumatic in nature. Extractions where the dentist has had to remove bone from around a tooth during the extraction process so to access it, which is commonly the case when lower impacted wisdom teeth are removed, would be considered to be more traumatic in nature than extractions where the tooth is already through the gums and easily accessed.

Persons who follow their surgeon's/ dentist's post-extraction recommendations will reduce their chances of developing a dry socket. Dry sockets are found to occur more commonly in women (even more so in those taking oral contraceptives), persons over the age of 40, and smokers.

Typically dry sockets manifest themselves as a dull throbbing pain which doesn't appear until three or four days after the tooth extraction. The pain can be moderate to severe in intensity and often seems to radiate from the area of the extraction site to the ear. Dry sockets are usually associated with a foul odor or bad taste. Visually, if you can see down into the socket, the extraction site appears "dry", in the sense that you just see exposed bone, there is no formation of pus.

Dry sockets need to be treated by your dentist, and don't be hesitant to let them know that you need help. Your dentist knows that there is no predictability regarding who will develop a dry socket and who will not, and when one occurs they will be eager to assist you.

Typically a surgeon will place a medicated dressing into the dry socket. This will help to soothe and moderate the pain. The dressing is usually removed and replaced every 24 hours until the dry socket's symptoms subside, which can in some cases take some number of days. It is not uncommon that small fragments of dead bone (called a "sequestrum") come to the surface of the extraction site as they are ejected by your body during the healing process. You may be able to painlessly remove the very smallest of these splinters of bone yourself, or you may find you

need, or want, your dentist's assistance in removing them.

Completion of the healing process

While the filling in and reshaping of your jaw bone which occurs after a tooth extraction will continue for some months, from a practical stand point after 1 to 2 weeks enough healing will have occurred that your extraction will be only a memory.

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