Intended for the general public, the *Bücco Care Guide* is a general educational guide. Its contents present some of the most common dental practices. However, there are many approaches and philosophies in dentistry, and your dentist will be able to advise you on what he or she believes is best for your oral health. Don’t hesitate to consult a general dentist for more information.

The Bücco team and its partners

First translation from French to English
Beta version.

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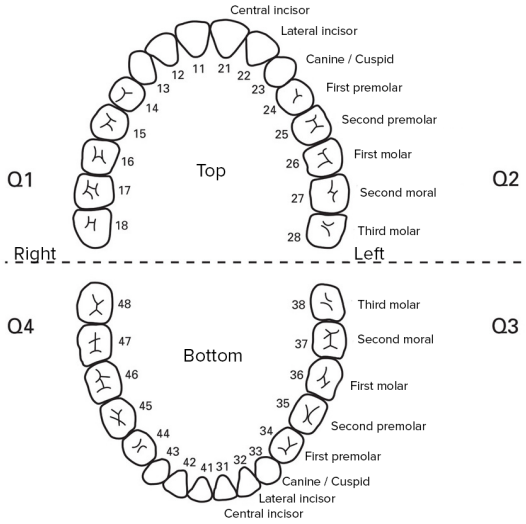
Identifying your teeth



When your dentist or hygienist tells you that decay has started on one of your teeth, he or she identifies the tooth by name or number. For example, your dentist might tell you that you have incipient decay on your upper first molar on the left side, also known as tooth No. 26.

This is how dental insurers identify teeth on claims or treatment cost estimates.

* Some countries, such as the United States, use a different coding system.

* The absence of a tooth in a quadrant does not change the number representing the other teeth (e.g.: if the 36th tooth is absent, its neighbor will have the number 37).

Quadrants to identify your teeth

Because it can be useful to identify the dentition by section to target an area of several contiguous teeth, the mouth is divided into four sections named **quadrants** :

- quadrant 1 (top right);
- quadrant 2 (top left);
- quadrant 3 (bottom left);
- quadrant 4 (bottom right).

Each quadrant consists of a central incisor, the neighboring lateral incisor, the adjacent canine, two premolars and three molars.

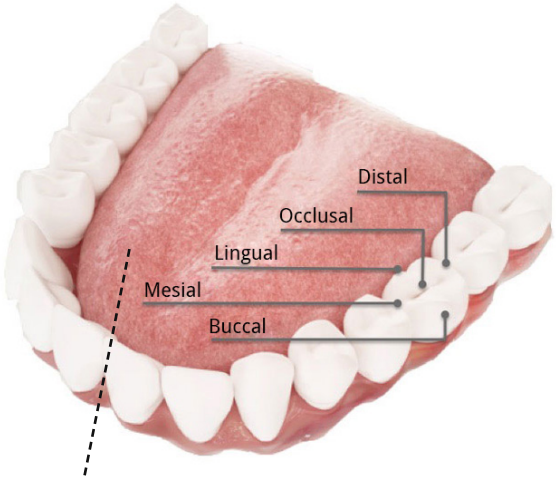
To identify teeth accurately, we specify their quadrant and position. For example, we'd write tooth 36: quadrant 3, position 6.

Tooth surface identification

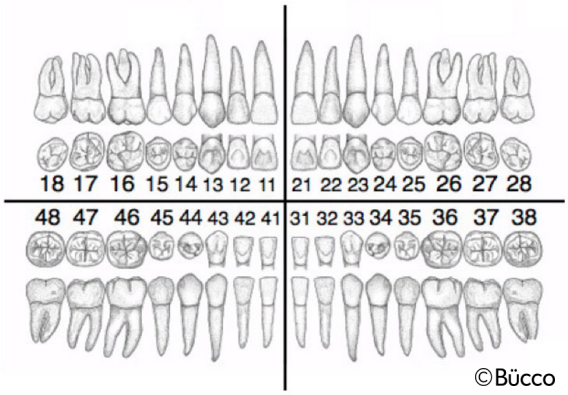
Although the crown of a tooth may seem small enough to indicate it as a whole, it's often useful to be able to talk about a more specific part of it. For example, a cavity or other anomaly may be located on one or more surfaces of the same tooth. In addition, restorative treatment (operative dentistry) is billed by surface area, which explains, among other things, why fillings on two different premolars may be charged at different rates.

In writing, we use the first letter of the surface to designate the location in question.
For example: tooth #36 O (O = Occlusal).

- Distal = D (surface of the tooth furthest from the midline)
- Occlusal = O (masticatory surface for molars and premolars only)
- Incisal= I (masticatory surface for anterior teeth only)
- Lingual = L (surface on tongue side)
- Mesial = M (surface closest to midline)
- Buccal = B (cheek surface)



Visualization of the entire dentition with an odontogram



To make it easier for you to understand, your dentist or hygienist can give you an overview of the dentition using a diagram entitled **odontogram**.

Although there are many other elements that make up tooth structure, this diagram will help you to better visualize the location of problems and proposed treatments on your individual teeth.

Tooth anatomy

What do you know about your teeth?

For many, knowledge about teeth is limited.

- We know that our teeth are useful for eating, that they influence our aesthetic appearance and that we need to take good care of them.
- We know that our teeth are “replaced” (primary dentition) during childhood, and that some of them can become fragile in later life.
- We also know that our teeth can be a source of discomfort, pain and worry, and that a better understanding of this component of the human body is desirable.

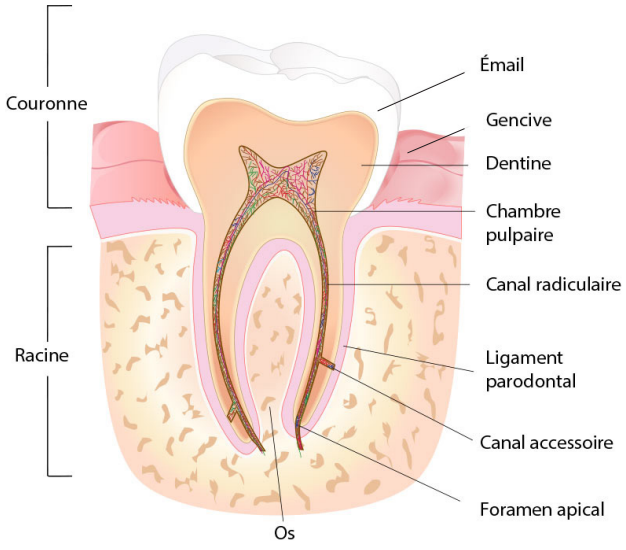
Tooth structure

In very simple terms, the general structure of a tooth is similar to that of a hard-boiled egg.

Like a shell, a first layer, the **enamel**, covers and protects the visible part of the tooth.

Dentin is the second layer of the tooth. Like the white of an egg, this material occupies the largest volume of the tooth. Although less solid than enamel, it is as hard as human bone. Dentin is the last piece of armor to preserve the life of the tooth, offering protection to its core. Once attacked by decay, dentin deteriorates very rapidly.

Then, the equivalent of the egg yolk is called the **pulp** or “nerve” of the tooth. Located in the center of the tooth, the pulp is made up of tiny blood vessels and nerve fibers that make the tooth sensitive to pain.



Tooth parts

The tooth consists of two main sections: the root and the crown.

The root
The part of the tooth usually hidden beneath the gums is called the **root**. This part of the tooth is firmly embedded in the bone tissue of the jaw. Like the posts of a fence, the roots keep the teeth firmly in position. The number of roots varies from tooth to tooth: front teeth (central, lateral and canine) have a single root, while premolars and molars have between one and four roots to resist the pressure exerted on them during chewing. Root shape varies greatly from person to person.

The crown
The **crown** is the visible part of the tooth, above the gums, that comes into contact with food. It is covered with enamel.

Tooth nomenclature

Our teeth are classified into 5 categories:

- The 4 central incisors: located directly under the nose (2 upper, 2 lower). The upper ones are sometimes called “paddles” or “buck teeth”.
- The 4 lateral incisors: adjacent to the central incisors (2 upper, 2 lower).
- The 4 canines (“fangs”): the sharpest, each with a single long root (2 at the top, 2 at the bottom). They are generally the fulcrum for left and right lateral jaw movements.
- 8 premolars: used for chewing (4 upper, 4 lower).
- The 12 molars: resistant to strong pressure and positioned at the back (6 at the top, 6 at the bottom). First, second and third molars (wisdom teeth).

The 12 teeth at the front of our mouth (incisors and canines) are called front teeth. They enable us to tear and cut. These are the teeth you see when you smile.

The other 20 teeth (premolars and molars), positioned towards the back of the mouth, are called posterior teeth. They have an occlusal surface for chewing and crushing food.

Primary dentition

Eruption of baby's first teeth

With a few exceptions, babies are born with no visible teeth in their mouths. But this doesn't mean that teeth are non-existent; tooth development begins in the first few weeks of life, inside the mother's womb.

The eruption of the first teeth (primary dentition) takes place over a period of more or less three years.Occasionally, however, newborn babies are born with one or more teeth; this is known as premature eruption. This is not a cause for concern, but vigilance is required to avoid injuries to the tongue or mouth that could be caused by the presence of teeth. The presence of these teeth can make it difficult for the mother to breastfeed at an early age.

Primary dentition

The 20 primary teeth have a configuration similar to that of the permanent dentition:

- 4 central incisors (directly under the nose, top and bottom);
- 4 lateral incisors (always at the front of the mouth, on either side of the central incisors);
- 4 canines (commonly known as "fangs");
- 8 molars (large teeth at the back of the mouth, used for chewing).

Primary teeth are whiter than permanent teeth, hence the term "**milk teeth**". This is due to the greater enamel thickness and dentin content of permanent teeth. In fact, dentin is relatively yellowish in color. It's therefore normal for newly-arrived permanent teeth not to be the same color as baby teeth.

Note: There are no premolars in primary dentition.

Role of the primary dentition

- Allow food to be chewed;
- Promote good elocution (spoken language sounds);

- Greatly influence facial aesthetics by having a direct impact on jaw development, thus modifying the shape of the child's face and smile.

What's more, the primary dentition has a decisive role to play in the coming dentition, since it serves as a guide, preserving and maintaining the space for the arrival of the permanent dentition.

Don't forget that some primary teeth will be in the mouth until the age of 12. So it's very important to keep them healthy until they fall out on their own.

Breaking through baby's teeth

Teething generally begins in the 6th month of life and continues until the child is about 3 years old. Primary teeth erupt through the gums one after the other. Teeth erupt from the center of the mouth towards the back (towards the ears), with the exception of the canines, which are preceded by the first molars.

Generally speaking, the central incisors will appear first in the lower jaw, alternating with the upper ones, followed by the other teeth. The order of the eruption sequence is more important than the age of eruption. Some children will have their first tooth at 12 months. The age at which teeth erupt varies greatly from one ethnic group to another.

Tooth eruption calendar

- Central incisors: between 6th and 8th month.
- Lateral incisors: between 7th and 9th month.
- 1st molars: between the 12th and 16th months.
- Canines: between 16th and 20th months.
- 2nd molars: between the 20th and 30th months.

This timetable is purely indicative, and there's no cause for alarm if tooth eruption is a little late or starts earlier than expected.

Mixed dentition

The appearance of adult teeth

Your child will soon be four years old, and for some time now he or she has been offering his or her most beautiful smile, with all his or her first teeth (primary dentition) in the mouth. His or her first teeth will be in place for a few years, but the formation of adult teeth (permanent teeth) has already begun, deep under the gums.

Gradually, the roots of each primary tooth will resorb (which is why baby teeth that fall out have no roots). The adult teeth will then grow in, pushing the primary teeth to make their way into the gums. Like the primary dentition, the growth of the permanent dentition varies from tooth to tooth and from individual to individual.

The transition

We know the importance of the primary dentition and its role, which motivates us to take good care of it.

Over the next few years, from the age of 6 to around 11, your child's mouth will be in transition, displaying both primary and permanent dentition: we call this **mixed dentition**.

Timetable for primary tooth loss

- Loss of central incisors: between ages 6 and 8.
- Loss of lateral incisors: between 7 and 8 years of age.
- Loss of canines: between ages 9 and 12.
- Loss of 1st molars: between ages 9 and 11.
- Loss of 2nd molars: between 10 and 12 years.

The color change

It's also worth noting that new teeth will probably be more yellowish in color than their primary counterparts. This is because the amount of dentin (more yellowish than enamel) will be greater beneath the thin layer of enamel that covers it.

Dental hygiene during the transition

Children will have both primary and adult teeth in their mouths. By the age of 9, they will have 12 primary teeth and 12 permanent teeth. Since teeth vary in size, brushing may require some assistance on your part, and the introduction of dental floss into oral hygiene habits is recommended. Particular attention is required for the first permanent molars, given their position.

Loss of primary teeth

The loss of primary teeth is an important milestone in your child's life. It can create a variety of emotions.

Since the first teeth to fall out are the incisors, it's hard to go unnoticed. But it's not uncommon to forget that at age 10 or 11, sudden discomfort or pressure pain can be caused by the loss of back teeth.

Although they're ready to give way to the new permanent teeth, sometimes the primary teeth don't want to leave your child's mouth. Encourage your child to play with teeth that are mobile, moving them around and eating hard foods like carrots or apples. This will stimulate the tissues of the mouth and gradually loosen the skin and ligaments that often hold teeth in place.

Frequently, the permanent incisors grow in a second row, so-called "shark teeth". This is usually not serious, but a visit to the dentist may be required if you are concerned.

Permanent dentition (adult teeth)

Total number of teeth

The permanent dentition has a total of 32 teeth, including wisdom teeth.

Here is the composition of this dentition:

- 8 central and lateral incisor teeth;
- 4 canines;
- 8 premolars;
- 12 molars.

This dentition will be in the mouth from the age of 12 or 13. The first adult teeth will appear at 6-7 years of age, forming the mixed dentition, since some primary teeth will still be present until the last primary tooth is lost at around 12 years of age.

Daily functions

The permanent dentition contributes to several essential functions:

- Feeding: eating solids without constraints;
- Elocution: speaking properly (the position of teeth or the absence of certain teeth can influence the way we pronounce certain sounds);
- Proper functioning of the digestive system (properly ground food).
- Self-confidence, pride and self-esteem.

Eruption calendar for permanent teeth

- Central incisors: between 7 and 8 years of age.
- Lateral incisors: between 7 and 9 years.
- Canines: between ages 9 and 12.
- 1st molars: between 6 and 7 years.
- 2nd molars: between ages 12 and 13.
- 3rd molars: between 17 and 21.

Tooth hardness thanks to enamel

Enamel is the strongest and hardest part of the human body. On the Mohs hardness scale, tooth enamel reaches 5, while glass or ordinary steel reach 5.5 and diamond, 10.

Since enamel is resistant even to the destructive effects of fire, it is not uncommon for forensic scientists to use it for identification purposes. However, enamel remains sensitive to food acids and plaque bacteria. Enamel must be protected from these by plaque removal through brushing and a healthy diet.

Historical role

Throughout history, the careful examination of teeth has revealed valuable information about their host. Teeth have provided information on species identification, age, social rank and even cause of death, in both humans and animals. For example, DNA analysis of teeth has made it possible
to identify causes of death such as plague, typhus and poisoning.

Tooth eruption

Normal tooth eruption

Here are a few facts about tooth eruption in humans:

- The human dentition comprises a temporary dentition (also called primary dentition or “baby teeth”) and a permanent dentition (commonly called “adult teeth”).
- There are 20 temporary or baby teeth, erupting from ± 6-10 months of age for the lower jaw, and 7-12 months for the upper jaw, until ± 30 months of age.
- Permanent teeth appear between ± 6 and 13 years of age and comprise 28 teeth (32 with wisdom teeth).
- Girls often develop their teeth faster than boys.
- There may be delays between the eruption of the same tooth on either side of the dental arch. **If the delay is more than 6 months, talk to your dentist.**
- Primary dentition is completed between the second and third years, and some primary teeth remain in the mouth until around age 12.

The process of tooth formation and eruption

Tooth eruption is a biological and physiological process that is dynamic and complex. This process takes place over a period of several years. It includes the formation of teeth, their migration into the jaws and their exit from the mouth in their final functional position.

- Tooth eruption involves a transition between 2 types of dentition: the temporary (primary) dentition and the permanent (definitive) dentition.
- It is intimately linked to the development and growth of children, and involves bone and soft tissue (gums) in the environment of the teeth, as well as tissue modifications such as the resorption of the roots of temporary teeth to make way for permanent teeth.
- Eruption is a localized, symmetrical process, normally occurring simultaneously on both sides of the dental arch.
- The first stages of development occur at the embryonic level, ending some twenty years later with the eruption of the third permanent molars (wisdom teeth).
- Le processus de formation et d’éruption des dents est très complexe et plusieurs hypothèses tentent d’expliquer les mécanismes d’éruption sans toutefois les avoir élucidés complètement.

Chronology of normal tooth eruption

The period or age at which temporary and permanent teeth appear varies considerably, and can be linked to a number of factors:

- Gender: on average, girls erupt earlier than boys, with the exception of the first upper molar;
- Height: the literature reports a relationship between short stature and dental delay;
- Jaws: eruption is later in the maxilla than in the mandible;
- Posterior teeth: the last teeth in each group (third molars, second premolars) are the most frequently affected by delayed eruption;
- Dentition: delayed eruptions are rarer in temporary dentition than in permanent dentition;
- Ethnic origin: there are differences in tooth eruption dates between populations. For example, people of European origin erupt later;
- Climate: warmer climates seem to favour faster or earlier tooth eruption;
- Socioeconomic conditions: children from disadvantaged social backgrounds may show later tooth development and eruption;
- Degree of urbanization: eruptions are more rapid in urban areas than in the countryside;
- Phylogenetic evolution: our modern population has more eruption problems with wisdom teeth (third molars) and upper canines. Researchers attribute this phenomenon to human evolution and the lack of jaw development linked to changes in the eating habits of Western populations;
- Family rank: the onset of eruption is later in the youngest members of a family than in the eldest.

Oral hygiene

Examination and cleaning (prophylaxis)

Definition

According to the Ordre des dentistes du Québec, it's recommended that you visit your dentist for a dental check-up and routine cleaning **every 6 months**. However, this frequency can be adjusted to 4, 6, 9 or 12 months, depending on your state of health (oral and general) and your dental hygiene habits.

The **dental examination** involves the dentist's assessment of the general condition of the mouth: teeth, gums, tongue, palate, etc., in order to detect any signs of present or future problems.

Cleaning is performed by the dental hygienist and includes scaling (to remove plaque and tartar build-up) and prophylaxis (polishing teeth with a slightly abrasive paste to remove surface stains).

Benefits

- **Routine examinations** allow you to monitor changes inside your mouth that could affect not only your oral condition, but also your general health.
- A dental check-up is a preventive measure that can detect problems at an early stage. It is therefore an excellent way of avoiding more serious problems requiring more costly treatment.

Problems detected

Routine examination allows early detection of:

- The presence of cavities;
- The presence of deep grooves on the top of a premolar or permanent molar;
- A weakened, cracked or fractured tooth;
- Inflammation or other signs of gum disease (e.g. gingivitis, periodontitis, periodontal abscess, periapical abscess, lack of attached gingiva, etc.);
- A crown or filling in poor condition;
- A lesion;
- Cyst;
- Signs of teeth grinding or clenching (bruxism)
- Tooth movement caused by missing teeth;
- Occlusion disorders (teeth of one jaw interlocking with those of the other when the mouth is closed);
- Disorders of the temporomandibular joint (which joins your jaw to your skull);
- Bone loss;
- Impacted wisdom teeth;
- Oral cancers;
- Etc.

Dental plaque and tartar

Definition

Tartar is a rough, porous deposit that forms on the crown or roots of teeth. It results from the accumulation of dental plaque (or biofilm), a whitish substance resulting from the presence of bacteria in the oral cavity. This plaque calcifies in the presence of minerals in the saliva. The porosity of tartar, in turn, provides an environment conducive to the adhesion of a new layer of plaque, which, under the effect of the minerals present in saliva, forms an additional layer of tartar.

Symptoms and pain

Tartar forms a solid, yellow, brown or sometimes blackish layer on the teeth.

Tartar often forms near the outlet of a major salivary gland. The most common site of tartar formation is on the lingual surface (tongue side) of the lower incisors.

The other most common site is on the buccal surface (cheek side) of the upper molars, at the outlet of the salivary gland known as the parotid gland, on the inner surface of the cheek. Tartar can be found wherever there is accumulated dental plaque.

Tartar can appear above or below the gum line, or both. In the case of tartar below the gum line, the consequences can be more serious. In all cases, tartar irritates the gums, but its presence does not always cause pain. Tartar can cause bleeding when brushing or flossing.

Causes

Since tartar results from the accumulation of dental plaque calcified by minerals in saliva and food, any accumulation of plaque can lead to tartar build-up.

This tartar build-up can be quite rapid in the absence of basic hygiene care such as brushing and flossing.

Certain factors can make plaque removal more difficult:

- Unsuitable or poorly maintained dentures;
- Poor tooth position;
- Orthodontic treatment;
- Lower enamel quality.

It's also possible that certain drug treatments reduce salivary flow, making the mouth drier and plaque stickier. This mainly concerns treatments for diabetes or stress. In addition, people with weakened immune systems are more prone to tartar formation.

Finally, neglected or even absent oral hygiene can lead to rapid tartar formation. It should be noted that the lack of dexterity of certain individuals, such as children, the elderly and people with tremors, can also contribute to tartar formation.

Halitosis (bad breath)

Definition

Halitosis, commonly known as bad breath (or fetid breath), is an unpleasant odor emanating from the oral cavity. It affects between 30% and 50% of the adult population, and tends to increase with age (especially from the age of 50).

Symptoms and pain

- Unpleasant odor;
- Loss of self-confidence;
- No pain reported.

Causes

- Poor oral hygiene;
- The presence of gum disease, dental caries, mouth ulcers, candidiasis or, more rarely, oral cancer;
- The increased presence of bacteria on the hard surfaces of the oral environment, including teeth, but also dentures, orthodontic appliances and occlusal plates. These bacteria produce plaque, which can become solid (tartar) in association with minerals in saliva. The accumulation of plaque and tartar on hard surfaces can be responsible in whole or in part for bad breath;
- Gastritis, gastroesophageal reflux disease, vomiting or eating disorders such as bulimia;
- Diet. Among the foods most likely to cause halitosis are garlic, onions, spicy foods, alcohol and coffee;
- Xerostomia (dry mouth);
- Use of tobacco in all its forms, cannabis and vapors;
- Chronic ENT infections or the presence of cryptic tonsils (which retain food or dental plaque);
- Finally, bad breath can also result from certain systemic conditions such as diabetes, pregnancy, hypoglycemia and liver disorders.

Treatment halitosis (bad breath)

Definition

Halitosis, commonly known as bad breath, is an unpleasant odor that emanates from the oral cavity, caused in particular by a change in habits, such as smoking, or in dental and oral hygiene.

Halitosis can be remedied by various treatments, depending on the cause of the problem: scaling, treatment of periodontal disease and treatment of cavities, among others.

It's also important to know that halitosis can be a symptom of a more serious condition that merits medical attention. In any case, the dentist is the first person who should be consulted, as he or she will be able to determine whether the problem is related to oral health.

Benefits

- Preventing more serious problems;
- Improved self-confidence.

Processing steps and times

The dentist will determine whether the cause of halitosis is intraoral or extraoral. If it is extraoral, the patient will be referred to the appropriate specialist (otolaryngologist [ENT], gastroenterologist, etc.) If the origin of the bad breath is in the mouth, treatment will depend on the exact cause and may take different forms:

Descaling
Every treatment should start with a good scaling. It's a good idea to remove tartar from above and below the gums.

Treatment of periodontal disease
Periodontitis, an infection of the tooth's supporting tissues (gums and bone), is the most common cause of halitosis. The periodontal pockets created by this disease are filled with bacteria. These produce sulphurous elements that give off a bad odour. Gingival bleeding after morning brushing can also have an effect on breath. If scaling isn't enough, periodontal pockets will have to be surgically removed. Good oral hygiene will then be decisive in preventing relapse.

Caries treatment
If cavities are present, they should be treated with fillings. Normally, cavities alone are not responsible for bad breath, unless they are at an advanced stage or there are several of them.

Esthetics

Tooth stains and discolored teeth

Definition

The tooth has several layers (enamel, dentin and vital part). The outer part of the tooth is made up of two layers: the enamel and the dentin. Each of these layers has its own natural color.

Generally speaking, the color of the teeth becomes darker with age.

Normal wear of the enamel, which is generally lighter or clearer, reveals the dentin, which is more yellowish.

Tooth discoloration usually affects all teeth, but may affect a single tooth under specific conditions.

Causes

- Time;
- Normal wear of the enamel;
- Repeated consumption of pigmented beverages (coffee, tea, red wine or brown soft drinks);
- Smoking;
- Poor dental hygiene;
- Taking certain medications (especially tetracycline in infants or pregnant women for their babies).

Solutions

Once the causes of the stains are under control, the patient may decide, for aesthetic reasons, to lighten his or her teeth. The patient can then consult his or her dentist to choose the best solution for restoring whiteness to the teeth. Options include chair-side whitening in the dental office or at home.

Advice and prevention

- Reducing consumption of pigmented foods;
- Smoking cessation;
- Use of appropriate hygiene products;
- Healthy dental hygiene habits.

Tooth whitening

Definition

Tooth whitening is a technique used to lighten the natural color of teeth.

There are three types of bleaching:

- Chair whitening (at the dentist);
- Home whitening;
- Internal whitening, on a tooth that has previously received root canal treatment.

The whitening treatment involves applying a peroxide-based product to the surface of the targeted teeth using pre-molded plastic trays, or trays molded closely to the shape of the patient's teeth. The product penetrates the tooth enamel and an oxidation process breaks down the stains, just like when washing clothes. The process is safe and does not damage teeth. The use of specialized trays ensures close contact with the teeth for optimum results.

Over-the-counter whitening products are available on the market. These products are often composed of abrasive agents, and whitening is achieved by removing a thin layer of enamel, which is dangerous for teeth. Other products use peroxide, but the permitted concentrations are insufficient to achieve satisfactory results.

There are also non-specialized centers offering dental bleaching (beauty salons, flea markets). These centers do not have recognized infection control devices (instrument sterilization, surface disinfection, sterile saliva management devices) and can put patients' health at risk. What's more, this type of technique often results in spectacular bleaching due to dehydration of the teeth. In addition to being ineffective, teeth can become very painful after treatment.

Benefits

- Lighten natural tooth color;
- Selectively brighten some of the brighter teeth;
- Whiten teeth stained by medication (tetracyclines);
- Improve self-esteem.

Disadvantages

- The longevity of treatment cannot be predicted, as it is closely dependent on the patient's lifestyle habits. The longevity of treatment can be compromised by the consumption of tobacco products, coffee, red wine, pigmented fruits, vegetables or spices (tomatoes, beet, cumin, etc.).
- Some natural tooth shades are more receptive to whitening than others.
- Bleaching results are not permanent. The process must be repeated at regular intervals.
- The whitening product has no effect on restorations already present in the mouth, such as bridges, crowns, veneers and composite fillings.New restorations are required if the color of teeth is too different after whitening.
- Teeth may be transiently sensitive to hot and cold during or after treatment.

Note: Avoid bleaching products based on charcoal, clay or baking soda, which are highly abrasive.

Whitening of a single tooth

Definition

When a tooth has undergone root canal treatment or a major impact, it can sometimes take on a greyish hue. A bleaching agent can then be applied inside the pulp chamber to lighten the tooth.

Treatment indications

- Lighten the color of a devitalized or necrotic tooth;
- Improve self-esteem.

Benefits

- This is a clinically proven procedure with a high success rate;
- Le blanchiment interne est sans douleur et peut être refait au besoin.

Disadvantages

- Some natural tooth shades are more receptive to bleaching than others;
- The darker shade may return over time;
- Treatment is highly unpredictable and may not work.

Processing steps and times

First appointment

- Consultation with review of the patient's dental and medical history;
- If the state of oral health and that of the tooth to be treated are appropriate, a whitening product (sodium perborate) is deposited inside the tooth. A period of 7 to 10 days is prescribed for the product to take effect.

Second appointment

- During the second visit to the dental office, the sodium perborate paste is removed and the cavity sealed. The treatment may be repeated a few times to achieve the right shade.

Porcelain veneer

Definition

A veneer is a very thin layer of dental material applied to the visible surface of the teeth. Veneers are often applied to incisors, canines and sometimes upper premolars, lower premolars or both. The natural tooth may or may not have been prepared to receive the veneer.

Veneers are available in two materials:

- Dental porcelain;
- Composite resin.

Benefits

In general:

- Restoring the original size of a decayed, stained, cracked or broken tooth;
- Improving the aesthetic appearance of a smile by standardizing the color, shape, angle or size of the teeth;
- Reduction or concealment of unwanted interdental spaces (diastemas);
- Concealment of enamel defects (hypoplasia).

Porcelain veneers :

- Biocompatible: healthy materials in harmony with the body;
- Resistant to stains caused by drinking dark liquids, such as coffee and wine, or consuming tobacco products;
- Do not change color over time;
- Generally longer service life than composite veneers.

Disadvantages

In general

- Veneers remain an expensive treatment, as several teeth are often involved;
- Dental problems, such as cavities, can occur if veneers are poorly maintained or have become detached from the teeth;
- Tooth whitening may be necessary before considering treatment with veneers, since the color of the veneers is chosen according to the natural color of the adjacent teeth;
- Aesthetic results depend very much on the artistic skills of the dentist or prosthodontist who makes the veneers and on the complexity of the case to be treated;
- If the veneer breaks or becomes detached, the treatment must be repeated;
- Veneers are not covered by all dental insurances, since their function is primarily aesthetic.

Compared to composite veneers

- Porcelain veneers take longer to fabricate than composite veneers;
- They are more expensive because of the need for laboratory work, among other things;
- The treatment is irreversible, as part of the enamel has to be removed to affix them to the teeth;
- Porcelain breakage or surface fractures cannot be repaired.

Risks and consequences of not treating

- Progressive deterioration in the appearance of teeth.

Composite veneers

Definition

A veneer is a very thin layer of dental material applied to the visible surface of the teeth. Veneers are often applied to incisors, canines and sometimes upper premolars, lower premolars or both. The natural tooth may or may not have been prepared to receive the veneer.

Veneers are available in two materials:

- Composite resin;
- Dental porcelain.

Benefits

In general

- Restoring the original size of a decayed, stained, cracked or broken tooth;
- Improving the aesthetic appearance of a smile by standardizing the color, shape, angle or size of the teeth;
- Reduction or concealment of unwanted interdental spaces (diastemas);
- Concealment of enamel defects (hypoplasia).

Composite resin veneers

- Faster results, since installation is usually completed in a single appointment;
- More economical than porcelain veneers;
- Treatment can be reversible or conservative, depending on the preparation of the tooth;
- The material can be removed (reversible);
- Tooth preparation is minimal (conservative);
- They can be easily repaired in the event of breakage.

Disadvantages

In general

- Veneers remain an expensive treatment, as several teeth are often involved;
- Dental problems, such as cavities, can occur if veneers are poorly maintained or detached from the teeth;
- Tooth whitening may be necessary before considering treatment with veneers, since the color of the veneers is chosen according to the natural color of the adjacent teeth;
- Aesthetic results depend very much on the artistic skills of the dentist or prosthetist who makes the veneers, and on the complexity of the case to be treated.
- If the veneer breaks or becomes detached, the treatment must be repeated;
- Veneers are not covered by all dental insurances, since their function is primarily aesthetic.

Compared to porcelain veneers

- Composite veneers do not last as long as porcelain veneers;
- They are more prone than porcelain veneers to staining, loss of luster and color change;
- They are more fragile than porcelain veneers and may therefore need to be replaced or retouched.

Laboratory inlays and crowns

Definition

Laboratory inlays or crowns belong to the family of fixed partial dentures, which can be represented as a kind of partial or complete cap that is cemented over a natural tooth.

Laboratory inlays or crowns can be made from a variety of materials, including:

- Porcelain-on-metal (metal structure topped partially or totally with ceramic. Metal alloys and their quality vary from country to country and from laboratory to laboratory).
- Conventional porcelain;
- Reinforced porcelain (E. max);
- Zirconia or zirconium oxide (white metal);
- Gold.

Treatment indications

- To strengthen a tooth following root canal treatment (devitalized tooth);
- Protecting teeth weakened by decay;
- Strengthening a broken, cracked or fractured tooth;
- Covering deformed or discolored teeth;
- Serving as a bridge pillar;
- Improving the appearance of the smile;
- Restore height to badly worn teeth.

Benefits

- Aesthetics (for all materials except gold, which is still popular in some countries) ;
- Resistant and solid. Dental ceramics (conventional and E. max) are the materials that most closely resemble natural tooth enamel in terms of hardness. Zirconia is harder, while gold is softer, but still highly resistant to fracture;
- Biocompatible. Ceramics are materials in harmony with the body;
- Sustainable;
- Fixed: these are permanently bonded (cemented) in the mouth, unlike removable prostheses, such as full dentures or partials (acrylic or metal-framed).

Disadvantages

- Expensive compared with other dental materials such as amalgam and composite resin, but it should not be forgotten that the indications for these materials are different;
- Irreversible, because the damaged tooth must be prepared to reduce its size in order to create space for the crown;
- Porcelain breakage or surface fractures cannot be repaired.

Risks and consequences of not treating

- Dental fracture;
- Risk of having to resort to root canal treatment if the fracture or decay reaches the vital part of the tooth;
- Tooth loss if fracture too deep.

E4D inlays and crowns

Definition

The E4D restoration is the result of cutting-edge technology developed 30 years ago and constantly improved since then. This technology makes it possible to fabricate a ceramic restoration in a single visit. Crowns and indirect inlays are the most commonly used restorations.

It is also possible to fabricate implant-supported crowns, temporary acrylic bridges, permanent porcelain E. max and zirconia bridges, and ceramic veneers. Thanks to recent advances, this technology now enables the creation of implantology surgical guides incorporating 3D scan technology.

The E4D also enables users to transmit their digital models to their dental laboratory. This eliminates the need for patients to take conventional impressions, which are often more uncomfortable.

Treatment indications

An E4D restoration is mainly built for:

- To strengthen a tooth following root canal treatment (devitalized tooth);
- Protecting teeth weakened by decay;
- Strengthening a broken, cracked or fractured tooth;
- Reinforcing a tooth with a large amalgam or composite restoration;
- Covering deformed or discolored teeth;
- Improving the appearance of the smile;
- Restore height to badly worn teeth.

Benefits

The benefits of E4D restoration
E4D ceramic restorations offer many technical advantages. As the crown is fabricated and fitted in a single appointment, a larger healthy portion of the tooth can be retained. In fact, the bond between the tooth and the ceramic is known to be stronger in the healthy enamel, allowing the retention of certain walls that would have to be removed if the restoration were made in two visits. According to scientific studies, E4D ceramic restoration restores 98% of the strength of a natural, untouched tooth. This makes it more durable than white composite fillings.

As this technology enables the patient to receive the restoration in a single visit, only one anesthetic is required. What's more, no temporary restoration is required, which is a definite advantage, as temporary restorations tend to be brittle, peel off and can cause transient pain on contact with cold. What's more, in the case of temporary inlays, the temporary restoration is only held in place with temporary cement, so the remaining tooth is not yet as strong and is more at risk of breaking.

E4D technology also uses a digital or video camera, depending on the generation used by the dentist. This camera creates a 3D model from which the ceramic part is designed. This eliminates the need to take impressions with standard materials, which can be difficult to tolerate or make some people gag.

The benefits of ceramics
Dental ceramics is the material that most closely resembles tooth enamel in terms of rigidity, texture and the way it reacts to temperature variations during eating;

In addition to being biocompatible, dental ceramic restores strength to damaged teeth;

Ceramic provides great chewing comfort, and its wear is comparable to that of natural teeth.

CEREC inlays and crowns

Definition

CEREC restoration is the result of cutting-edge technology developed 30 years ago and constantly improved since. The name CEREC comes from an English acronym (Chairside-Economical-Restauration-Esthetic-Ceramic), which stands for “Restauration en Céramique Économique et Esthétique fabriquée à la Chaise”. This technology makes it possible to fabricate a high-quality ceramic restoration in a single visit. Crowns and indirect inlays are the most commonly used restorations.

It is also possible to fabricate implant-supported crowns, temporary acrylic bridges and ceramic veneers. Thanks to recent advances, this technology can now be used to create implant surgical guides incorporating 3D scan technology.

The CEREC device also enables users to transmit their digital models to their dental laboratory. This eliminates the need for patients to take conventional impressions, which are often more uncomfortable.

Treatment indications

A CEREC restoration is mainly built for:

- To strengthen a tooth following root canal treatment (devitalized tooth);
- Protecting teeth weakened by decay;
- Strengthening a broken, cracked or fractured tooth;
- Reinforcing a tooth with a large amalgam or composite restoration;
- Covering deformed or discolored teeth;
- Improving the appearance of the smile;
- Restore height to badly worn teeth.

Benefits

The benefits of CEREC restoration
CEREC ceramic restorations offer many technical advantages. As the crown is fabricated and fitted in a single appointment, a larger healthy portion of the tooth can be retained. In fact, the bond between the tooth and the ceramic is known to be stronger on healthy enamel, and allows the retention of certain walls that would have to be removed if the restoration were made in two visits. According to scientific studies, CEREC-type ceramic restoration restores 98% of the strength of a natural, untouched tooth. It is therefore more durable than white composite fillings;

As this technology enables the patient to receive the restoration in a single visit, only one anesthetic is required. What's more, no temporary restoration is required, which is a definite advantage, as temporary restorations tend to be brittle, peel off and can cause transient pain on contact with cold. What's more, in the case of temporary inlays, the temporary restoration is only held in place with temporary cement, so the remaining tooth is not yet as strong and is more at risk of breaking;

CEREC technology also uses a digital or video camera, depending on the generation used by the dentist. This camera creates a 3D model from which the ceramic part is designed. This eliminates the need to take impressions with standard materials, which can be difficult to tolerate or make some people gag.

The benefits of ceramics
Dental ceramics is the material that most closely resembles tooth enamel in terms of rigidity, texture and the way it reacts to temperature variations during eating;

In addition to being biocompatible, dental ceramic restores strength to damaged teeth;

Ceramic provides great chewing comfort, and its wear is comparable to that of natural teeth.

Single implant crown

Definition

A dental implant serves as an artificial root for a prosthesis, bridge or crown, depending on the number of teeth to be replaced. When a single tooth is missing, or when a tooth still in place is badly damaged, it can be replaced by a crown (CEREC, E4D or laboratory-made) installed on a single implant.

There are two techniques for placing a crown on an implant. The crown can be:

- **Transferred**: the crown is screwed directly into the implant or implant abutment, without the use of cement;
- **Cemented**: the crown is cemented to the abutment, which is itself screwed into the implant.

There are also two choices of implant materials: titanium and ceramic (zircon).

Benefits

- Aesthetic and durable solution for replacing missing or badly damaged teeth;
- The implant distributes masticatory forces more evenly and thus preserves adjacent teeth longer by preventing them from moving into the vacant space;
- The implant stimulates the bone, helping to slow the resorption of alveolar bone caused by tooth loss. When a tooth is no longer in the mouth, the bone that held it in place is no longer stimulated, deteriorates and gradually melts away;
- The two main parts of an implant - the artificial crown and the implant itself - cannot be affected by tooth decay;
- Implant-supported crowns can be installed on both the maxilla and mandible;
- Restores a good occlusion that may have been affected by tooth loss;
- No dietary restrictions;

- Restores phonetics in cases where phonetics may have been affected by tooth loss;
- Unlike a bridge, adjacent teeth do not need to be trimmed;
- The success rate of implant-supported crowns is very high;
- The procedure is simple and safe.

Disadvantages

- A certain amount of bone material is required for implant placement, which may necessitate prior grafting;
- Additional surgery, called sinus lift, may be required prior to implant placement;
- Although the risk is low, implant rejection may occur following surgery;
- Certain medical conditions may contraindicate implant placement;
- A dental implant requires a substantial financial investment. However, it is a long-lasting solution with the many advantages listed above;
- Dental implants, like teeth, can be subject to gum disease. In this case, the disease is called peri-implantitis. If left untreated, peri-implantitis can lead to the loss of one or more implants.

Dental jewelry and ornaments

Definition

Dental jewelry is part of the customs and traditions of many peoples. In North America, the popularity of this type of ornamentation has grown over the past fifteen years.

There are different types of dental jewelry and ornaments:

Lingual piercing
The tongue is pierced, and a barbell (a straight rod at the ends of which two balls are screwed to hold the jewel in place) is installed.

Oral piercing
Most often, the piercing is located in the lip or cheek area, where a jewel is placed.

Dental diamond or rhinestone
A small diamond or rhinestone is affixed to a tooth, usually an incisor or canine in the upper arch.

The grillz
A grillz is a decorative prosthesis worn on either the upper or lower teeth, or both. It is made of metal (precious or not) and sometimes set with stones.

Twinkle jewelry
This is a gold ornament, sometimes set with a precious stone or diamond, which is glued onto a tooth.

Risks and possible complications

The jewels and ornaments listed above are likely to cause various problems, the severity of which varies according to the type of accessory chosen.

Lingual piercing
Lingual piercings are strongly discouraged by the vast majority of dental health professionals. Fitting a lingual piercing can cause injury to the lingual nerve, which in turn can lead to paresthesia (numbness and loss of sensitivity). It can also cause irreversible damage to teeth, such as premature wear, tooth mobility or fracture. Rubbing the object against the gums can similarly result in injury to the gums or bone supporting the teeth.

Oral piercing
Oral piercing, like lingual piercing, is clearly not recommended by the Ordre des dentistes et des hygiénistes du Québec. This type of procedure is often performed by people who have no medical skills or knowledge, exposing their clients to high health risks. Infections, as well as the transmission of various systemic diseases such as tetanus, HIV, hepatitis B and hepatitis C, are unfortunately possible consequences of piercing.

In addition, rubbing of the jewel or poor chewing habits can lead to loosening and localized bone loss, potentially resulting in the loss of affected teeth. Dental fractures are also possible.

In short, before opting for a piercing, you need to think carefully, as the consequences can be significant and irreversible. If you do go ahead with a piercing, it's best to use plastic rather than metal, to reduce the risk to the health of your teeth and the bone that supports your teeth and gums.

The grillz
Grills can have a major impact on oral health. Firstly, wearing this type of appliance creates a hygiene problem. The accumulation of food debris can rapidly deteriorate tooth enamel. Wearing a grill can also cause problems with speech and occlusion, and can injure the gums.

Twinkle and diamond or rhinestone
Fitting these ornaments requires alteration of the tooth surface to ensure good adhesion. Also, since the jewel protrudes from the tooth, it can be lost. What's more, if you wish to have it removed, the dentist will have to cover the site with a thin layer of composite to preserve your tooth.

Operative dentistry

Ceramic Restoration

Definition

Dental ceramics are used in the manufacture of implant-supported crowns, permanent bridges and ceramic veneers. To this day, it remains the material that most closely resembles tooth enamel, both in its rigidity and texture, and in the way it reacts to temperature variations when eaten. Biocompatible, dental ceramic restores strength to a damaged tooth, while providing great chewing comfort. Finally, wear is similar to that of natural tooth enamel, which benefits both the tooth itself and neighboring teeth.

Treatment indications

- To strengthen an adult (permanent) tooth that is weakened, affected by extensive decay, broken or already has a large amalgam or composite restoration;
- To strengthen a tooth that is painful due to a crack (cracked tooth syndrome);
- Avoid dental fractures;
- Improve the appearance of teeth.

Benefits

- Biocompatible and comfortable;
- Very aesthetic: its color blends in with that of the natural enamel;
- Preserves a larger, healthier portion of the tooth;
- Restores 98% of the strength of a natural tooth. Dental ceramics is the only restorative material capable of strengthening teeth;
- More durable than white composite restorations;
- Can be used on root-treated teeth;
- Can be used on teeth requiring a pivot;
- Allows restoration to be performed in a single visit. No temporary restoration required.

Disadvantages

- More expensive than composite restoration;
- Requires minimum thickness and width for good strength. It is therefore less suitable when a small amount of natural tooth substance needs to be removed, for example for a small cavity.

Risks and consequences of not treating

Ceramic restorations can help prevent a number of problems, including:

- A dental fracture leading to a more invasive treatment or root canal;
- Tooth loss if the fracture is too deep.

Amalgam restoration (gray filling)

Definition

Dental amalgam is an alloy composed mainly of mercury, silver, copper and tin. Highly resistant, it is used to restore broken, cracked or fractured teeth, or teeth affected by decay.

Dental amalgam has a long history, making it one of the first generation of filling materials used in dentistry.

Treatment indications

- Prevent the spread of tooth decay;
- Prevent the recurrence of tooth decay;
- Ensuring the functionality of the restored tooth;
- Reduce the risk of infection, especially of the gums.

Benefits

- Since amalgam is a high-pressure-resistant restorative material, it is ideal for cavities in posterior teeth;
- The high sealing power of amalgam ensures a good seal for teeth with a high risk of recurrence due to their position;
- Dental amalgam is more durable than composite resins;
- Amalgam restoration is both an inexpensive and more durable solution than white fillings (amalgam can last up to twenty years).

Disadvantages

- The silver color of the amalgam makes the restoration more visible and, consequently, less aesthetic;
- Certain dental cracks and fractures may be associated with the use of amalgam. Indeed, constant changes in the internal temperature of the mouth can lead to changes in the volume of the material, which contracts in the cold and expands in the heat, thus causing a crack;
- Amalgam carries the risk of provoking a systemic reaction in some patients, and can cause an electric current (galvanism) in the mouth in the presence of other metals.

Risks and consequences of not treating

- Progression of tooth decay, which can lead to more invasive and costly treatments;
- Tooth loss.

Composite restoration (white filling)

Definition

A composite resin restoration involves bonding an esthetic material to a tooth. There are various families of composite resins and adhesives with different chemical and physical properties, depending on their intended use. These restorations can be used on both anterior and posterior teeth. A multitude of colors are available on the market.

Treatment indications

- Filling the cavity left by the treatment of a cavity;
- Replacing an old, defective, lost or broken seal;
- Replacing an amalgam filling;
- Filling a tooth affected by the progression of tooth wear caused by the presence of acids (erosion), friction or clenching and grinding of teeth (attrition or abfraction);
- Correct an enamel defect creating a surface alteration (bump or depression) or a white, yellowish or brownish stain (hypocalcification or hypoplasia);
- Tooth filling following fracture;
- Correcting tooth misalignment;
- Improve the appearance of teeth.

Benefits

- Fast: set-up takes just one visit;
- Economical;
- Reversible, if the material is added to the tooth;
- Aesthetics.

Disadvantages

- Less durable than gold, dental porcelain and zircon;
- Contraction during hardening, which may leave the tooth slightly sensitive for a few days after the procedure;
- Stains easily and loses its polished appearance more easily over time and depending on the substances consumed (tobacco, coffee, tea, etc.);
- This material is more fragile and prone to fracture, especially if used in large quantities or in the molar region.

Risks and consequences of not treating

- Progression of decay towards the nerve of the tooth, which may require endodontic treatment (root canal) or extraction of the tooth;
- Infiltration of the decay around the defective filling towards the nerve of the tooth, which may require endodontic treatment (root canal therapy) or extraction of the tooth;
- Progressive tooth wear (erosion, attrition, abrasion, abfraction), which can lead to dentine hypersensitivity (sensitivity to heat, cold, sweet foods, acidic foods, chewing, etc.);
- Transformation of enamel defect into caries due to its poorer quality;
- Deterioration in the appearance of teeth.

Deterioration and breakage of fillings, crowns and other restorations

Definition

It's possible for restorations to wear and deteriorate over time, especially with regular chewing or teeth grinding and clenching.

Symptoms and pain

Few symptoms are related to the deterioration of restorations such as fillings and crowns. However, your dentist will be able to notice and correct any weaknesses in your restorations during the biennial check-up.

Causes

There are many causes of restoration deterioration:

- It is possible that the sealant (glue) deposited between the restoration and the tooth enamel may weaken over time, resulting in the formation of a space where food debris can lodge. This buildup can exacerbate the deterioration of the restoration;
- The normal pressure exerted during chewing, sometimes combined with a habit of clenching or grinding the teeth (bruxism), can also contribute to the deterioration of restorations;
- Poor occlusion of the teeth (poor distribution of forces between the teeth);

- Inadequate repair of a tooth (faulty filling or incorrect choice of material);
- Finally, time and normal wear of the material are potential factors in the wear of restorations.

Solutions

Different solutions are possible:

- If the tooth is well preserved, a new filling will be made;
- If a cavity has already formed or part of the tooth is fractured, a dental crown (CEREC, E4D or laboratory crown) may be considered;
- If the pulp is affected, a root canal will be performed, followed by a crown.

Risks and consequences of not treating

Damaged restorations can encourage tooth decay, as food residues can infiltrate between the tooth and the restoration, allowing bacteria to proliferate. If left unchecked, this can lead to complications such as the progression of decay into the dental pulp, the formation of an abscess and, finally, bacterial damage to the alveolar bone.

Advice and prevention

- The best way to prevent the deterioration of fillings and other restorations is to maintain good oral hygiene, including brushing 2-3 times a day, flossing and, if necessary, using interdental brushes;
- It’s also essential to visit the dentist once or twice a year for a thorough cleaning and examination of the teeth, including monitoring the condition of restorations.

Loss of a restoration (fallen filling)

Definition

In dentistry, the word “filling” actually refers to the material used to fill cavities resulting from the removal of tooth tissue affected by caries. For a variety of reasons, the filling may “fall out” on its own.

Symptoms and pain

The loss of a filling, whether total or partial, can be unpleasant, but it can also be unnoticeable. There are, however, certain signs that can attract our attention:

- A slight pain or sensitivity may be felt in the tooth;
- Some discoloration of the tooth or even of the filling may be noticeable;
- The tongue can feel a crack in the filling, or even its absence;
- A filling may become slightly mobile and appear to be no longer bonded to the tooth.

Causes

There are many different reasons for the loss of a filling. The most frequently observed are :

- A severe shock to the head area;
- Impact with a hard substance on a particular tooth (crunching a fork or a food that is too hard);
- Teeth grinding (bruxism);
- Clenching;

- Tooth decay;
- Poor occlusion of the teeth (poor distribution of forces between the teeth);
- Inadequate repair of a tooth (faulty filling or incorrect choice of material);
- Eating or drinking foods or beverages that are too hot or too cold can break the seal.

Solutions

Different solutions are possible:

- If the tooth is well preserved, a new filling will be made;
- If a cavity has already formed or part of the tooth is fractured, a dental crown (CEREC, E4D or laboratory crown) may be considered;
- If the pulp is affected, a root canal will be performed, followed by a crown.

Emergency advice

Waiting for your dental appointment:

- Rinse your mouth with lukewarm water to avoid subjecting exposed dentine to excessive temperature changes;
- Avoid eating hard foods. Prefer easy-to-eat foods such as yogurt or compotes;
- Take the precaution of eating on the side not affected by the loss of filling;
- Avoid hot and cold drinks;
- Place chewing gum, beeswax or orthodontic wax on the old filling. This will block airflow and temporarily reduce pain.
- Even if there’s no pain, make an appointment with your dentist as soon as possible to avoid further infection.

Implantology (dental implants)

Titanium implants

Definition

A natural tooth has two main parts: the crown, which is the visible part of the tooth, and the root, which is the part of the tooth lodged in the jawbone beneath the gum.

Inserted into the jawbone of either the maxilla or mandible, the dental implant acts as an artificial root.

A dental implant alone cannot replace a missing natural tooth. An abutment must be fitted to the implant once it has been inserted into the jawbone. Depending on the number of teeth to be replaced, an artificial crown (laboratory, CEREC or E4D), prosthesis (removable or fixed) or bridge will be fabricated and installed on the abutment.

Several dental health professionals are qualified to install dental implants: dentists, oral and maxillofacial surgeons and periodontists. These professionals must have extensive training in dental implant placement to call themselves implantology practitioners.

Treatment indications

- Replacement of one or more missing teeth;
- Support for fixed or removable full dentures.

Benefits

Titanium implants have certain advantages over ceramic (zircon) implants:

- Titanium has been used in both implantology and orthopedic surgery for many years, and there is a wealth of scientific data on its long-term effects - which is not yet the case with ceramic implants;
- Titanium implants are both very strong and very light;
- It is a material that integrates well with the bone structure.

Disadvantages

Some disadvantages of titanium implants :

- Titanium implants are biocompatible (tolerated by the body);
- The material used may give rise to allergic reactions leading to rejection;
- Fluorinated substances (toothpaste, gel, mouthwash) can cause titanium to corrode, which in turn leads to increased inflammation or immune response in tissues surrounding implants;
- Some of the alloys offered by implant companies contain aluminum, a substance known to be toxic to the nervous system;
- Because of titanium's natural metallic-gray color, a grayish aura is visible below the gum line, above or below the crown, depending on implant position. In this respect, the titanium implant is less aesthetically pleasing than the ceramic (zirconia) implant.

Risks and consequences of not treating

- Tilting neighboring teeth;
- Extrusion of antagonistic teeth (prevents displacement or overeruption of the tooth on the opposite jaw);
- Bone resorption (reduction in bone volume due to lack of mechanical or masticatory stimulation by natural teeth);
- Sinus hyperpneumatization (sinus descent into the hole left by the extracted tooth in the upper jaw only).

Ceramic implants

Definition

A natural tooth has two main parts: the crown, which is the visible part of the tooth, and the root, which is the part of the tooth lodged in the jawbone beneath the gum.

Inserted into the jawbone of either the maxilla or mandible, the dental implant acts as an artificial root.

A dental implant alone cannot replace a missing natural tooth. An abutment must be fitted to the implant once it has been inserted into the jawbone. Depending on the number of teeth to be replaced, an artificial crown (laboratory, CEREC or E4D), prosthesis (removable or fixed) or bridge will be fabricated and installed on the abutment.

Several dental health professionals are qualified to install dental implants: dentists, oral and maxillofacial surgeons and periodontists. These professionals must have advanced training in dental implant placement to call themselves implantology practitioners.

Ceramic implants are composed of a white metal called zirconia or zirconium, which is in a “crystallized” form. It then becomes more inert and behaves like a ceramic, hence the name “ceramic implant”.

Treatment indications

- Replacement of one or more missing teeth;
- Support for fixed or removable full dentures.

Benefits

Ceramic implants offer many advantages over titanium implants:

- Ceramic implants are biocompatible (tolerated by the body);
- They do not conduct electricity (galvanism) and resist corrosion;
- Studies conducted to date on ceramic implants have revealed no cases of incompatibility or allergy;
- Very low risk of peri-implantitis, as they are better tolerated by surrounding tissues (gingiva/bone);
- It is a material that integrates well with the bone structure;
- More aesthetic than titanium implants due to their white color.

Disadvantages

The only disadvantage of ceramic implants, if any, lies in their relative novelty: we have no data on the long-term effects of ceramic implants. However, because of the material's high biocompatibility and hypoallergenic properties, scientific studies conducted by professionals in the field suggest that ceramic (or zircon) implants could gradually replace titanium implants.

Risks and consequences of not treating

- Tilting neighboring teeth;
- Extrusion of antagonistic teeth (prevents displacement or overeruption of the tooth on the opposite jaw);
- Bone resorption (reduction in bone volume due to lack of mechanical or masticatory stimulation by natural teeth);
- Sinus hyperpneumatization (sinus descent into the hole left by the extracted tooth in the upper jaw only).

Angled titanium implants for *All-on-4®* prosthetic technique

Definition

A patient who is completely edentulous or whose teeth must all be extracted usually requires a minimum of six to eight implants to replace a complete set of teeth on one jaw with a **fixed full denture**.

Angled titanium implants and *All-on-4®* technology may be a more economical solution for these patients. Popularized over the past fifteen years by Dr. Paulo Malo, this technology makes it possible to adequately and effectively support a complete upper or lower denture with just four dental implants. It is based on the same principle as the legs of a chair or table, which can support considerable weight.

All-on-4® technology involves placing the two titanium implants at a 45° angle and two other straight implants at the front of the jaw.

With these 4 implants in place, you can produce a stable, solid fixed complete prosthesis fixed prosthesis. Some patients are not eligible for this type of treatment. Only a dentist can verify the feasibility of this treatment.

Benefits

- Following precise pre-planning (examination and CT scan), implants and prostheses are installed on implants in just a few hours, during a single visit with the specialist;
- Even a patient with low bone volume in the jaws can have access to this technology (bone grafts are not required in most cases);
- Convalescence is shorter than for traditional implant placement (6 to 8 implants);
- Total cost is more affordable, as fewer implants are used (four instead of six to eight) and bone grafting is generally not required.

What's more, the patient benefits from the same advantages as with other types of implants:

- Excellent aesthetic and functional results (artificial teeth that closely resemble natural teeth);
- Since the prosthesis is fixed, the patient is no longer exposed to the risk of losing his or her prosthesis or having to remove it in public;
- High success rate (95%+);
- Long-lasting result.

Disadvantages

- Although the risk is low, implant rejection can occur following surgery;
- Infection of the soft and hard tissues surrounding implants, called peri-implantitis, can occur over the years if implants are not carefully maintained;
- Certain medical conditions may contraindicate implant placement;
- Dental implants require a substantial financial investment. However, they are a long-lasting solution with the many advantages listed above.
- Some patients do not meet the criteria required for fitting and manufacturing this type of prosthesis.

Risks and consequences of not treating

- Bone resorption (reduction in bone volume due to lack of mechanical or masticatory stimulation by natural teeth);
- Gingival recession (lowering of the gums around the teeth);
- Impaired masticatory function (difficulty eating, especially hard foods);
- Alteration of facial contour (loss of teeth can reduce facial height);
- Gum injuries and ulcers caused by unstable conventional prostheses.

Tartar around implants

Definition

Tartar can affect implants and implant-supported prostheses in the same way as it does natural teeth. If you notice a rough, porous deposit at the base of your denture, it's important to have it removed quickly before more serious problems surface.

Symptoms and pain

- Tartar forms a solid, yellow, brown or sometimes blackish layer on the teeth.
- Tartar often forms near the outlet of a major salivary gland. The most common site of tartar formation is on the lingual surface (tongue side) of the lower incisors.
- The other most common site is on the buccal surface (cheek side) of the upper molars, at the outlet of the salivary gland known as the parotid gland, on the inner surface of the cheek. Tartar can be found wherever there is accumulated dental plaque.
- Tartar can appear above or below the gum line, or both. In the case of tartar below the gum line, the consequences can be more serious. In all cases, tartar irritates the gums, but its presence does not always cause pain. Tartar can cause bleeding when brushing or flossing.

Causes

Since tartar results from the accumulation of dental plaque calcified by minerals in saliva and food, any accumulation of plaque can lead to tartar build-up.

This tartar build-up can be quite rapid in the absence of basic hygiene care such as brushing and flossing.

Certain factors can make plaque removal more difficult:

- Unsuitable or poorly maintained dentures;
- Poor tooth position;
- Orthodontic treatment;
- Lower enamel quality;
- Fine scratches or wear on implants or prostheses increase the retention of plaque, which forms tartar.

It's also possible that certain drug treatments reduce salivary flow, making the mouth drier and plaque stickier. This mainly concerns treatments for diabetes or stress. In addition, people with weakened immune systems are more prone to tartar formation.

Finally, neglected or even absent oral hygiene can lead to rapid tartar formation. It should be noted that the lack of dexterity of certain individuals, such as children, the elderly and people with tremors, can also contribute to tartar formation.

Stages in the evolution of the problem

When tartar builds up and is left untreated, an inflammatory reaction may develop, with or without bleeding. This reaction is called gingivitis (around natural teeth) and peri-implantitis (around dental implants).

If left untreated, gingivitis degenerates into periodontitis (severe periodontitis can lead to the loss of the affected tooth), while severe peri-implantitis can lead to the loss of the associated implant.

Peri-implantitis

Definition

Peri-implantitis is an increasingly common infectious disease that attacks the bone supporting implants. For a variety of reasons, an inflammatory reaction may occur in the soft and hard tissues surrounding the implant, resulting in varying degrees of bone loss.

Peri-implantitis is the equivalent of periodontitis, which affects natural teeth.

Symptoms and pain

Although it is sometimes asymptomatic, peri-implantitis can manifest itself through the following symptoms:

- Diffuse pain or tenderness when brushing;
- Presence of pus and bad taste in the mouth;
- Gum inflammation around implants.

Causes

The main cause of peri-implantitis is the proliferation of plaque bacteria in the implant-supporting tissues, leading to an inflammatory reaction.

Risk factors

Certain factors may increase the risk of peri-implantitis:

- Smoking;
- The presence of gingivitis or periodontitis around the patient's natural teeth;
- Inadequate oral hygiene with plaque and tartar build-up around implants;
- A habit of clenching or grinding the teeth can accelerate the loss of an implant affected by peri-implantitis;
- Certain systemic disorders such as diabetes and osteoporosis.

Solutions

In the event of peri-implantitis, it is essential to consult a dentist or the surgeon who placed the implants as soon as possible. Only he or she can make the diagnosis and choose the appropriate treatment.

Treatment of peri-implantitis usually includes:

- In-depth cleaning around the implant and decontamination of the affected area using curettes, ultrasound or laser;
- A regenerative procedure to compensate for bone loss caused by peri-implantitis (bone grafting);
- The recommendation of strict, effective hygiene measures to prevent recurrence of the infection.

Risks and consequences of not treating

If the infection is not treated promptly, bone loss is likely to worsen, leading to the loss of the affected implant. Adjacent implants may also be affected.

Prosthodontics (dental prostheses)

Fixed bridge over natural teeth

Definition

A bridge is a fixed dental prosthesis that replaces one or more missing teeth. It consists of a minimum of three crowns soldered together. One or more artificial teeth rest on adjacent natural teeth. The teeth or implants on either side act as abutments for the bridge.

Treatment indications

- Replace one or two missing teeth;
- Avoid misalignment of the remaining teeth by holding them in position.

Benefits

- Improves smile aesthetics by filling an edentulous area;
- Improves speech and chewing;
- Fixed prosthesis: cannot be removed, as it is bonded to the teeth.

Disadvantages

- A minimum of 2 teeth adjacent to the edentulous space must be cut to create a bridge;
- The bridge is bonded, so it cannot be repaired if the porcelain surface fractures or breaks (the same applies to porcelain veneers or crowns);
- If an abutment tooth is lost (due to decay or gum disease), the bridge must be cut.

Risks and consequences of not treating

- Displacement of adjacent teeth;
- Over-eruption of antagonistic teeth (they become too long).

Processing stages and times

- At the first appointment, the abutment teeth are trimmed, the color is chosen and an impression is taken for the bridge, which will be designed in the laboratory. Temporary fillings are fabricated on the abutment teeth, pending cementing of the bridge;
- Two to three weeks later, the bridge is permanently cemented to the adjacent teeth;
- An additional appointment may be required for a bite or color adjustment.

Restrictions

- A bridge is not an option if the tooth or teeth to be replaced have been missing for several years and the abutment teeth have tilted too much (another solution will have to be considered);
- There is a limit to the distance between the teeth that will serve as abutments;
- It is not recommended to install a bridge on teeth that have tilted.

Implant bridge

Definition

To replace a few adjacent missing teeth, a bridge can be attached to dental implants, which act as artificial roots. Implants can be made of titanium or ceramic. The bridge is either screwed directly into the implants (or into an implant abutment), or cemented onto them.

Benefits

- The implant-supported bridge offers great stability of the dentition in the mouth, thereby increasing comfort and chewing efficiency;
- Unlike fixed bridges on natural teeth, adjacent teeth are not altered;
- Implant-supported bridges offer a highly esthetic solution to the loss of a few teeth, and give the impression of having natural teeth;
- This solution helps prevent bone and gum resorption;
- The implant bridge is a durable solution when properly maintained, i.e. when rigorous hygiene measures are applied;
- The bridge replaces the option of a removable partial on natural teeth.

Disadvantages

- A certain quantity and quality of bone is required for implant placement, which may necessitate prior grafting;
- Additional surgery, called sinus lift, may be required before the top implants are placed;
- Although the risk is low, implant rejection may occur following surgery;
- Infection of the soft and hard tissues surrounding implants, called peri-implantitis, can occur over the years if implants are not carefully maintained.
- Certain medical conditions may contraindicate implant placement;
- Dental implants require a substantial financial investment. However, they are a sustainable solution with the many advantages listed above.

Risks and consequences of not treating

- Tilting neighboring teeth;
- Extrusion of antagonistic teeth (prevents displacement or overeruption of the tooth on the opposite jaw);
- Bone resorption (reduction in bone volume due to lack of mechanical or masticatory stimulation by natural teeth);
- Gingival recession (lowering of the gums around the teeth);
- Impaired masticatory function (difficulty eating, especially hard foods);
- Increased risk of dental caries due to additional space for food debris and bacteria on natural teeth adjacent to the implant-supported bridge.

Complete removable prosthesis

Definition

Complete removable dentures, also known as “dentures”, are used to replace all the teeth (14 in all) in a dental arch (upper or lower jaw). In the upper jaw, it rests on both the gum and the palate. In the lower jaw, it rests on a large part of the gum. The complete denture is held in place in the mouth by the suction effect created by the saliva that collects between the denture and the gum.

There are two types of base material:

- Pink acrylic resin: the color imitates natural gingiva. Full dentures are almost exclusively made of acrylic. They are sometimes reinforced with other materials, such as fiberglass or a metal alloy;
- Metal alloy: The metal structure is very thin and lighter than the acrylic base, but stronger, so it often acts as a reinforcement to the acrylic base.

The artificial teeth mounted on the prosthesis base are made of tooth-colored resin (acrylic) or porcelain (ceramic).

Benefits

- The manufacture of a removable prosthesis is less expensive than alternative treatments such as dental implants (titanium or ceramic);
- The manufacturing period is much shorter than the time required to complete some other alternative treatments such as dental implants;
- The removable prosthesis is a non-invasive treatment plan, since no surgical procedures are required, unless tooth extractions are necessary;
- An alternative, more permanent treatment plan may be considered in the future, should you decide not to wear your removable prosthesis, and if your medical condition permits. In other words, wearing a removable prosthesis is “reversible” under certain conditions;

- Your smile (final result) after the prosthesis has been placed in your mouth can be predicted by the color and shape of the prosthesis teeth;
- You can remove it and replace it later;
- It can be readjusted as needed to make sure it's always comfortable;
- The prosthesis helps restore normal masticatory function and speech.

Disadvantages

- The prosthesis moves when speaking or eating, especially at the bottom, and if the teeth have been removed for several years (the bone resorbs more and more over the years);
- Comfort is more difficult to achieve if you lack saliva (xerostomia);
- The teeth are flatter and less sharp than natural teeth;
- We have to remove it at night, so it's inconvenient for some people with their spouses;
- Rinse after each meal.

Risks and consequences of not treating

- Undesirable changes in your facial characteristics, features and chewing function;
- Relocation of remaining teeth to the opposite arch if the space left by missing teeth is not quickly filled by a prosthesis.

Fixed complete prosthesis on implants

Definition

A dental implant is a screw inserted into the alveolar bone, the bone supporting the teeth. It acts as an “artificial tooth root” that can accommodate a prosthesis, henceforth referred to as an “implant-supported prosthesis”. Once the implant is stable in the jawbone, the prosthesis is installed on it. This type of prosthesis can be permanently attached to the implant.

The following list deals only with fixed prostheses on one or more dental implants:

- **Single-tooth implant**: the prosthesis is a simple artificial crown that is screwed onto an abutment, which in turn is screwed into the implant. It is used to replace a single tooth, or sometimes two teeth that can be adequately supported by a single implant.

- **Bridge**: Generally used to replace 3 to 6 teeth. It is used when the adjacent natural teeth are not in good enough condition or position to support a conventional fixed bridge. The implant-supported bridge is an interesting fixed solution when several teeth are missing on one side of an arch, or to replace several teeth at the front.

- **Fixed prosthesis on 5-6-7-8-10 implants**: this technique is used to permanently install a complete dental prosthesis (denture). Although four dental implants may be sufficient to support a full denture, especially with the *All-on-4®* technique, it is sometimes indicated to proceed with the insertion of five, six, eight or even ten implants in the alveolar bone to support such a prosthesis. The most influential factors in determining the number of implants required are the quality and quantity of the bone substance, the desired stability and the stimulation of the alveolar bone. Usually, a greater number of implants will be required if :

  – insufficient bone quantity or sub-optimal bone quality;

  – Prosthesis stability is an important feature for you.

  It’s more common to use eight or more implants to support a complete prosthesis in the upper jaw than in the lower jaw. Lower jaw prostheses rarely require the use of more than six implants.

- ***All-on-4®* technology**: this technique supports a complete dental prosthesis on four implants, in both the maxilla and mandible. The patient must be completely edentulous in one or both jaws to benefit from this technique. The technique can be used even with low bone volume in the jaws, so bone grafting is rarely required. In this technique, the two posterior implants are inserted at a 45-degree angle into the jawbone, giving them greater stability. The implants and prosthesis are installed in a single visit to the dental surgery. As a result, the *All-on-4®* technique is less invasive and requires less recovery time than other treatment plans. The cost of this treatment plan may be lower, depending on the number of implants required.

- **Implant-supported removable dentures**: there are also implant-supported removable dentures, i.e. dentures that attach to implants to make them more stable in the mouth than ordinary dentures. These dentures can be easily removed for cleaning.

  They can be installed on 2 implants with ball-type attachments, like the snaps on clothing, or on metal bars, which are installed on 4 to 6 implants. It should be noted that there are many different bar designs on the market.

Risks and consequences of not treating

- Undesirable changes in your facial characteristics, features and chewing function;

- Irreversible resorption of the jawbone where one or more teeth have been extracted or are already missing;

- Removal of remaining teeth to the opposite arch if the space left by missing teeth is not quickly filled by a prosthesis.

Acrylic partial denture

Definition

Acrylic dentures, with or without clasps, are used to replace one or more missing teeth. It is, however, less comfortable and less stable than a denture with a metal structure. It is recommended as a transitional prosthesis for patients who anticipate the loss of other natural teeth in the near future, necessitating modification of their existing prosthesis or fabrication of a full denture. The acrylic partial denture is also frequently chosen by those who require treatment (e.g. of the gums) before they can wear a denture with a metal structure.

Benefits

- Economical choice;
- Preventing jaw joint problems;
- Fast manufacturing.

Disadvantages

- Less comfortable, less stable and more fragile than a prosthesis with a metal structure;
- Thicker and covers a larger area of the palate;
- Not recommended for the lower jaw;
- Relatively long adaptation period ;
- Must be checked and adjusted regularly.

Risks and consequences of not treating

- Tilting of neighboring teeth;
- Extrusion of antagonistic teeth (prevents displacement or over-eruption of the tooth on the opposite jaw);
- Sinus hyperpneumatization (sinus descent into the hole left by the extracted tooth on the upper jaw only);
- Bone resorption (reduction in bone volume due to lack of mechanical or masticatory stimulation by natural teeth);
- Jaw joint disorder;
- Difficulty chewing;
- Dietary modifications to be considered. For example, certain foods such as raw vegetables and nuts may need to be cut before ingestion;
- Altered speech ;
- Unsightly smile;
- Permanent change in profile (appearance of “witch’s chin” and sunken cheeks).

Maintenance

- Clean the prosthesis after each meal;
- Soak dentures in a jar of water overnight;
- Ideally, use soaking solutions specially designed for dentures and follow the manufacturer’s instructions carefully, as soaking times and product duration may vary from one to another;
- If tartar deposits form on dentures, never attempt to “scrape” them off. Instead, take your dentures to your dentist, who has the appropriate products and instruments for scaling dentures;
- If your teeth are completely edentulous, your attending dentist will examine them at least once a year to assess, among other things, the condition of the gums and supporting bone, as well as the overall condition of the prosthesis.

Partial denture with metal structure

Definition

Metal partial dentures, made from a cobalt-chromium alloy, are used to replace missing teeth, whether adjacent or not. As there are other solutions for replacing a single tooth, it is mainly used when several teeth are missing. Partial dentures rest on both the gums and the remaining teeth, and are held in place by clasps on the surrounding teeth, making them more stable than full dentures by resting on healthy natural teeth. Used in both the upper and lower jaw, it restores and improves aesthetics and chewing function, while keeping the remaining teeth in the right position. Finally, it preserves the balance of the natural teeth, mucosa, supporting bone and jaw joint.

Benefits

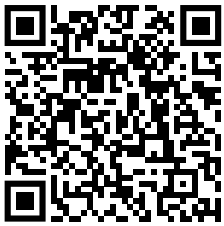
- Lightweight;
- Durable;
- Easy maintenance;
- Less tongue movement than acrylic-only prostheses.

Disadvantages

- More expensive than acrylic prostheses;
- At first, the teeth on which the clasps rest may be sensitive (this sensation is temporary, however);
- Clasps may be visible in some cases;
- An adaptation period is required;
- Metal can conduct heat and cold;
- Clasps can damage the natural teeth on which they rest and can cause decay if rigorous hygiene is not observed.

Risks and consequences of not treating

- Tilting of neighboring teeth;
- Extrusion of antagonistic teeth (prevents displacement or over-eruption of the tooth on the opposite jaw);
- Sinus hyperpneumatization (descent of the sinuses into the hole left by the extracted tooth on the upper jaw only);
- Bone resorption (decrease in bone volume due to lack of mechanical or masticatory stimulation by the natural teeth);
- Jaw joint disorder;
- Diet modification to be considered. For example, certain foods such as raw vegetables and nuts will need to be cut before ingestion;
- Impaired speech;
- Unattractive smile;
- Permanent profile change (appearance of “witch’s chin” and sunken cheeks).



Immediate partial or complete prosthesis

Definition

This prosthesis is inserted on the same day, immediately after the teeth to be replaced have been extracted, so there's no need to go out in public with missing teeth. The immediate prosthesis is made from an impression of the original teeth, before they are extracted.

Benefits

- Since this prosthesis is designed while your natural teeth are still in your mouth, their shape, color and arrangement are easier to reproduce;
- Inserted immediately after extraction, it acts as a dressing, protecting tissues, limiting bleeding and ensuring even healing of the gum;
- Adapting to speaking with a prosthesis will be easier if you wear an immediate prosthesis than if you spend some time without teeth and without a prosthesis while waiting for a definitive prosthesis;
- The prosthesis also ensures that you don't lose your ability to chew, minimizing the facial distortion that can occur when teeth are removed, and preventing disorders of the jaw joint.

Note: If you have a new prosthesis made after the healing period, you can keep the immediate prosthesis as a spare, which is very practical in the event of breakage, loss or repair of your main prosthesis.

Disadvantages

- The immediate prosthesis will need several readjustments (several visits for temporary relines);
- After the soft tissues have healed and the underlying bone has shrunk (3 to 6 months after extractions), the immediate denture must be permanently relined or a new denture fabricated;
- Prosthesis relines can give off unpleasant odours, as they are more porous and therefore prone to bacterial proliferation.

Risks and consequences of not treating

- Tilting of neighboring teeth;
- Extrusion of antagonistic teeth (prevents displacement or over-eruption of the tooth on the opposite jaw);
- Sinus hyperpneumatization (descent of the sinuses into the hole left by the extracted tooth on the upper jaw only);
- Bone resorption (decrease in bone volume due to lack of mechanical or masticatory stimulation by the natural teeth);
- Jaw joint disorder;
- Difficulty chewing;
- Diet modification to be considered. For example, certain foods such as raw vegetables and nuts will need to be cut before ingestion;
- Altered speech;
- Unattractive smile;
- Permanent change in profile (appearance of “witch’s chin” and hollow cheeks).

Problems associated with wearing dentures

Definition

The problems encountered by denture wearers vary according to the individual and the type of denture. Here's a quick reminder of the different types of dentures:

Immediate prosthesis: made before the patient loses his or her teeth, it is placed in the mouth immediately after extraction. This ensures that the patient is not left without teeth during the healing period.

Complete prosthesis (denture): replaces all the teeth by resting on the gums and sticking to the palate with a suction cup effect, thanks to saliva.

Removable partial denture (acrylic or metal frame): replaces missing teeth. It is held in place by clasps on adjacent teeth.

Fixed prosthesis on dental implant: A dental implant is a screw inserted into the bone supporting the teeth. It replaces the root of the tooth and supports the prosthesis. The prosthesis is permanently attached to the implant.

There are also removable prostheses on implants: these are fixed to screws previously "implanted" in the jawbone. This system gives the prosthesis greater stability.

Transitional disadvantages

- Wearing a new device requires a period of adaptation (on average one month), which will require a lot of patience on your part.
- The first problem is the psychological shock of losing all or part of your teeth. A period of mental adjustment is required to come to terms with this new reality. Added to this is the difficulty of accepting "foreign" teeth.

- Dentures can sometimes irritate mucous membranes, appearing too tight or, on the contrary, too loose. Clasps can also break;

- Excessive salivation: your mouth harbors a new foreign body, triggering an initial reaction in the form of excessive salivation. This will diminish over time;

- Irritation often occurs. The foreign body that is your prosthesis causes a reaction in the mouth, which should disappear fairly quickly;

- At first, your prosthesis may feel uncomfortable, like it's too big and pushes your lips forward. This is still due to the reaction of the foreign body, but your mouth will gradually adapt and hold your prosthesis in place;

- Attempted rejection may cause your prosthesis to slip out of place. However, it can easily be held in place with a suitable adhesive;

- Even a well-fitting denture may need to be readjusted over time. In fact, it's not the prosthesis that's to blame, but the gums that evolve and the jawbone that deteriorates over time;

- Language difficulties: certain consonants and syllables will be more difficult to pronounce than others (S, F and V);

- Mastication: eating with new prostheses requires practice, patience and perseverance;

- Sensitivity and pain in certain areas;

- Most people with new dentures experience pain in certain areas of their gums for some time. This should gradually diminish with adjustment;

- Occasionally, pain may be felt in the jaws, extending as far as the temples (temporomandibular pain). This is probably due to overloading of the chewing or facial muscles in order to hold the prosthesis in place;

- Playing a wind instrument may be affected if you wear a removable prosthesis.

All these symptoms should disappear with a little time, patience and the help of your dentist.

Reupholstery and relining of dentures

Definition

The bone structure on which a removable prosthesis (commonly known as a denture) rests is resorbed over the years. After the extraction of one or more teeth, the bone beneath the gum loses its stimulation. It therefore tends to diminish in volume, rather like a limb that has been in plaster for several weeks, losing muscle mass and, by the same token, bone mass. The jaws react in the same way when they are no longer stimulated by tooth roots. Bone mass decreases over the years and varies from person to person. This phenomenon is called bone resorption.

Rapid gum changes can also occur as a result of weight loss, viruses, illness or certain medications.

There are two possible solutions to this problem:

Reupholstery: this involves adding acrylic or a specially designed product, which acts as a “cushion”, inside the denture to fill the space between the soft tissues and the denture.

Relining: the aim of this technique is to completely replace the pink acrylic in the denture, while preserving the teeth of the old denture.

Benefits

These two techniques offer a number of advantages:

- First of all, they avoid the extra cost of manufacturing a new prosthesis;
- Dentures regain their stability, putting an end to the pain caused by abnormal denture movements;
- These are proven, reliable and affordable techniques.

Disadvantages

- Reupholstery and relining do not restore the appearance of the denture teeth;
- These solutions do not correct occlusion problems.

Risks and consequences of not treating

- Painful gums;
- Digestion problems caused by more difficult chewing;
- Musculo-articular pain;
- Jaw joint problems, premature ageing of the face, etc.

Processing stages and times

Reupholstery

- First, an impression of the inside of the denture is taken;
- Then, acrylic is added to the denture to fill the space created between it and the gum tissue;
- Adjustments are made to ensure maximum comfort;
- This procedure can be performed in a single appointment;
- Another technique involves adding a paste to the denture that hardens directly in the mouth.

Relining

- This technique requires more time, since the basic structure of the prosthesis (without the prosthetic teeth) is completely redone. The new base is fabricated in the laboratory and, during a second appointment, the prosthesis is tried in and adjusted.

Surgery

Simple extraction

Definition

Extraction is the term used to describe the removal or “pulling out” of a tooth. We say “simple” because the act of removing the tooth does not involve altering the gum or bone underlying the tooth to be removed.

The dentist will evaluate the tooth or teeth to be extracted according to several parameters, and determine whether they can be considered “simple” or “complex” extractions.

Treatment indications

- Tooth too decayed (impossible to make a durable restoration);
- Tooth too decayed under the gum;
- Tooth fractured under the bone;
- Tooth fractured at root level;
- Tooth with advanced periodontal disease;
- Tooth badly positioned;
- Lack of space in the mouth (often in orthodontic cases);
- Tooth difficult to reach for hygiene reasons;
- Etc.

Risks and consequences of not treating

- Infection of the tooth or surrounding tissue, causing bleeding, pus, swelling, discomfort and pain;
- Possibility of carious lesions in neighbouring teeth;
- Possibility of gum disease (periodontal) and bone loss around adjacent teeth due to difficult access for hygiene;
- Possible injury to the tongue or soft tissue around the tooth to be extracted if the edges are broken, fractured or sharp.

Processing stages and times

First appointment :

- Consultation with review of the patient's dental and medical history;
- Clinical and radiological examination of the tooth or teeth to be extracted;
- Cost estimate.

Second appointment:

- Extraction of selected teeth;
- Stitches (if necessary);
- Prescription of antibiotics or painkillers (as appropriate).

Third appointment:

- Follow-up healing and suture removal (as appropriate).

Complex extraction

Definition

Extraction is the term used to describe the removal of a tooth. Extraction is said to be “complex” when the procedure involves modifying the tissue and bone that support the tooth (e.g. some procedures require a flap to be made, i.e. cutting through the gum and removing bone in order to remove the tooth).

Treatment indications

- Tooth too decayed (impossible to make a durable restoration);
- Tooth too decayed under the gum;
- Tooth fractured under the bone;
- Tooth fractured at root level;
- Tooth suffering from advanced periodontal disease;
- Tooth badly positioned;
- Tooth to be extracted for reasons of lack of space (often in orthodontic cases);
- Tooth difficult to reach for reasons of hygiene;
- Tooth impacted;
- Supernumerary tooth under the bone;
- Etc.

Risks and consequences of not treating

- Infection of the tooth or surrounding tissue, causing bleeding, pus, swelling, discomfort and pain;
- Possibility of carious lesions in neighbouring teeth;
- Possibility of gum disease (periodontal) and bone loss around adjacent teeth due to difficult access for hygiene;
- Possible injury to the tongue or soft tissue around the tooth to be extracted if the edges are broken, fractured or sharp.

Processing stages and times

First appointment:

- Consultation with review of the patient's dental and medical history;
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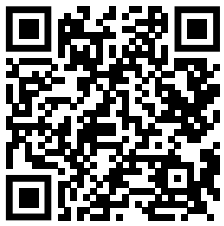
- Follow-up healing and suture removal (as appropriate).



Crown lengthening

Definition

Crown lengthening surgery serves as a preparatory step for restoration. It can also be performed in the case of deep caries lesions, or to improve smile aesthetics in the case of gummy smiles. The procedure involves reshaping the gums and bone around the teeth concerned.

Benefits

- Crown lengthening surgery helps predict the results of subsequent restorations;
- Prevents periodontal problems;
- Improves aesthetic appearance of the teeth;
- Ensures a high level of satisfaction.

Disadvantages

- Risk of increasing interdental space and creating unsightly “black holes”;
- Risk of developing sensitivity at the roots of treated teeth;
- Risk of obtaining uneven results.

Risks and consequences of not treating

- Progression of decay towards the root of the tooth and possibility of developing an abscess;
- Damage to nerves and alveolar bone;
- Aggravation of fracture or tooth wear;
- Various gingival (gingivitis) and periodontal (periodontitis) conditions.

Processing stages and times

- A local anaesthetic is first administered to avoid any pain;
- Small incisions are made in the gingival tissues supporting the tooth to be treated, but sometimes also in adjacent tissues to ensure uniformity of the result;
- Excess gingiva is removed to provide better access to the tooth. A certain amount of bone substance may also be removed if the situation so requires;
- The wound is cleaned and the gum is closed with fine sutures to optimize healing;
- The procedure is completed by a periodontal dressing;
- Healing of the treated site will be complete after two or three months, depending on the precautions taken by the patient.

Sinus elevation

Definition

The maxillary sinuses are cavities in the upper jawbone. With the loss of a molar, the sinus tends to descend into the space left by the tooth. The height of the bone no longer allows the placement of a dental implant. The sinus can be elevated for implant placement.

Benefits

A sinus lift provides sufficient bone substance for implant placement, making it an ideal alternative to removable prostheses, which can be unstable, injuring the gums and contributing to the phenomenon of gingival recession (lowering of the gums around the teeth).

Disadvantages

The procedure involves certain risks, including:

- Perforation of the sinus membrane. In this case, the membrane can be sewn back together to allow the procedure to continue. It is also possible to allow some time for the membrane to heal on its own. The sinus lift can be resumed a few months later;
- Infection or inflammation;
- Pain;
- Bone graft rejection, although this is rare.

Processing stages and times

- A cavity is first made in the bone;
- The sinus is carefully elevated;
- Fine bone particles are introduced into the cavity to fill the space left by the sinus;
- A membrane is applied to close the access;
- The gum is closed with fine sutures;
- After a healing period of a few weeks, the sinus level allows the positioning of the back implants.

Discomforts and pain

Dental fistula

Definition

A dental fistula is a canal that is gradually created to evacuate a purulent substance produced by an untreated infection. When a periapical or periodontal abscess is not treated promptly, or if it becomes chronic, the pus accumulated inside the abscess seeks a passage to drain naturally. A fistula is said to be “external” when it makes its way into the skin (causing a visible lesion on the chin or cheek). An “internal” fistula occurs when the evacuation orifice is created in the mucous membranes of the mouth or gums.

Symptoms and pain

- A fistula often looks like a small pimple or blister with a whitish or yellowish tinge. It may also be covered by a thin crust;
- Fistulas may be asymptomatic. However, if the drainage channel becomes blocked, severe pain may be felt in the affected tooth;
- A bad taste in the mouth and foul breath (halitosis) may also occur;
- Fistula may be accompanied by hearing loss.

In all cases, it’s important to consult your dentist as soon as possible. He or she will perform an X-ray examination to diagnose the problem.

Causes

- Untreated tooth decay leading to pulpal necrosis;
- Untreated abscess;
- Tooth fracture;
- Impacted wisdom tooth leading to pericoronitis, i.e. infection of the tissues surrounding the erupting tooth.

Risk factors

- According to studies, one in six teeth affected by dental caries or other inflammatory conditions leads to the formation of a dental fistula;
- A devitalized tooth is at greater risk of developing a dental fistula.

Solutions

- As dental fistula is often a complication arising from a specific problem that has not been properly treated (caries, abscess, fracture, etc.), the original cause of the fistula must be treated first and foremost. This may involve root canal treatment or root planing, a procedure designed to clean up infected tissue;
- A tooth extraction can also be performed in more severe cases;
- Antibiotics may also be prescribed to stop the infection.

Aphthae (burns)

Definition

Aphthaes are small ulcers that appear on the inside of the cheeks, lips and tongue. More rarely, they can appear on the palate or gums. Mouth ulcers are not contagious and are benign. They usually heal within two weeks.

Causes

- Over-energetic brushing;
- Problems fitting dentures;
- Injury caused by chewing a hard or acidic food;
- Accidental biting while chewing;
- Burns after consuming a hot food or drink;
- Ulceration caused by a needle during dental anaesthesia;
- Injuries caused by braces or misaligned teeth;
- Stress and fatigue;
- Poor oral hygiene;
- Smoking cessation;
- Certain diseases (Crohn’s disease, Behçet’s disease);
- Certain medications (anti-inflammatories, anti-steroids, beta-blockers, antidepressants);
- Hormonal changes;
- Radiotherapy or chemotherapy.

Emergency advice

- Use local anesthetics if pain is severe;
- Take a corticosteroid-based medication for multiple, very painful mouth ulcers;
- Consult your dentist or physician if mouth ulcers occur frequently and for no apparent reason, or if they last longer than two weeks. It could be a symptom of an underlying disease or virus.

Prevention tips

- Brush your teeth gently with a soft bristle brush at least twice a day;
- Floss daily;
- Use a toothpaste for sensitive gums;
- Make sure your braces or dentures are comfortable and that no friction is present to irritate and produce a painful canker sore;
- Eat slowly to avoid biting yourself when chewing food;
- Avoid acidic or pungent foods;
- Take mouthwash twice a day;
- Rinse your mouth with salt water, a natural antiseptic.

Wound that won’t heal

Definition

A sore in the mouth that doesn’t heal and lasts longer than two weeks can be an early sign of oral cancer.

The wound often takes the form of a small cavity in the mucous membrane of the mouth.

Symptoms and pain

- Wound lasting more than two weeks;
- Bleeding in contact with the wound.

A wound of this type does not always cause pain. Nevertheless, it is essential to consult a dentist even if there is no discomfort.

Emergency advice

A sore in the mouth that is slow to heal is reason enough to make an appointment with your dentist as soon as possible to have it examined. Early detection of cancerous lesions increases the success rate of treatment, and therefore the chances of survival. A rapid diagnosis will reduce the risk of complications.

Risk factors

- Tobacco and cannabis;
- Heavy alcohol consumption;
- Combined consumption of tobacco and alcohol (30% increase in risk);
- Prolonged and repeated exposure of the lips to the sun;
- A diet low in fruit and vegetables;
- HPV (human papillomavirus infection);
- Poor oral hygiene;
- Genetic predisposition (men are more affected than women);
- Age (risk increases after age 40).

Solutions

Should the dentist consulted suspect the presence of cancer of the oral cavity, follow-up with an oncologist, a cancer specialist, will be recommended. The recommendation for treatment will depend on the stage of the disease, the location and size of the tumour, the effects of treatment on the patient's condition and the overall health of the patient.

Depending on all these factors, the oncologist may recommend surgery, radiotherapy or chemotherapy.

Dry mouth (xerostomia)

Definition

The oral environment has its own chemical balance.

Saliva plays an essential role in maintaining a neutral or slightly alkaline oral pH. Among other things, it naturally protects teeth against acid caries.

Xerostomia, or dry mouth, occurs when salivary flow is reduced. This phenomenon causes a significant imbalance in the mouth. It is therefore common to find that people with a lower quantity or quality of saliva are more affected by various dental conditions, including tooth decay, tooth erosion or even gum disease.

Causes

The most frequent causes are:

- Normal aging;
- Stress;
- Tobacco, alcohol and drug consumption;
- Medications that have the side effect of reducing salivary flow (antidepressants, anxiolytics, antiparkinsonian drugs, sleeping pills, etc.);
- Removal of salivary glands;
- Radiotherapy to the head and neck;
- Some medical conditions, such as Sjrögren's syndrome, result in a significant reduction in salivary flow.

Solutions

To treat dry mouth, it's important to identify the most likely cause.

To compensate for the lack of saliva, we recommend moisturizing the mouth with small sips of water, especially at night.

At mealtimes, it's a good idea to add a sauce to the dish to facilitate swallowing. It's also worth knowing that raw foods stimulate saliva production.

Choose a toothpaste without sodium lauryl sulfate. This ingredient may tend to cause ulceration of mucous membranes. Instead, use a fluoride-rich toothpaste to help remineralize enamel.

You can also use a fluorinated mouthwash in the evening before bedtime to prevent cavities.

There are also specialized products, the best-known of which are from Biotène (toothpaste, mouthwash, moisturizing gel and spray) and Oral Science (anti-caries toothpaste, fluoride mouthwash, night-time sticky lozenges, spray, gums, lozenges and repair gel). Choose lozenges or gums containing xylitol, as this sweetener has the power to stimulate salivation.

In the event of xerostomia secondary to medication, it's a good idea to check with your GP whether it's possible to choose an equivalent drug that doesn't have this side effect, which can be very damaging to your teeth.

Reducing tobacco, alcohol or drug consumption and controlling stress can reverse dry mouth secondary to these agents. You should also avoid sticky foods and sugary drinks, which considerably increase the caries index in dry mouth.

Regular check-ups with your dentist are essential, as a lack of saliva means a high risk of caries. As well as preventing more serious problems, your dentist will be able to advise you on how to limit the inconvenience caused by dry mouth.

Dental hypersensitivity

Definition

Dental hypersensitivity can cause severe pain or daily discomfort. It is characterized by the following pains:

- Cold ;
- Heat ;
- Sugar or acidic foods;
- Air passing through the mouth;
- Brushing the teeth.

These types of pain can indicate the presence of decay or underlying disease. Bare dentin, decalcified enamel or receding gums can also cause hypersensitive teeth. The pain caused by hypersensitivity usually occurs occasionally, but can become constant. This pain is similar to an electric current that lasts a few seconds and occurs at the junction of the gum and the tooth.

Prevention tips

To prevent the risk of developing hypersensitivity, it's important to maintain good oral hygiene. It would be wise to opt for a toothbrush with soft bristles. Pain can be alleviated by reducing the force exerted on teeth and gums when brushing; you can hold your toothbrush with two fingers rather than your full hand. To reduce discomfort, use a toothpaste for sensitive teeth for some time. A fluoride mouthwash can also help strengthen teeth and block nerve endings.

Tooth sensitivity is reason enough to see your dentist. Even if the pain eases with the use of toothpaste for sensitive teeth, this type of toothpaste can also mask a more serious problem. That's why it's important to have a dental check-up. Depending on the cause of the pain, your dentist will find the right treatment for you to eliminate the sensitivity.

Missing tooth

Definition

The term itself defines an abnormal absence in the oral cavity. In principle, teeth are naturally “placed” in the mouth in such a way as to form a coherent, stable and complementary whole. The absence of one piece of this puzzle creates an imbalance that can lead to a variety of disturbances.

Symptoms and pain

The symptoms seem obvious (sometimes visible space between the teeth) and can be related to various pains or discomforts, which can be serious:

- Aesthetic problems (making it difficult to smile);
- Migration of adjacent teeth;
- Chewing problems;
- Malocclusion problems;
- Jaw joint pain.

Causes

There are many causes of missing teeth:

- Shock or trauma can cause a tooth to break, and if the trauma has reached the root, the tooth may have to be extracted;
- Untreated gingivitis that has degenerated into periodontitis, causing tooth mobility and, potentially, tooth loss;
- Severe periodontal disease that has destroyed tissue and bone to the point of undermining the tooth and causing it to fall out;
- A congenital absence of one or more teeth (anodontia). This condition is more common in women than in men, affecting between 3.5% and 6.5% of the population;

- Decay caused by untreated decay can sometimes lead to extraction if the entire tooth structure is affected.

The absence of a tooth also poses real and tangible problems, due to the specific role each tooth plays in the whole dentition. The space created by the absence of one or more teeth not only has aesthetic consequences, but also greatly disrupts the functioning of mastication and occlusion.

Solutions

In the event of an accident, we recommend that you immediately re-insert the tooth into its socket yourself. Once the tooth has been replaced, it is essential to visit the dentist as soon as possible.

After an extraction or to correct a congenitally missing tooth (anodontia), a dental professional will consider various options, depending on the technical possibilities available and, of course, the cost of the proposed procedure.

Several options are available:

- Orthodontic treatment with prosthetic replacement of missing teeth or complete closure of gaps;

- Fixed bridge: This is a prosthesis that is not integrated into the bone, but is bonded to the teeth adjacent to the vacant space. These supporting teeth are prepared beforehand, and the prosthesis (bridge), usually made of porcelain, is bonded to the teeth on either side;

- The dental bridge is a variant of the above in that it joins adjacent teeth on either side of the existing gap. These teeth often need to be modified or even devitalized. The main difference is that the bridge is fixed and cannot come loose;

- The single-tooth implant-supported crown is by far the most durable solution for replacing extracted or congenitally missing teeth. A titanium or ceramic screw (acting as the root of the future tooth) is inserted into the bone, and a crown carefully color-matched to the neighboring teeth is attached. The neighboring teeth are left completely untouched.
  The procedure is relatively easy and painless;

- Removable partial denture: for a variety of reasons (including lower cost), the decision is made to opt for a partial denture. Made of acrylic or with a metal structure, they have the disadvantage of having to be removed for cleaning, but this disadvantage can also be seen as an advantage in that, when properly cared for after meals, they remain cleaner than fixed prostheses.

Tooth wear

Definition

Tooth wear is a thinning of the enamel caused by mechanical or chemical phenomena. It may be a symptom of a more serious condition.

Tooth wear takes many forms:

- Attrition is caused by teeth rubbing together. It is visible on the occlusal surface of the teeth (the top);
- Erosion is caused by acidity in the mouth. It is attributable to the consumption of acidic substances (water or soft drinks, energy drinks, citrus fruits, etc.) or to repeated vomiting (bulimia);
- Abrasion is caused by repeated mechanical contact between the tooth and an object (pencil, pin, toothbrush). It is often the result of over-aggressive brushing;
- Abfraction is caused by disordered occlusion and masticatory forces. This type of wear is characterized by a loss of enamel in the form of axe-like blows to the neck of the teeth.

Symptoms and pain

- Dental hypersensitivity. Enamel wear progressively uncovers dentin, resulting in increased sensitivity to temperature changes and pressure;
- Yellowing teeth. Worn enamel loses its thickness, revealing yellowish dentine. Teeth also lose their lustre.

Causes

- A habit of clenching and grinding the teeth (bruxism);
- A malocclusion;
- Consumption of acidic foods and drinks (vinegar-based foods, fruit juices, citrus fruits, etc.), which gradually erode enamel;
- The presence of dental plaque, which produces and maintains an acidic environment in the mouth;
- Certain eating disorders responsible for regular vomiting;
- The presence of gastro-oesophageal reflux disease;
- Over-aggressive tooth brushing;
- The use of a toothbrush with stiff bristles;
- Impacted canines (the canines act as guides during chewing, preventing the mandible from applying too much force to the teeth);
- Increased life expectancy, which means that normal tooth wear extends over a longer period of time.

Solutions

- If wear is due to attrition, an occlusal plate may be recommended to help control bruxism. Orthodontic treatment to correct the occlusion may also be indicated;
- In the event of erosion, eating habits will have to be modified;
- In the event of abrasion, we recommend replacing your toothbrush with one with ultra-soft bristles, and brushing more gently. You should also avoid holding objects such as pencils or pins between your teeth;
- If wear is too severe, composite restorations or crowns can be applied.

Dental avulsion and luxation

Definition

When a tooth is dislocated, often as a result of a severe impact to the head region, it becomes abnormally mobile. This is known as partial luxation.

Total luxation refers to the expulsion of a tooth from its socket. This trauma is known as dental “extrusion” or “avulsion”. It’s an emergency situation, and we need to act quickly to save the lost tooth.

Symptoms and pain

Partial dislocation

- Abnormal mobility of the affected tooth (partial gingival protrusion or sinking);
- Gingival bleeding;
- Pain on pressure;
- Presence of a blood clot.

Total dislocation (avulsion)

- The tooth is completely out of the gum.

Causes

There is a wide variety of causes of dental dislocation and avulsion. The most frequently observed are:

- A strong impact in the head area or directly on the tooth;
- Violent contact between a tooth and hard food;
- A deep cavity;
- Periodontal disease (the tissues that support the teeth), such as periodontitis;
- Gingival recession (lowering of the gums around the teeth).

Solutions

Partial dislocation

- At your appointment, a thorough examination of the tooth will be performed to determine the causes of tooth mobility;
- The tooth is then replaced and held in place with a dental splint;
- Should the healing process fail, a root canal may be performed.

Total dislocation (avulsion)

- Tooth reimplantation at the dentist's or on site (followed by an emergency visit to the dentist);
- If reimplantation is not possible, the tooth can be replaced by an implant-supported crown or bridge.

Risks and consequences of not treating

- Loss of the dislocated tooth and migration of adjacent teeth into the vacant space;
- Appearance of an abscess.

Dental fissure

Definition

Molars and premolars have small natural grooves called fissures. Generally asymptomatic, they require no special care, apart from preventive care to reduce the risk of tooth decay (see pit and fissure sealant).

Occasionally, however, cracks in teeth can become more serious, leading to complications if left untreated. A crack may evolve into a coronal or cusp fracture (part of the cracked tooth eventually breaks), a vertical crack (the crack may or may not reach the root and the nerve), a vertical fissure (the presence of a fissure that divides the tooth) and, finally, a vertical fracture (the fracture extends from the root to the surface, but can easily go unnoticed).

Symptoms and pain

- Diffuse, sharp pain when chewing;
- Increased sensitivity to heat and cold.

Causes

- Bacteria in the mouth;
- Pressure when chewing;
- Malocclusion;
- Shock;
- Food (hard or sticky foods);
- Habit of chewing on objects (pencils);
- Bruxism and clenching of teeth.

Stages in the evolution of the problem

Cracks, fissures and fractures cause the enamel to move during chewing, causing considerable damage to the tooth pulp. The pain becomes increasingly acute as the damage worsens. If the tooth is left untreated (usually by root canal therapy), infection may develop, reaching the bone as well as the soft tissues supporting the tooth.

Solutions

It is advisable to make an appointment with an oral health professional as soon as the first symptoms appear.

The solutions envisaged to treat a crack depend on its evolution:

- Superficial cracks: No treatment is required. However, it is advisable to adapt hygiene habits accordingly, by brushing and flossing 3 times a day. Regular follow-up with the dentist to monitor the evolution of the fissure is necessary;
- Coronal fracture without pulp damage: A crown can be made to restore and strengthen the affected tooth;
- Coronal fracture with pulp damage: Root canal treatment is required and a crown can also be placed;
- Vertical crack that has not reached the root: Root canal treatment is required and a crown can also be placed;
- Vertical crack reaching the root: The tooth is extracted;
- Vertical fissure: Depending on the depth of the fissure, a root canal can be performed and the tooth restored;
- Vertical root fracture: The tooth is extracted.

Tooth fracture (adult)

Definition

Following an accident, the tooth is broken into one or more pieces.

Causes

- Severe impact in the head region;
- Impact with a hard substance on a particular tooth (e.g. glass bottle, hard food);
- Tooth grinding (bruxism);
- Tooth clenching (clenching);
- Tooth decay;
- Improper occlusion of teeth (poor distribution of forces between teeth);
- Inadequate repair of a tooth (e.g. defective filling or wrong choice of material);
- In general, a tooth that has undergone extensive restoration is at increased risk of fracture.

Emergency treatment

Temporary dressing pending permanent restoration
In an emergency, the treatment of choice for broken front teeth is to apply a bandage to the vital part of the tooth and reattach the piece of natural tooth if possible. Otherwise, the dentist rebuilds the tooth with a bonded composite resin (white filling).

Polishing the cutting edge
For a posterior tooth, the dentist may polish the cutting edge or apply a soothing dressing to the damaged tooth for a period of around 6 to 12 months, pending permanent repair.

For a small part of the tooth
The dentist may choose to polish the cutting edge for the patient's comfort, without repairing it. He can also rebuild the tooth in bonded composite resin (white filling) or dental amalgam (grey filling).

Solutions

- Restore the tooth with a composite filling (white filling) or a dental amalgam filling (grey filling);
- Restore the tooth with a CEREC or E4D crown;
- If a large area of the pulp is affected or the tooth is very painful, a root canal will be necessary;
- In cases of tooth fracture deep below the gum line or even down to the bone level, it is possible to remove bone and gum around the tooth (clinical crown lengthening) in order to repair it;
- If the tooth breaks below the level of the gum or bone, it is possible to adjust the gum level with a laser directly in the clinic (laser gingivectomy). This procedure enables the dentist to clear the tooth and repair it optimally;
- If the tooth is broken too far under the gum and bone, it may have to be extracted. When considering crown lengthening, it's important to assess whether this procedure has a good prognosis. If the prognosis is not good, it would be preferable to extract the tooth and place an implant while the necessary bone is present in good quantity;
- For best gum health, the edge of the restoration should be at least 3 mm from the bone level. Less clearance leads to gum inflammation. Crown lengthening helps to recreate this optimal clearance between the edge of the restoration and bone level. Once lengthening is complete, the tooth will appear longer. A crown can then be made to reinforce the tooth.

Dental Trauma

Definition

Shocks can cause a variety of traumas to teeth. As well as affecting the teeth, they can affect the jawbone, gums, lips, cheeks and tongue. Generally speaking, the incisors and canines are the most affected. The molars, which are located at the back of the mouth and are therefore protected, are more rarely affected.

Depending on the force of the impact, the tooth may be fractured, displaced or even knocked out of its socket. It's important to consult your dentist immediately after the accident, so that damage can be assessed, even after an impact that doesn't fracture the tooth. It's important to remember that a shock, even if it leaves no lesions, can cause bleeding. Teeth may also become mobile.

Here are three types of dental damage that can occur as a result of impact:

- Tooth fracture;
- Tooth displacement;
- Tooth expulsion.

Causes

- A fall;
- A violent blow to the head;
- The practice of certain contact sports, such as field hockey, boxing and soccer.

Solutions

Tooth fracture
Depending on the severity of the fracture and the degree of nerve damage, treatment ranges from simple polishing to tooth restoration. If the nerve has not been affected, the fragment can be re-bonded. The tooth can also be restored with a resin composite. A dental veneer may also be indicated.

Tooth displacement
A tooth that has shifted due to impact may have moved into its socket, but not completely out. Pain is usually present to the touch. Displacement can occur in several directions: laterally, towards the inside of the socket or vertically. In the case of tooth displacement, the tooth can be repositioned and immobilized with a retainer.

Complete expulsion of the tooth
The tooth can be re-implanted, provided the maximum delay of one hour between shock and surgery is respected. Otherwise, an implant will be the preferred solution.

* After treatment, regular follow-up with the treating dentist is recommended to assess the condition of the traumatized tooth and prevent its deterioration.

Possible complications

- Loss of tooth vitality (necrosis);
- Abscess;
- Permanent loss of tooth.

Dental pain

Definition

According to the IASP (Internationale Association for the Study of Pain), “pain is an unpleasant sensory and emotional experience associated with, or described in terms of, actual or potential tissue damage”.

It’s a subjective phenomenon that can be experienced differently by different people, each of whom has a different ability to cope with it.

Dental pain results from the transmission of a message from the brain, which has itself received an initial message informing it of a localized anomaly in the oral cavity.

Causes

The symptoms of dental pain are probably as varied as the causes of the pain in question. They reveal an abnormality or a disease related to dental disorders, but sometimes also to ENT disorders.

In adults, various symptoms can occur:

- Dental hypersensitivity is characterized by pain:
  - – when brushing;
  - – when air passes through the mouth;
  - – when ingesting hot or cold food or drink;
  - – when ingesting sugar or slightly acidic foods.
- Pain on pressing or chewing occurs when a meal is ingested. It can be very intense and felt at the slightest touch. Sometimes this pain is accompanied by other symptoms, such as swelling of the gums or even the cheek. This could indicate the presence of an abscess;

- Spontaneous pain (without doing anything) is the most surprising, as it occurs in attacks that can last several minutes, with no easily identifiable cause. It can be felt most violently at night. These symptoms are typical of “toothache”, and may be a sign of pulpitis (inflammation of the pulp). These pains are often difficult to bear, as they radiate away from the teeth, into the eye, ear, nose, sinus, etc.;

- Pain associated with spontaneous bleeding or swelling of the gums may reveal a bacterial infection. Gingivitis or periodontitis may then appear;

- Diffuse facial pain is often indicative of facial neuralgia. This neuralgia concerns the trigeminal nerve and can cause violent pain as soon as the face is touched. Your dentist will be able to determine whether the cause is dental or not.

Solutions

Treatments for dental pain are as varied as the causes. They depend on the type of lesion and its severity.

At home

- As a general rule, it’s a good idea to start by improving your oral hygiene by brushing your teeth thoroughly and taking care of your gums with mouthwash, for example. An appointment with your dentist is also advisable;

- In the event of swelling, applying a little ice can relieve the inflammation as it progresses;

- If you’re watching your baby teething, there’s a whole arsenal of solutions to relieve the pain. For adults, however, if the pain persists, the wisest thing to do is make an appointment with your dentist. Pain is a warning. Don’t ignore it.

In the case of dental pain, self-care may alleviate the symptoms for a while, but it won’t cure you. Only a visit to the dentist can eliminate the cause of the pain in question.

Dental pain following extraction (dry socket)

Definition

Dry socket is a painful complication of tooth extraction. It occurs when the blood clot that forms in the socket of the extracted tooth breaks away or decomposes, leaving nerves and bone exposed. The pain associated with dry socket usually appears 3 to 5 days after extraction.

Symptoms and pain

- Intense, pulsating pain that radiates well beyond the extraction site (head, neck, ear);
- Bad taste in the mouth;
- Difficulty opening the mouth.

Stages in the evolution of the problem

It’s normal to feel some pain following an extraction. It’s even possible for this pain to diminish gradually, then reappear in a major way. This may be a sign of dry socket disease. In this case, it’s vital to consult your dentist as soon as possible.

Cause

Failure to heal after tooth extraction.

Solutions

It's important to see your dentist in the days following tooth extraction. He or she will be able to prescribe an antibiotic in case of infection, or curettage the bottom of the socket to remove food residues and promote healing. With the right care, alveolitis sicca will heal in around ten days. An analgesic such as paracetamol or acetaminophen can relieve the pain.

Preventive advice

Before extraction

- Maintain good oral hygiene habits;
- Abstain from tobacco products.

After extraction

- Brush and floss your teeth, taking care not to graze the wound;
- Apply sterile compresses after extraction to promote clot formation;
- Do not rinse your mouth or spit for the first 24 hours after surgery;
- Eat soft, lukewarm or cold foods;
- Chew food on the opposite side of the extraction site until it has healed;
- Avoid drinking through a straw;
- Avoid hot, vinegary or overly spicy foods, which may prevent coagulation in the socket;
- Avoid small food particles that may become lodged in the extraction site (rice, semolina, cereal seeds);
- Avoid alcohol and tobacco as much as possible in the 72 hours following an extraction, as alcohol and tobacco smoke can slow healing and increase the risk of bleeding.

Toothache

Definition

Typically, this type of pain occurs during or after a meal.

Symptoms and pain

Symptoms vary depending on the cause of the pain:

- Blockage of food residues in an interdental space: pain is more or less diffuse;
- Dental infection: pain is very intense at the slightest contact with the teeth;
- Root canal treatment: Teeth are sensitive to contact.

Causes

The causes of pressure pain are varied. They include:

- **Blockage of food residues in an interdental space.**
  A food particle caught in a gap between two teeth can cause inflammation of the gum and underlying bone. A small piece of food stuck in a gap caused by the loss of a filling can also cause more or less diffuse pain;
- **Dental infection.**
  If you experience severe, sharp pain in your teeth at the slightest touch, it's likely that you have an infection in one of them;
- **Tooth root canal treatment**
  A freshly devitalized tooth can become sensitive. The nerves and vessels of a tooth (called the pulp), once removed, can cause pain for 3 to 5 days in and around the treated tooth. The tooth may also move slightly, but this is only temporary.

Solutions

Solutions vary depending on the cause of the pain.

- **Blockage of food residues in an interdental space:**
  Careful brushing and flossing of the painful area is recommended. You can also rinse your mouth with an antiseptic;

- **Dental infection:**
  In the meantime, acetaminophen or paracetamol can be used to relieve pain caused by infection. Anti-inflammatories are not recommended. Your dentist can treat the diseased tooth or prescribe an antibiotic if necessary;

- **Tooth root canal treatment:**
  Pain following root canal treatment can be relieved by taking an analgesic. If pain becomes difficult to bear, it's best to consult your dentist again as soon as possible. In the event of sudden swelling, this could be a sign of infection, which absolutely must be treated promptly. Note that the tooth will lose its sensitivity to cold, which is perfectly normal.

Salivary gland pain

Definition

Saliva is produced by the salivary glands. There are two types of gland: primary and secondary. Whether they belong to one or the other category, they can, at any given time, be affected by a condition that may or may not cause pain.

Anatomical description

The main salivary glands are identical on each side of the mouth. There are three of them:

- The parotid gland (the largest), 10 cm long, is located in front of and below the ear. The saliva it produces is distributed via Sténon's canal, which leads to an orifice inside the cheek, opposite the upper molars;
- The submandibular gland (also called submaxillary) is located, as its name suggests, under the maxilla, in the neck, below the front of the tongue. It measures around 5 cm ;
- The smaller sublingual gland is located just below the tongue;
- There are several hundred accessory salivary glands. They can be found all over the mouth (cheeks, lips and palate).

Symptoms and pain

There are many symptoms associated with salivary gland pain:

- A mass in the glands or momentary swelling at mealtimes. This may be accompanied by a sharp pain under the jaw, under the ear or in the cheek;
- Constant presence in the mouth of an abnormal or foul taste;
- Dry mouth;
- Difficulty opening the mouth or pain felt when eating;
- Difficulty swallowing;
- Facial pain difficult to locate;
- Pain near the ear;
- Presence of pus in the mouth;
- Fever or chills associated with pain;
- Swelling of the face or neck.

Salivary gland infections are called parotitis or submandibulitis (or submaxillitis), depending on which gland is affected.

Stages in the evolution of the problem

Untreated infection can lead to purulent abscesses of the salivary glands. On the other hand, an unremoved tumor can lead to infection and subsequent dilation of the salivary glands.

Some facial deformities may be caused by a rapidly growing malignant tumour.

Even after treatment, parotitis needs to be monitored, as the swelling caused can lead to destruction of the affected glands.

Tooth decay

Definition

Tooth decay is a very common infectious disease that gradually destroys parts of the tooth, starting with the hard tissues (enamel and dentin) and eventually reaching the dental pulp, which contains the nerves. It can also develop on the root of a tooth if this is exposed. Tooth decay is the result of an attack on the tooth by acids produced by micro-organisms in the plaque (biofilm) that has accumulated on the teeth.

Symptoms and pain

Symptoms are varied and change with the progression of tooth decay. While no pain may be felt in the initial stages, symptoms can progress more rapidly:

- Discoloration and brittleness of the enamel;
- Tooth pain;
- Sensitivity to heat, cold or sugar;
- Appearance of a black or brown spot on the enamel;
- Unpleasant taste and odor in the mouth;
- Tooth fracture;
- Spontaneous severe pain requiring consultation;
- Presence of suppuration.

Causes

The main cause of tooth decay is the presence of dental plaque (biofilm).

Despite regular brushing, certain habits can lead to plaque build-up:

- Absorption of sugary liquids: if the sugar present in liquids such as soft drinks or milk (lactose), for example, remains in the mouth for too long, it is metabolized by plaque bacteria (biofilm) to produce acid;
- Nibbling between meals: despite effective tooth brushing immediately after meals, the caries process can remain active if food is introduced into the mouth afterwards;
- Misaligned teeth make daily dental care difficult and encourage the accumulation of food debris and plaque (biofilm) between the teeth;
- The presence of cracks (e.g. broken teeth) reduces the protective power of enamel;
- Defective or numerous fillings can allow decay to infiltrate;
- Dry mouth caused by the absence or lack of salivary flow or by certain medical conditions requiring, for example, chemotherapy;
- Inadequate hygiene habits;
- Inadequate maintenance of prosthetic appliances, including partials, bridges and fixed or removable orthodontic appliances;
- Smoking or frequent use of cannabis;
- Certain medical conditions;
- Dental check-ups that are irregular or too far apart.

Solutions

- Amalgam restoration;
- Composite restoration.

Pit and fissure sealants

Definition

The sealing of pits and fissures, which are small grooves and crevices found on the surface of molars and premolars, is a preventive treatment that helps control the onset of tooth decay. This is because food debris is likely to become lodged in these small spaces, leading to a proliferation of the bacteria responsible for cavity formation. Applied to the surface of teeth at risk, the sealant acts as a protective varnish.

Treatment indications

The sealant fills the pits and fissures on the tooth surface, eliminating these “traps” by sealing them so that the toothbrush can effectively scrub the spaces that were once impossible to clean.

The sealant is mainly used on:

- A healthy tooth with deep sulci
- The occlusal surface of molars;
- The lingual sulcus of upper molars;
- The buccal sulcus of lower molars.

Target patients

People with a predisposition to cavities.

Benefits

- Significant reduction in the incidence of tooth decay;
- Keep teeth healthy and intact for as long as possible;
- Fast, pain-free treatment requiring no anaesthetic.

Disadvantages

Possibility of detachment despite a service life of several years.

Risks and consequences of not treating

- Appearance of tooth decay;
- Use of anesthesia to remove decay;
- Use of permanent amalgam or composite fillings.

Processing stages and times

- Cleaning of the tooth;
- Application of an acid solution to anchor the sealant in the enamel;
- Application of the resin (sealant);
- Exposure of the sealant to blue light to harden it;
- Adjustment of the occlusion.

Facial pain (facial neuralgia or trigeminal neuralgia)

Definition

Trigeminal nerve neuralgia can cause intense pain at the slightest touch of the face. Attacks may recur over several days or weeks, and headaches may also occur. This condition can be detected by your dentist, who will check whether the cause is dental. If necessary, he or she will refer you to a specialist.

Solutions

Paracetamol or acetaminophen can relieve this type of neuralgia. However, it's best to consult your dentist as soon as possible for specialist advice on this condition. This may involve injections, surgery or the use of appropriate medication.

Symptoms and pain

- Intense pain at the slightest touch of the face;
- Headaches.

Numbness in the mouth (buccal paresthesia)

Definition

Numbness in the mouth, i.e. the temporary or prolonged loss of sensation on the tongue, lips (most often the lower lip) or any other hard-to-locate area inside the oral cavity, or the sensation of tingling or pins and needles, are all signs of oral paresthesia. These sensations usually appear suddenly, and can fluctuate considerably over the course of a day.

Symptoms and pain

Symptoms related to oral paresthesia, frequently described as persistent numbness in the mouth, are numerous and vary according to the associated causes. The following symptoms may occur:

- Sensation of swelling or burning around the tongue, sometimes extending to the rest of the oral cavity;
- Tingling, pins and needles, itching;
- Loss or disturbance of taste;
- Halitosis;
- Speech difficulties;
- Xerostomia (dry mouth).

Causes

The causes of oral paresthesia are numerous, covering a wide spectrum of problems from superficial ailments to serious conditions requiring rapid diagnosis.

In all cases of numbness in the mouth, it is advisable to consult your dentist as soon as possible.

Numbness in the mouth may result from the following causes:

- Consumption of a very cold or hot substance. The sensation of numbness will disappear on its own after a while;
- An allergic reaction to a food or medication;
- A migraine condition. Numbness can be one of the symptoms of a migraine;
- A local anaesthetic, used by the dentist to perform a treatment. The sensation of numbness, which is completely normal, can last up to 3 or 4 hours after the procedure;
- A complication following local anesthesia. In rare cases, temporary or permanent paresthesia may occur when the needle used to inject the anesthetic has inadvertently touched a nerve. This complication is mostly associated with wisdom teeth extraction;
- Compression of a nerve, due to the presence of a cyst or tumor nearby;
- Untreated conditions such as cavities or abscesses can also cause nerve compression, resulting in a sensation of numbness;
- Certain systemic conditions such as diabetes, multiple sclerosis, leukemia and lymphoma can cause numbness in the mouth area;
- Cancer of the oral cavity or tongue.
- Finally, anxiety and depression have recently been identified by some specialists as probable causes of oral paresthesia symptoms. These are referred to as “psychogenic oral paresthesias” (C. Husson-Bui and R. Kuffer, 2010).

Oral diseases

Abscess

Definition

An abscess is an accumulation of pus, lodged in the gum or at the base of a tooth, resulting from a bacterial infection.

There are two types:

- Periapical abscess, located at the tip of the tooth root. This type of abscess occurs when the dental nerve dies, and the pus caused by the infection can only be evacuated through the tip of the root (the apex);
- Periodontal abscesses, located in the gum close to the alveolar bone. This type of abscess is usually a complication of an untreated periodontal pocket.

Abscesses are usually very painful, and require immediate consultation with a dentist to prevent the spread of infection.

Symptoms and pain

Periapical abscess

- Intense pain and sensation of heat in the affected tooth;
- Presence of swelling in the gums and face;
- Bad taste in the mouth and bad breath (halitosis);
- Dental hypersensitivity;
- Significant pain when chewing;
- Presence of fever;
- Swollen lymph nodes;
- Fatigue and nausea.

Periodontal abscess

- Red, smooth and painful gums;
- Presence of swelling;
- Bad taste in the mouth and bad breath (halitosis);
- Significant pain when chewing;
- Discharge of pus;
- Tooth mobility in some cases.

Solutions

Periapical abscess

- Periapical abscesses frequently result from untreated tooth decay. If left untreated, it progresses towards the dental pulp and eventually reaches the nerve. At this stage, the proliferation of bacteria near the tooth root can lead to the formation of an abscess;
- Tooth fracture;
- Severe impact (or trauma) to a tooth. If the pulp is destroyed, the internal tissues of the tooth can become infected.

Periodontal abscess

- Untreated periodontitis;
- Tooth loosening;
- Wisdom tooth included. When erupting through the gum, a wisdom tooth creates a space where food debris can accumulate and, by extension, bacteria can proliferate.

Oral cancer

Definition

Oral cancer belongs to the family of head and neck cancers, also known as cancers of the upper aerodigestive tract. It is characterized by the appearance, development and spread of abnormal cells in the oral cavity. It mainly affects the following regions and structures:

- The inside of the mouth, including the tongue, the mucous membrane lining the inside of the cheeks, the floor of the mouth (under the tongue), the roof of the mouth (hard palate) and the soft palate;
- The gums;
- The upper and lower lips;
- The salivary glands;
- The tonsils;
- The throat or pharynx, made up of the nasopharynx, oropharynx and laryngopharynx (also known as the hypopharynx).

Over 90% of oral cancers originate in the squamous (flat) cells that line the oral cavity. This type of cancer is identified as squamous cell carcinoma, also known as squamous cell carcinoma, an aggressive malignancy. This tumor is the most easily detected with the naked eye, but also the one that spreads most rapidly.

Other types of oral cancer include:

- Basal cell carcinoma, which occurs mainly on the upper lip;
- Melanoma, a skin cancer that originates in the pigment-producing cells of the oral mucosa;
- Adenocarcinoma, which affects the salivary glands;
- Sarcoma of the bones and soft tissues of the oral cavity;
- Lymphoma;
- Teratoma;
- Other very rare malignant tumors.

Causes

Many cases of oral cancer start directly in the mouth when one or more risk factors are present.

Others originate elsewhere in the body, for example in the nasal cavity or sinuses, and spread to the mouth in the form of metastases.

Conversely, cancer located on the tongue or floor of the mouth often rapidly metastasizes to other areas of the body. Among the areas most likely to be affected are the lymph nodes in the neck.

Solutions

The treatment recommendation will be made by an oncologist, a cancer specialist. It will depend on the stage of the disease, the location and size of the tumour, the effects of the treatment on the patient's condition and the patient's overall state of health.

Depending on all these factors, the oncologist may recommend surgery, radiotherapy or chemotherapy.

Oral thrush

Definition

Oral thrush or oral candidiasis is an infection of the oral mucosa by a fungus called candida, of which the species most frequently encountered in human pathology is Candida albicans.

Symptoms and pain

Oral thrush is characterized by whitish lesions, often on the tongue and inner cheeks. These lesions can also be found on the palate or in the throat. They appear in the form of perlachia (whitish deposits in the corner of the lips) or thrush (whitish deposits in the mouth). The tongue can sometimes be very dark (black tongue).

Causes

The fungi responsible for this condition are normally an integral part of the flora in the mouth, living in the presence of protective bacteria in a perfect balance. When this balance is disrupted for any number of reasons, the fungi proliferate abnormally. These reasons themselves have different causes:

- Inadequate oral hygiene;
- Wearing braces;
- Injury or irritation;
- Dry mouth;
- Pregnancy;
- Diabetes;
- Broad-spectrum antibiotics;
- Presence of human immunodeficiency virus (HIV);
- Certain corticosteroids or neuroleptics, etc.

Risk factors

- Weakened immune system;
- Diabetes;
- Antibiotics;
- Alcohol and tobacco consumption;
- Chronic irritation, e.g. from braces.

Emergency advice

The only existing emergency is the difficulty in coping with pain, particularly in babies whose appetite diminishes due to the difficulty in eating.

Solutions

In most cases, candidiasis does not require treatment in healthy babies. For older babies, mouthwash may be recommended by the attending dentist.

Other patients may be prescribed an antifungal tablet or lozenge.

Treatment duration can vary from one to three weeks, depending on improvement.

Jaw and mastication

Bruxism (Clenching or grinding of the teeth)

Definition

Except when we eat, our teeth shouldn't be in contact. When we tend to keep our jaws clenched for long periods, whether during the day or at night, we have a teeth-clenching problem.
If, in addition, the jaw moves back and forth while maintaining a clenching force, we have teeth grinding. This form of clenching causes a great deal of wear on the teeth. When grinding occurs at night, the forces can be very strong. Teeth grinding can also have harmful effects on the gums, chewing muscles and jaw joint.

The characteristic sound of teeth grinding comes from a lateral or back-and-forth frictional movement of the teeth. In this case, i.e. when the lower jaw moves, we speak of dynamic bruxism. Most people who have ever heard teeth grinding consider the sound to be simply awful, irritating and unforgettable!

People who clench their teeth without grinding them make little or no sound, because the movement involved in clenching is a vertical pressure exerted on the teeth by the force of the jaws without lateral movement of the mandible; this is known as static bruxism. A person can therefore suffer from bruxism without making a sound.

In theory, teeth should never touch, apart from the twenty or so minutes combined daily when a person chews or swallows. However, the situation is quite different for some people.

A large proportion of the population will suffer from bruxism at least once in their lives; for some, bruxism will become a chronic disorder. Almost as many children (14%) as adults and the elderly (11%), both men and women, are affected on a regular basis, i.e. several times a week.

According to studies on the subject, bruxism tends to decrease with age, with the maximum number of cases recorded in individuals aged between 20 and 50.

Bruxism is considered by many researchers to be a sleep disorder in its own right. It can potentially lead to other disorders, from snoring to sleep apnea (breathing stops during sleep). Some even attribute bruxism to concentration problems in both adults and children, and to learning difficulties at school in young people.

Chronic bruxers have a condition that tends to worsen over time. In fact, the more a person clenches or grinds their teeth, the more their masticatory muscles tend to tense up. Increased tightness of these muscles can lead to further clenching or grinding, trapping the person in a vicious circle from which it is very difficult to escape.

Daytime bruxism versus nocturnal bruxism
80% of bruxers are active at night (nocturnal bruxism), while the remaining 20% brux during the day (diurnal bruxism). The main difference between the two types of bruxism is gesture awareness.

Daytime bruxers have some control over their jaw movements (voluntary movement). They can therefore get rid of their habit more easily by identifying the cause of their bruxism and striving to relax their jaws when they become aware of the gesture, in order to avoid after-effects.

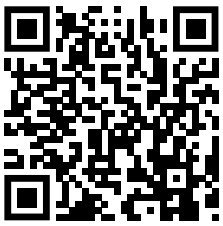
Conversely, nocturnal bruxers grind or clench their teeth completely involuntarily, often during periods of light sleep, while body movements, particularly those of the lower jaw, are more frequent. In fact, the pressure exerted on the teeth of nocturnal bruxers is higher than that of daytime bruxers.

Usually, neither the grinding noise nor the pressure exerted awakens the nocturnal bruxer.

Bruxism in young children
Young children, who still have their primary teeth, are also affected by bruxism. They may grind or clench their teeth during the day; these movements are motivated, more often than not, by a desire to discover their new teeth. However, they may also seek relief from teething, clenching their teeth to exert counter-pressure on the gums or erupting teeth. Young children may also brux involuntarily at night, for a variety of reasons.

From an evolutionary point of view, it is now believed that bruxism allows young children to quietly shed their primary teeth.

Bruxism usually ceases spontaneously in children when their permanent teeth appear in the mouth. However, the parents of a young chronic bruxer should monitor his or her sleeping habits, as a bruxing child is more likely to maintain this habit into adulthood if the cause is not treated early on.



Occlusal plate

Definition

The occlusal plate, also known as a bite plate, is a transparent plastic tray that covers the upper teeth, the lower teeth, or both, depending on the bruxer's physiognomy. The purpose of the bite plate is to prevent the upper teeth from touching the lower teeth. This is the appliance most often used to protect teeth from wear caused by grinding and clenching, and to absorb the forces involved.

A plastic splint can be made to be worn over the upper or lower teeth, with contacts precisely adjusted to promote muscle rest. This solution is often used for night-time wear only. In other situations, the plate will need to be worn day and night, but this is usually a temporary solution.

The occlusal plate is custom-made in the dental practice from dental impressions previously taken from the patient. These impressions are used, firstly, to make models of the teeth and, secondly, to make the actual biteplate. A wide range of biteplate models are available to suit the dentition, occlusion and physiognomy of bruxers.

It should be noted that a joint plate does not cure the cause or consequences of bruxism. Rather, it acts as a preventive measure, allowing the jaw muscles to relax, thereby reducing the pressure exerted on the temporomandibular joints (TMJs). Over time, the teeth-grinding reflex may disappear, and the damage caused by clenching diminishes considerably.

Benefits

- Allows jaw muscles to relax;
- Promotes restful sleep;
- Prevents premature wear of teeth and jaw joints;
- Prevents the appearance of abfraction (axe-like wear at the neck of the teeth);
- Prevents headaches and neck pain.

Risks and consequences of not treating

- Premature wear of tooth enamel or dentin, increasing the risk of cold sensitivity and fracture if wear is severe;
- Loss of enamel where teeth meet and appearance of a yellowish color (dentin);
- When wear is severe, small pieces of tooth may come loose. Tooth fracture may also occur, and some teeth may become loose;
- Dentures, artificial crowns and fillings are also at risk of wear or breakage from clenching or grinding;
- When tooth wear is very severe, dental nerve damage or necrosis may occur, leading to devitalization of worn teeth;
- Head and neck pain;
- Jaw and joint pain on waking;
- Sensations of stiffness in the cheeks that can even lead to muscular trismus (contraction of the cheek muscle limiting mouth opening);
- Loss of DVO (vertical dimension of occlusion), leading to changes in facial profile.

Mouth guard (contact sports)

Definition

A sports mouthguard is a removable, shock-absorbing dental appliance that covers the teeth and gums, and has the function of distributing and absorbing the force of a direct impact to the teeth or gums throughout the appliance.

There are three types of mouthguard: preformed mouthguards, sold in pharmacies and sports stores; universal thermoplastic mouthguards for boiling at home; and mouthguards custom-made by a dentist.

Treatment indications

Studies show that the medical, financial, cognitive, social and psychological costs of orofacial injuries, which are widespread in many sports, are considerable. Protective devices are therefore essential for high-impact sports and activities (e.g. field hockey, soccer, soccer, boxing, skiing, basketball, martial arts, rugby, lacrosse, BMX, etc.).

Benefits

- Protects teeth, gums, tongue and jaws from sports injuries caused by a blow to the face, while preventing the loss or fracture of teeth that may come into contact with the equipment;
- Prevents fractures, excessive wear and injuries to teeth caused by clenching;
- Reduces the severity of injuries to the mucous membranes of the mouth;
- Reduces the risk of concussion.

Disadvantages

Preformed mouthguards and boil-in-the-mouth thermoplastic mouthguards don't offer the same protection as clinically custom-made mouthguards. These types of universal mouthguards have a number of disadvantages:

- They offer minimal or no protection;
- They are unstable in the mouth;
- They interfere with breathing and speech.

It should also be noted that all types of mouthguard require a certain period of adaptation.

Risks and consequences of not wearing a mouthguard

- Tooth fracture;
- Tooth loss if the fracture is too deep;
- Jaw fracture.

Difficulty chewing

Definition

Mastication is essential to digestion, as it prepares and facilitates the passage of ingested food through the digestive tract. So, to digest properly, you must first chew well.

Mastication takes place in the mouth, involving movements of the jaws, tongue and cheeks. During mastication, food is transformed into a “food bowl” that can be swallowed easily, without the risk of choking.

Symptoms and pain

The symptoms of difficulty in chewing, while multiple, are most often linked to a disorder of the temporomandibular joint (TMJ), which manifests itself in different ways:

- Pain felt in the jaw joint or in the muscles of this region; this pain may be greater when waking up or yawning;
- Difficulty chewing, opening or closing the jaw completely. The jaw may also lock during a yawn, or simply stop opening;
- Certain headaches or pain in the neck area;
- Cracking or popping sound when chewing. Certain noises can be heard with each jaw movement.

In addition, when chewing, pain may be felt in the teeth or gums, making chewing laborious.

Causes

- Mastication plays its role in three stages of the eating process:
- It activates saliva production, transforming food into a bolus that can be swallowed without blocking the trachea;
- It sets in motion the process that allows the body to assimilate nutrients by fragmenting and insalivating food;
- It prepares the digestive process by informing the brain of the nature of the food ingested through tactile, olfactory and gustatory sensory stimulation.
- Maxillary movements are essentially the result of the action of two powerful muscles whose contraction, supported by the skull bones, moves the lower jaw and temporal muscles up and down.
- The cheek muscles facilitate movement by constantly bringing food back between the two rows of teeth, allowing food to continue to be ground.
- During chewing, saliva impregnates the food, which is first reduced to small pieces. This saliva, produced in large quantities, softens the food mass and at the same time exerts its chemical properties thanks to enzymes.
- Teeth play an essential role in mastication. Adult humans have thirty-two teeth: sixteen at the top and sixteen at the bottom. There are three types of teeth: incisors, canines and molars. Each type has its own specific role.
- Two muscles also play an important role in mastication: the temporalis and masseter muscles. Both operate the jaw joint.
- The tongue kneads the food and replaces it indefinitely between the teeth, just like the cheeks.

Jaw joint pain (TMJ)

Definition

The two temporomandibular joints (TMJs) join the lower jaw (mandible) to the skull bone. They are located on either side of the face, just in front of the ears.

Symptoms

- Stabbing pain in the joint in front of the ear;
- Discomfort and pain that may radiate into the neck and shoulders and be present in the jaw or face;
- Sensitivity of the jaw muscles;
- Cracking, crackling or rubbing noises or sensations in the joint when opening the mouth or chewing;
- Noise in the ears (tinnitus) and other hearing problems;
- Limited jaw opening and rigidity during opening (difficulty in opening);
- Headaches, migraines;
- Sensitivity to certain teeth;
- Sudden change in the way teeth come together;
- Dislocation during opening (jaw remains “locked” in open position).

The onset of pain may be cyclical, i.e. it may appear and disappear at more or less regular intervals. It may:

- Often appearing on only one side of the face;
- Appearing in the morning on waking or after a period of stress;
- Not being present even though several other symptoms may be disabling.

Causes

The causes of TMJ problems are multiple or multifactorial. Here are some examples of possible causes:

- Certain predispositions: these disorders are more common in women between the ages of 20 and 50;
- Certain traumas: an accident or blow to the jaw or face can fracture the jaw or damage the articular disc, thus affecting the TMJ;
- Repetitive clenching of muscles or teeth can cause muscle spasms and pain;
- Teeth grinding, often performed unconsciously during sleep, can produce forces greater than normal and contribute to pain;
- The habit of clenching the jaws (contraction of the masticatory muscles), bruxism;
- Stress and psychological tensions that produce tension in the jaws;
- Heredity, congenital or developmental abnormalities;
- Certain pathologies or illnesses: arthritis problems, degenerative joint diseases, etc.;
- Dental problems: tooth displacement due to tooth loss, high fillings that can cause a poor relationship between teeth and affect joints;
- Significant malocclusions: malposition of teeth, functional interferences resulting in deviated jaws. It should be noted, however, that while it is recognized that a malocclusion can contribute to temporomandibular joint dysfunction disorders, it is not believed to be the primary cause. Orthodontic treatment to correct a malocclusion for the sole purpose of eliminating TMJ problems is not indicated.

Endodontics (root canal treatment)

Root canal treatment

Definition

Root canal treatment, also known as endodontic treatment, involves removing the vital part of the tooth, disinfecting the tooth's entire internal canal system, widening the main canals and filling them with an obturating material to seal them.

Following root canal treatment, it's advisable to restore the tooth to protect it. Ideally, the tooth will receive a full crown with or without posts. It is also possible, but less recommended, to place an amalgam or composite resin restoration, as these materials are not sufficiently resistant to fracture.

Teeth have a variable number of main canals. Teeth generally have the following number of canals:

- Central incisors: 1 canal;
- Lateral incisors: 1 canal;
- Canines (eye teeth): 1 canal;
- First premolars: 1 or 2 canals (often 2);
- Second premolars: 1 or 2 canals (often 1);
- First molars: 3 or 4 canals (often 4, especially the upper ones);
- Second molars: 3 or 4 canals (often 3);
- Third molars, or wisdom teeth: 3 canals (rarely endodontically treated).

Treatment indications

- Very deep decay;
- Irreversible pulpitis;
- Necrotic tooth;
- Tooth too damaged to be restored.

Benefits

- Root canal treatment is sometimes the only way to save a tooth that would otherwise have to be extracted;
- The treatment success rate is very high.

Disadvantages

- Root canal treatment may require several sessions;
- In complex cases, the dentist may have to repeat certain stages of the treatment if the results obtained are not satisfactory.

Risks and consequences of not treating

- Increased pain or onset of acute pain;
- Discoloration of the tooth;
- Wider infection or abscess, which can spread to the rest of the body and even severely damage health;
- Loss of the tooth.

Mechanical endodontics

Définition

Endodontics is a speciality of dentistry concerned with the internal structure of the tooth and the pathologies that can affect the dental pulp, a soft tissue containing nerves and blood vessels. Since the 1990s, mechanized instruments have been used in endodontic (or root canal) treatment to clean and shape the root canal system. Continuously, slowly and constantly rotating, these nickel-titanium alloy instruments are more flexible than those used manually. Activated by a small electric motor, they enable root canal treatment to be performed in less time than with conventional files. They are also equipped with a sensor for precise root tip location.

Treatment indications

- Very deep decay;
- Irreversible pulpitis;
- Necrotic tooth.

Benefits

- Ensures greater speed (often performed in a single appointment);
- Guarantees greater patient comfort;
- Allows greater precision (the flexibility of the instruments means they can better respect the root canal path);
- Delivers superior quality treatment (more uniform).

Risks and consequences of not treating

- Increased pain or appearance of acute pain;
- Discoloration of the tooth;
- Abscess or more widespread infection, which can spread to the rest of the body and even severely damage health;
- Loss of the tooth.

Processing stages and times

- Clinical and radiological examination of the tooth;
- Prescription of antibiotics;
- Anaesthesia of the tooth and gingiva;
- Protection of the tooth's environment by placing a dam around it;
- Opening of the tooth from above;
- Cleaning, disinfection and mechanical preparation of the pulp chamber and canals;
- Filling of the canals with a plastic material;
- Closure of the tooth with a temporary filling;
- Permanent repair of the tooth with a crown.

Follow-up to surgery

- A little pain may be felt on contact with the tooth; this will subside after 72 hours with painkillers prescribed by the dentist;
- In the case of a previously infected tooth, antibiotics can control the swelling.

Problems following root canal treatment

Definition

In the case of deep caries, root canal treatment is often necessary. Performed entirely under local anaesthetic, the procedure is painless. It is possible, however, that the tooth may be more sensitive than usual in the first few days following treatment. This slight tooth sensitivity is completely normal and will gradually subside.

Occasionally, however, pain may increase and persist, or other abnormal symptoms may appear. The latter may be a sign of various problems and complications that need to be investigated promptly.

Symptoms and pain

Particular attention should be paid to the following symptoms after root canal treatment:

- Severe pain lasting several days or weeks;
- Sensitivity to temperature changes (hot and cold);
- Sensitivity to pressure;
- Swelling and redness of the gums;
- Suppuration (pus discharge) of the gums;
- Inability to chew or discomfort when mouth is closed.

Causes

The vast majority of root canal treatments are successful the first time around, meaning that any pain caused by cavities or other conditions disappears within days of the procedure, and good results can last a lifetime.

In rare cases, treatment may fail and various problems may arise. There are various reasons for this:

- If post-procedure oral hygiene is inadequate or insufficient, complications may arise, particularly due to the potential proliferation of intraradicular bacteria;
- Tooth canals cannot be sufficiently cleaned because they are narrow, curved or difficult to access. If nerves are still present in the tooth after surgery, persistent pain may set in;
- The treated tooth has not been adequately restored. At this point, it may crack or fracture;
- The crown placed after root canal treatment is fractured and the filling is no longer watertight;
- A piece of instrument may have become stuck in one of the canals of the treated tooth;
- Excess composite resin, used to fill the canals, can interfere with occlusion and cause pain when chewing;
- Root infection and cracking can also occur following root canal treatment.

Solutions

Treatment options for complications following root canal therapy depend on the condition of the tooth concerned.

- If intervention is possible, i.e. if the canals of the affected tooth are accessible, root canal therapy can be performed to re-clean and seal the infected canals.
- If the part of the tooth to be treated is inaccessible, an apectomy, i.e. removal of the apex (root tip), may be considered.
- If the tooth is fractured, or is again affected by very deep decay, the best solution is extraction.

Endodontic retreatment

Definition

The success rate of an initial root canal treatment is very high. However, for a variety of reasons, it can sometimes fail and have to be repeated.

Endodontic retreatment is only possible under certain conditions, notably if the tooth is not fractured or affected by deep caries. If this is the case, apectomy or extraction may be considered.

Treatment indications

Various problems or complications can sometimes arise after an initial root canal treatment, requiring the treatment to be repeated:

- The formation of a new cavity on the treated tooth;
- An infection caused by the proliferation of intraradicular bacteria;
- Insufficient cleaning of infected canals during the first root canal treatment, or of certain canals that are very narrow, difficult to access or invisible due to inflammation;
- Lack of watertightness of the initial filling.

Certain symptoms may be indicative of these complications, including:

- Severe pain lasting several days or even weeks;
- Sensitivity to changes in temperature (hot and cold) lasting more than a few weeks;
- Pressure sensitivity lasting more than a few weeks;
- Swelling of the gums and redness;
- The presence of suppuration (pus discharge) in the gums.

Benefits

- The possibility of root canal treatment allows the natural tooth to be preserved;
- Sensitivity and pain are eliminated;
- This prevents more serious complications, such as periapical abscesses or infections that can spread to the rest of the body;
- The success rate of repeat root canal treatment remains high.

Disadvantages

Root canal treatment cannot be repeated on a tooth that has been fractured or affected by deep caries.

Risks and consequences of not treating

If the treated tooth shows signs of infection and is not retreated, some more serious complications may occur, including:

- Tooth loss;
- Periapical abscess;
- Sinus infection;
- Septicemia (a potentially fatal discharge of bacteria into the bloodstream).

Apectomy

Definition

Apectomy (or apical resection) is a procedure used to remove a source of residual infection that persists after root canal treatment. Essentially, the procedure involves cutting off the end of the root (the apex) to eliminate the infection and prevent its spread or recurrence.

Treatment indications

- Failed root canal treatment due to a blocked or malformed canal that is impossible to clean;
- Presence of a cyst near the tooth or root;
- Fractured or cracked tooth.

Benefits

- The procedure eliminates the infection as well as the pain potentially caused by it;
- Eliminating the infection allows the supporting bone to regenerate;
- Apectomy preserves the affected tooth and avoids extraction.

Risks and consequences of not treating

- Increased pain or onset of acute pain;
- Tooth discoloration;
- Abscess or more widespread infection, which can spread to the rest of the body and even severely damage health;
- Tooth loss.

Processing stages and times

- After administering a local anaesthetic, the dentist or endodontist makes an incision in the gum at the tip of the root to be treated;
- A small bone pad is sometimes removed to facilitate access to the source of the infection;
- The root tip is removed and cleaned;
- Connective tissue is removed;
- A cavity is prepared for the placement of an apical plug made of biocompatible material;
- The gum is closed with fine sutures.

Post-operative indications

Please note that these recommendations are provided for information only, and that the best recommendations are those of your dentist or specialist who performed the surgery.

Here is a list of the most common recommendations made by practitioners:

- Take any prescribed or recommended analgesics or antibiotics;
- Apply ice to the treated area for 12 hours after the procedure to help control swelling (which will diminish over the next 3 to 6 days);
- Avoid smoking: cigarettes and other tobacco products slow down and can compromise healing;
- Prefer a soft diet for the first week after surgery;
- Brush your teeth gently, taking extra care around the treated area;
- Follow-up is normally recommended within 10 to 14 days of the procedure.

Wisdom teeth

Impacted wisdom teeth

Definition

Because of their position, wisdom teeth can cause a variety of problems, such as infections and cysts.

A tooth that moves into the roots of the adjacent tooth rather than out straight will cause pressure, potentially an abscess, as well as deterioration or even loss of the neighboring tooth, while remaining embedded in the jaw. In this case, we call it an impacted tooth. This situation represents a potential for insidious damage and pain, since nothing is visible to the naked eye.

Symptoms and pain

The long eruption phase of wisdom teeth (from adolescence to the early twenties) can cause a number of unpleasant symptoms:

- Periods of severe pain;
- Headache and sore throat;
- Inflammation;
- Swelling of the gums.

Solutions

Following your dentist's evaluation, he or she may recommend that you keep your wisdom teeth in your mouth if their position does not pose a problem. This recommendation is conditional on regular follow-up and impeccable dental hygiene. Depending on the risk potential of keeping your wisdom teeth in place, increased monitoring and, in many cases, extraction may be required.

Stages in the evolution of the problem

Over the years, an impacted tooth may shift and interfere with the second molars. Displacement of this tooth is possible even after its roots have finished forming, and could be encouraged by the loss of another tooth, among other factors. It is even possible, though less likely, for a person over 40 to experience sudden pain and complications from wisdom teeth still in the mouth.

A wisdom tooth that manages to pierce the gum can also cause problems if it doesn't emerge completely, such as infection leading to the formation of a fistula.

When the crown of a tooth remains partially hidden beneath the gums, it is said to be partially covered by soft tissue or semi-included. This situation creates an ideal place for food debris to accumulate and caries to form.

Risks and consequences of not treating

Even with rigorous hygiene measures, infections can develop at the sites where wisdom teeth grow, causing discomfort and harm to your health.

Wisdom teeth extraction

Definition

The age of eruption of wisdom teeth, or permanent third molars, varies widely, but is generally between 18 and 25. On average, their root formation is completed by the age of 21. Some people may not have one or more wisdom teeth, or they may not be able to erupt normally.

As a preventive measure, we strongly recommend that you have your third molars examined around the age of 15 or 16, using panoramic X-rays or 3D scans.

The dentist will evaluate the wisdom teeth according to several parameters, including:

- Their position;
- Their orientation and eruption path;
- The space available to accommodate them adequately in the jaws;
- The health of the tissues and the presence of infection, cysts or other lesions around them;
- The presence of carious lesions on the teeth themselves, or adjacent teeth;
- The presence of gum disease (periodontal) around them;
- The dentist will then determine whether or not these teeth can be retained. If extraction is necessary, it’s often safest to remove wisdom teeth between the ages of 18 and 21, when their roots are not yet fully formed.

Benefits

- Prevent or treat pericoronitis (inflammation of the tissues surrounding the erupted tooth);
- Prevent decay in the second molar;
- Prevent root resorption in the second molar;
- Remove a tooth too badly damaged by decay;
- Prevent or treat the appearance of a cyst or lesion around the wisdom tooth;
- Prevent supra-eruption of a wisdom tooth if no tooth is coordinated with it;
- Facilitate dental hygiene in hard-to-reach areas;
- Improve gum health around the second molar.

Risks and consequences of not treating

- Infection of the tooth or surrounding tissue, causing bleeding, pus, swelling, discomfort and pain;
- Possibility of carious lesions on neighbouring teeth;
- Possibility of resorption of neighbouring teeth, depending on the position of the wisdom tooth;
- Possibility of increased risk of damage to adjacent nerve structures or contact with the maxillary sinus depending on the position of the tooth to be extracted, if the procedure is delayed and the roots are fully formed;
- Possibility of gum disease (periodontal) and bone loss around wisdom teeth and adjacent teeth, due to difficult access for hygiene;
- Possibility of supererupted of the upper molars if no lower teeth are coordinated, and risk of cheek biting or jaw joint pain.

Pain associated with impacted teeth

Definition

The third molars in the mouth can cause tension and pain as they grow in. The onset of wisdom teeth occurs between the ages of 16 and 25.

Causes

It’s possible that a wisdom tooth is growing in and there isn’t enough room in the jaw: in this case, the tooth is impacted. In this case, don’t delay in consulting your dentist as soon as you become aware that a tooth is emerging. Extraction is often indicated. This will save you many complications.

Solutions

Acetaminophen can reduce the pain associated with these teeth. However, if the gums covering the tooth swell or prevent the mouth from opening, this may be a sign of infection. You should consult your dentist as soon as possible.

Symptoms and pain

- Pierced gums;
- Infection;
- Bleeding.

Children and pregnant women

Dental problems during pregnancy

Definition

Pregnancy brings about hormonal upheavals, which also have an impact on the condition of the mouth and teeth. The placenta begins to secrete much more estrogen and progesterone than before pregnancy. During this period, minor problems are likely to become more important than in normal times.

Symptoms and pain

Increased estrogen and progesterone levels can lead to certain inconveniences:

- Gingivitis is a common and benign condition when treated in time. However, it tends to worsen during pregnancy, leading to redder, darker gums, despite good oral hygiene. Almost a quarter of pregnant women suffer from a form of gingivitis known as “gestational gingivitis”. It often occurs in the presence of more plaque than before pregnancy;L’épulis est une petite excroissance bénigne, rouge, arrondie et saignant souvent. Elle élit domicile le plus souvent entre deux dents;
- Cavities tend to get worse during pregnancy. It is often present at the same time as gingivitis;
- Pregnant women sometimes experience diffuse, never localized pain (dentine hyperesthesia). It may occur in the absence of caries or any other ailment. In this case, it should disappear within ten to fifteen days. On the other hand, if the pain persists, it indicates damage to the pulp of one or more teeth;
- Dental erosion results from the dissolution of mineralized tissues such as enamel, under the influence of acidic substances produced by the breakdown of food debris. This erosion most often occurs at the tooth neck.

Causes

- Certain hormones associated with pregnancy, such as progesterone, have immunosuppressive properties: in the presence of large quantities of sex hormones, antibodies are affected;

- Also, because of this influx of hormones, pregnant women react more dramatically, resulting in blood flow, inflammation and often bleeding gums. This can indicate the presence of gingivitis. This fragility of the gums makes it easy for microbes to enter;

- For the same reasons, some pregnant women may also develop a benign tumour of the gums, called “epulis”, which should disappear spontaneously after the birth of the baby;

- Dental erosion occurs mainly in women who vomit frequently, especially during the first trimester of pregnancy. Enamel is damaged by gastric juices and acidic bile. Teeth become hypersensitive to cold and heat, and can be painful;

- In addition, nausea and vomiting in early pregnancy cause women to change their eating habits: they eat more often and are more inclined to eat sweet foods...;

- Last but not least, saliva flow increases during the first three months, and saliva becomes more acidic, weakening the mother-to-be’s defenses against oral bacteria, which can then thrive and give free rein to the development of cavities.

Pregnancy gingivitis

Definition

Pregnancy gingivitis is an inflammatory phenomenon that occurs in the gums in response to various hormonal changes.

Symptoms and pain

The most common signs of pregnancy gingivitis include:

- The appearance of bleeding on contact with the gums (when brushing or flossing);
- Red, swollen or purulent gums;
- The presence of a typical, unpleasant odor (halitosis);
- In any case, it's important to know that pregnancy gingivitis is common, and although it remains a benign condition, it should not be taken lightly, as it can worsen.

Causes

Hormonal changes in pregnant women, characterized by an increase in progesterone and estrogen, cause a number of upheavals in the body. In the mouth, it's the gums that are most affected, due to a reduced immune response, a decrease in the thickness of keratin on the gums and an increase in the inflammatory response of oral tissues. Gingivitis is therefore common in pregnant women, despite excellent oral hygiene.

Solutions

Regular or more frequent scaling and dental prophylaxis are recommended during pregnancy, especially when pregnancy gingivitis is suspected. Your dentist is the only professional who can diagnose this condition and prescribe a cleaning frequency suited to your situation.

Stages in the evolution of the problem

Like all untreated gingivitis, pregnancy-related gingivitis can develop into periodontitis. This inflammatory disease of the tissues supporting the teeth can cause irreversible damage to gums and bone, and even lead to tooth loss.

Baby teeth pain

Definition

The natural primary tooth (baby tooth) has a different anatomy to the adult tooth. The enamel is thinner and the pulp larger. Tooth pain occurs when one or more teeth react more strongly to a stimulus, or do not react in the same way as the other teeth.

Causes

The causes of painful teeth in children are very varied. With normal growth and the different composition of primary and adult teeth, it's sometimes difficult for the parent to tell the difference between normal pain and real pain. The dentist is the only professional competent to identify the source of the problem, by questioning the patient and taking x-rays if necessary. He or she will carry out tests to establish a precise diagnosis and propose a treatment adapted to the situation.

Pain from cold and sugar
The causes of pain or sensitivity to the stimulus of cold and sugar on a primary tooth are variable. The most frequently observed are: early or moderate decay, a broken tooth, a cracked tooth, a tooth that has received significant trauma, or a repair that is too thick, defective, too deep or has fallen out. It's important to consult your dentist as soon as possible in the presence of such symptoms.

Pain in the heat
The causes of pain or sensitivity to heat stimulus are quite rare in the primary dentition. Unlike an infected adult tooth that causes pain when warm, the pus inside a dead, infected primary tooth will drain more easily through the bone to the gum than in adults. This natural phenomenon explains why primary teeth are generally not sensitive to heat during an infection. It is important, however, to watch for the appearance of any lump with or without a yellowish discharge near a primary tooth that has been repaired or that has received a major impact. In this situation, the dentist should be consulted promptly.

It's important to remember that, from the age of 6 onwards, the first adult molar erupts and can cause warm pain in certain situations. (See painful permanent teeth)

Pressure or chewing pain
The causes of pain or sensitivity to pressure or chewing are variable in the primary dentition. The most frequently observed causes on a single tooth are the presence of normal eruption of the associated adult tooth. Other causes include a tooth that has received significant trauma, a broken or cracked tooth, a recent ill-fitting repair on a tooth (overbite) or a defective or infected tooth.

When pressure pain affects several teeth, the most frequently observed causes are teeth grinding (bruxism) or teeth clenching (clenching). In children, bruxism and clenching tend to diminish and disappear naturally. As children grow, it is less common for the dentist to intervene in these situations. Nevertheless, an assessment is required. In less frequent situations, it's also possible that this pain is related to dental malposition, referred pain from the mouth joint or sinus congestion over the upper teeth.

Spontaneous pain (without doing anything)
The most common causes of spontaneous pain in primary dentition are an infected tooth, deep caries, a broken tooth or a cracked tooth. This type of pain should not be taken lightly. It's important to consult your dentist as soon as possible in the presence of such symptoms. This type of pain often follows repeated episodes of other types of dental pain that the patient is unaware of, and foreshadows more serious consequences for the tooth.

Fractured baby teeth

Definition

As a result of an impact to the head or directly on the tooth, the latter is fractured. The teeth most affected are the upper incisors.

Causes

Severe impact in the head area or directly on a tooth during a fall or other incident.

Emergency advice

A broken tooth calls for a visit to the dentist as soon as possible. The shorter the time between the incident and treatment, the better the chances of saving the affected tooth. Immediately after the incident, there are a few things you can do to make the dentist's job easier:

- First, find out if your child is in pain and reassure him or her;
- Check that there are no pieces of tooth embedded in the gum and gently rinse the child's mouth with lukewarm water;
- If possible, remove the broken piece of tooth and immerse it in a saline solution (dissolve half a teaspoon of salt in a cup of water), in a dental first-aid kit sold in pharmacies, or in milk;
- Visit your dentist as soon as possible so that he or she can act quickly.

Solutions

During the emergency visit, the dentist will check whether the germ of the adult tooth, located below the baby tooth, is affected, which could hinder its future growth.

Only a dentist can decide on the appropriate treatment for a broken baby tooth. Treatment will depend on the severity of the fracture.

- If the tooth only has a small break in the enamel and the nerve is not affected, a simple polish can easily solve the problem;

- If a larger piece of tooth has been broken off, the dentist may attempt to glue it back together, provided the piece is in good condition, which is not very often the case. Otherwise, a restoration using a suitable material can be performed.

Risks and consequences of not treating

If your child has received a severe blow to the teeth, it's vital to consult a dentist as soon as possible, as internal damage may have been caused, particularly to the tooth root and pulp. These lesions could lead to complications such as abscess formation if left untreated by an oral health professional.

Avulsed baby teeth

Definition

Children's teeth are often knocked out by accidents, resulting in broken or knocked-out teeth (dental luxation). Accidents of this kind are frequent: around half of all children under the age of 6 have suffered an impact that has more or less damaged one of their teeth. The most frequent ages are when children are learning to walk, and around age 3-4, when they start school.

Causes

Falls and accidents in the home are commonplace, even and especially in the home: a badly placed coffee table in the living room, a fall on the floor, on the sink (while brushing your teeth), in the playground, etc. The result can be a very rare occurrence: the expulsion of a tooth. This can lead to the rare event of a tooth being knocked out. This can occur in children, generally on the front teeth.

Parents may downplay the importance of trauma to a temporary tooth. However, dentists recommend making an appointment to assess the (sometimes invisible) consequences of the impact on the tooth. Any trauma to a baby tooth must be taken seriously. Of course, the child is young and will "get over it", but the effects of an impact on soft tissue must be assessed to ensure that the future of permanent teeth is not compromised.

Solutions

Generally speaking, baby teeth are not re-implanted. However, to prevent the empty space from shrinking or making chewing more difficult, a dentist may propose a pediatric prosthesis that will rest on the neighboring healthy teeth. This prosthesis is of course temporary, but it will enable the child to continue chewing properly and, if the missing tooth was in front, will ensure a more aesthetic smile and better pronunciation.

Milk teeth are therefore only re-implanted in exceptional cases. In this case, it's important to know how to keep a pulled tooth (see "Emergency advice").

Emergency advice

Any impact on a baby tooth is likely to affect the germ of the permanent tooth to come.
This germ is all the more fragile when the child is very young.

Sometimes, as a result of an impact, the tooth falls out of its socket. This is called dental luxation. In this case, the dentist must be called in as soon as possible.

As mentioned above, re-implantation of a baby tooth is exceptional and will only take place under specific conditions. Recovery of a re-implanted tooth will depend on the length of time the tooth has been outside the oral cavity.

However, "exceptional" implies that it is sometimes possible. So how do you go about it?

Grasp the tooth by the crown (without touching the root);

Gently place in milk (not too fresh) or saline solution. The aim is to prevent the root from drying out at all costs. If left to dry out, the tooth would die in around thirty minutes;

Do not use ice, as the cold may "burn" the tissues inside the tooth.

See your dentist as soon as possible. For the best chance of successful re-implantation, the tooth should be brought to the dentist within an hour of being expelled. The tooth must never be left out to dry!

Traumatized baby teeth (intrusion)

Definition

In the event of a fall or accident, a baby tooth may come out, i.e. become lodged in the gum. The tooth is then said to be “intruded”.

Symptoms and pain

If the tooth is not found after impact, it may have “re-entered” the bone. Tooth intrusion into the jawbone may be total or partial.

Cause

The cause of an intruded tooth is the impact itself received on the chin or directly on the tooth.

Emergency advice

In the event of a serious impact to the head or a tooth, particularly if a tooth appears to be embedded in the gum, it is essential to visit a dentist's office as soon as possible to have the situation assessed.

Emergency treatment will only be carried out if the germ of the permanent tooth is affected. At that point, an extraction will have to be performed to avoid compromising the condition of the permanent tooth.

Solutions

- At the dentist's office, an X-ray is taken to assess the degree of intrusion of the tooth into the gum and to check the positioning of the apex (root tip) of the baby tooth in relation to the germ of the permanent tooth;
- If the apex situation poses a risk to the permanent tooth, extraction of the damaged tooth may be recommended;
- If not, a natural repositioning of the tooth, which should normally return to its original position within a few weeks, is preferable. In these circumstances, follow-up with the attending dentist will be necessary. Eventually, the baby tooth will fall out and be replaced by the permanent tooth;
- If the baby tooth does not return, orthodontic traction may be proposed and the child referred to an orthodontist.

Possible complications

An intruded tooth needs to be monitored regularly, as it is at risk of necrosis, i.e. death. In such a situation, an abscess could form and more intrusive treatments may become necessary.

Thumb sucking

Definition

Thumb sucking is an innate reflex in infants. It is this reflex, which appears in the mother's womb around the twelfth week of pregnancy, that enables them to feed (breast or bottle), but also to relax. Essential - and quite healthy - during the first years of life, prolonged thumb-sucking, i.e. beyond the age of around four, entails significant risks of dental complications.

Symptoms and pain

Children usually stop sucking their thumbs on their own. It is possible, however, that this habit persists beyond the age of 3 or 4. This reflex tends to return when the child is tired, anxious or ill. Children may also suck their thumb to help them fall asleep at night.

Solutions

It is advisable to wait until the child reaches the age of 4 before intervening. If the child continues to suck his thumb beyond this age and doesn't seem ready to stop, a few tips can help you eliminate the habit:

- Discuss the subject with your child, explaining that he or she is getting older, and that it's time to stop;
- Introduce a reward system that recognizes the child's efforts and successes;
- Suggest activities where he or she will have to use his or her hands. When motor functions are involved, children are less likely to suck their thumbs;
- Ask your oral health professional to explain to your child the long-term effects of thumb sucking. Your dentist is used to working with toddlers and will be able to convince you;

- Finally, if the habit persists, it's possible to refer to an orthodontist, who may suggest fitting an oral screen (also known as a tongue trap).

In all cases, positive reinforcement (compliments, rewards, kind words, etc.) has been shown to be the most effective way of breaking the thumb-sucking habit.

Possible complications

Prolonged thumb-sucking has a variety of consequences. These include:

- Jaw imbalance (malocclusion);
- Infantile swallowing (incorrect position of the tongue during swallowing. Rather than resting on the palate, the tongue exerts pressure on the incisors);
- Forward tilting of the upper teeth and backward tilting of the lower teeth;
- Deformation of the dental arch;
- More difficult speech;
- Mouth ulcers when sucking is "aggressive";
- Risk of infection due to bacteria collected on the thumb surface.

Sore gums (baby)

Definition

Pain or suffering manifested by crying, endured occasionally or constantly in a restricted area, usually at the front of the gum.

Symptoms and pain

Baby's symptoms are caused by the new arrival of teeth. This teething causes gum pain, which varies greatly from one child to the next. However, the most common are:

- Red, swollen gums (doubling of the gums);
- Redness of the cheeks or entire face;
- Baby drools a lot, trying to bite anything;
- Baby rubs gums, bites or sucks his fist;
- Baby is irritable, grumpy, agitated or cries frequently;
- Slight fever;
- Difficulty sleeping, day or night;
- Red buttocks (diaper rash);
- Looser, acidic, foul-smelling stools.

Causes

A baby's first and most frequent difficulty in life is the pain in his gums caused by the appearance of his first teeth.

Most of the time, it starts with the lower incisors, in the middle of the gum line.

The formation of a baby's teeth begins in the womb. They continue to grow after birth, as the teeth try to make their way outwards. The mucous membrane, stretched and pushed, reacts with inflammation and painful swelling, causing pain that is difficult for the baby to bear.

Emergency advice

It's hard to say how much pain a baby will experience, but it's likely that very few people will put up with it.

That's why it's important not to neglect it, and not to consider it simply as a bad moment to pass. The baby is suffering, and it's important to quickly find the best way, among those listed above, to relieve it.

However, in the event of persistent fever, consult a doctor, pediatrician or pharmacist.

Anesthesia and technology

IV sedation

Definition

IV (Intravenous) sedation involves the administration of one or more drugs intravenously to calm the central nervous system. Sedation slightly alters the perception of reality, helping to lower anxiety levels and give the impression that the procedure will be completed in a short time. Under sedation, the patient can receive treatment in a relaxed manner, while maintaining verbal contact with his or her dentist for the duration of the procedure. This is why the technique is called “conscious sedation” (unlike general anesthesia, where the patient is unconscious). Sedation is the method of choice for breaking the vicious circle of fear of dental treatment.

Treatment indications

- Significantly reduce a patient’s stress and anxiety levels during treatment;
- Increase a patient’s confidence and motivation in the face of dental treatment anxiety.

Benefits

- This is the method of choice for those who prefer not to remember the procedure;
- Intravenous drugs act rapidly (in less than thirty seconds);
- The sedative agent can be administered gradually, allowing the dentist to monitor and adapt to the patient's vital and clinical signs;
- The effect can be reversed if a complication arises or if the sedation is too deep;
- The sedation is deeper and more effective than those administered orally or by inhalation;
- Nausea reflexes are diminished;
- Spontaneous breathing and protective reflexes are not disturbed;
- The patient is conscious and able to cooperate according to the instructions given by the dentist;
- Provided it is administered by a well-trained professional, intravenous sedation presents no health hazard.

Disadvantages

- The patient must be accompanied home, as he or she will not be able to drive a vehicle for the first 12 hours following the operation;
- Rest is required for the rest of the day, and physical exertion should be avoided.

Local anesthesia

Definition

To prevent the pain associated with various dental procedures, dentists use local anesthesia for most treatments. This blocks nerve endings, and thus pain signals, by numbing the nerve that feeds the teeth and surrounding tissues for a variable period of time. Unlike general anesthesia, local anesthesia only numbs the area to be treated. The patient therefore remains conscious throughout the procedure.

Two types of anesthesia are commonly used: topical anesthesia and injection.

Benefits

- Local anaesthesia reduces or eliminates the pain caused by dental treatment, thereby alleviating the nervousness or fear associated with visits to the dentist;
- The patient is conscious throughout the procedure and can follow its progress.

Disadvantages

Some side effects, listed below, may occur following local anesthesia. Most of these effects, however, are rare and temporary.

Processing stages and times

Generally speaking, the procedure is a two-stage process:

- The area of the mouth to be treated is first air-dried or swabbed. Next, a topical gel is applied to numb the area where the anesthetic will be injected;
- The dentist injects the anesthetic into either the gum or the cheek. You may feel a slight pinch; this is not caused by the needle, but by the anesthetic penetrating the tissue.

Side effects

Some side effects - most of them temporary - may occur following local anesthesia. However, these are relatively rare.

- A hematoma (an accumulation of blood inside a tissue) may appear in the treated area, if the needle has touched a blood vessel during injection;
- Temporary numbness may occur in the facial area, sometimes as far as the eyelids. This sensation subsides as the anesthetic wears off;
- Some people may experience an increase in heart rate as the anesthetic is injected into the tissues of the mouth. This effect, although unpleasant, generally disappears after a few minutes;
- If the needle strikes a nerve, it is possible to develop paresthesia - a temporary or permanent loss of sensation, either partial (loss of sensation on the lip and tongue) or total (loss of sensation in the lower half of the face), in the path of the nerve in question. This risk is particularly associated with procedures to remove impacted wisdom teeth. In most cases, numbness disappears after a few days or weeks;
- Allergic reactions are rare, but be sure to tell your dentist about any allergies you may be suffering from. It’s also a good idea to give your dentist a list of any medications you’re taking.

Intraoral camera

Definition

Introduced to dentists' offices in the late 1980s, the intraoral camera is now used on a regular basis in many dental clinics. Small in size, sometimes even the size of a pen, it has a tiny lens only a few millimetres long, and is equipped with very bright LED lights.

Providing magnification of 40 to 60 times, it is connected to the dentist's computer and a screen on which the patient can see, in real time, images of his or her teeth and gums.

Treatment indications

The intraoral camera not only helps the dentist to make an accurate diagnosis and archive patient information, thus ensuring proper follow-up, but also enables the detection of many details or defects that are difficult to see with the naked eye, including :

- Deterioration (corrosion) of certain fillings;
- Cracks on teeth or around amalgams;
- Abrasion or abnormal wear of teeth related to bruxism (teeth grinding);
- Early-stage caries, although a tactile examination should confirm the diagnosis;
- Soft tissue abnormalities;
- Defects or problems related to crowns, bridges and implants in hard-to-reach areas.

Benefits

- The instrument is soft to the touch and non-intrusive;
- The intraoral camera provides an instant, clear, enlarged view of the current condition of the patient's mouth;
- It allows the patient to participate in an informed way in the decision-making process concerning his or her oral health problems and possible treatments;
- It allows the patient's condition to be monitored over time, since changes in the teeth, gums and tongue can be compared with photos kept in the patient's file;
- Adding photo documentation can often speed up the processing of insurance claims;
- For children, a picture of their teeth is irreplaceable in explaining what plaque is and teaching them good oral hygiene habits.

Disadvantages

- The intraoral camera is not a substitute for X-rays or conventional examination;
- It is not sufficient on its own to establish a diagnosis, but when combined with other technologies such as X-rays, it helps to improve it.

Processing stages and times

- During the examination, the dentist and his staff use the intraoral camera to examine the inside of the patient's mouth;
- Patients can see the state of their teeth and mouth in real time, and interact with their dentist for an optimal understanding of their oral condition;
- The photos taken by the camera will be kept in the patient's file, and can be consulted at a later date to ensure better follow-up if necessary.

3D digital radiography

Definition

Traditionally, dentists used two-dimensional radiography on film to view all or part of a patient's dentition, intraosseous structures and jaws. Several years ago, the advent of 3D digital radiography greatly facilitated the specialists' task, as well as reducing the radiation dose to which the patient is exposed. Also known as three-dimensional cone-beam computed tomography (CBCT) imaging, 3D radiography provides a precise picture of the patient's maxillofacial teeth and bone structures.

Treatment indications

- Ensure accurate diagnosis;
- Know the condition of a patient's dentition;
- Know the density, shape, quantity and quality of bone and surrounding structures at the site of surgery;
- Locate the dental nerve of the mandible;
- Detect a wide range of oral problems invisible to the naked eye or on 2D radiographs;
- Plan the installation of dental implants;
- Monitor the development and eruption of adult (permanent) and wisdom teeth;
- Perform virtual surgery before seeing the patient for real surgery;
- Fabricate the surgical guide.

Benefits

- A single 3D X-ray can generate hundreds of images;
- Image quality is far superior to that of traditional 2D radiographs, thanks to the absence of distortion and the high resolution achieved by powerful data reconstruction software;
- Radiation exposure is lower for the patient (due to the technology used and the ability to take images more quickly);
- The images obtained by 3D digital radiography make it easier to understand the specialist's explanations because of their clarity and precision;
- The quality and quantity of information provided by TVFC on different types of tissues and organs makes implant installation planning more accurate, rapid and predictable;
- The specialist can obtain images of impacted teeth, the relationship of teeth to each other, the quality and volume of the jawbone, maxillary sinuses and inferior alveolar nerve, which traditional 2D radiographs cannot provide;
- The specialist knows exactly the ideal position of each implant to within a fraction of a millimetre, making surgery easier and achieving unparalleled precision;
- Damage to structures surrounding the implants (remaining teeth, inferior alveolar nerve and maxillary sinuses) can be minimized;
- The use of chemicals to develop X-ray film is abolished;
- 3D digital radiography helps prevent more invasive treatments and additional costs thanks to early detection of various problems.

Disadvantages

More expensive than 2D radiography.

Soft-tissue laser

Definition

A dental laser is a device that emits very powerful, concentrated, monochromatic light, i.e. of a single color (corresponding to a specific wavelength). Depending on the device used, the wavelengths of this light range from visible to infrared (invisible light). The laser produces waves of photons (particles of light energy), and the absorption of this energy by the target tissue leads to a thermal reaction, producing intracellular and intercellular changes.

Treatment indications

Dental lasers can be used for the following procedures:

- Gingivectomy (removal of part of the gingiva for aesthetic reasons, hyperplasia or as part of periodontal treatment);
- Gingivoplasty (reshaping the contour of the gums);
- Operculectomy (removal of part of the gingiva covering an erupting tooth);
- Removal of epulis (inflammatory pseudotumor of the gums);
- Frenectomy, the surgical excision of a frenulum or membranous muscular attachment such as the lingual frenulum (fillet under the tongue) and the labial frenulum (fillet between the inside of the lip and the gum);
- Treatment of herpes lesions and aphthous ulcers;
- Treatment of periodontitis;
- Removal of intraosseous dental pathology (e.g., granuloma or abscess);
- Removal of benign lesions on the lip, tongue, buccal mucosa or palate area (e.g. fibroma or papilloma);
- Removal of necrotic gum tissue;
- Removal of coronal pulp and disinfection of tooth canals during root canal treatment;
- Surgical biopsy (removal of tissue for laboratory analysis).

Benefits

- Removes the equivalent of several layers of cells at a time thanks to its high precision;
- Reduces the presence of bacteria and pathogens. Tissues affected by periodontal disease can be decontaminated;
- Limits bleeding (haemostatic action), thus reducing the risk of haemorrhage and providing a better view of the surgical site, enabling the dental surgeon to act more quickly and precisely;
- Reduces stitches;
- Allows better wound healing and prevents scarring thanks to more irregular incision contours than those of scalpel incisions;
- Requires little or no anesthesia;
- Can be used on children and pregnant women, since it does not usually require anesthetics or drugs (painkillers and antibiotics), thereby limiting the risk of allergic reactions, bacterial resistance and side effects;
- Allows several treatments to be carried out in a single appointment;
- Reduces post-operative discomfort and swelling (by sealing nerves and lymphatic vessels).

Periodontics (gums and bone)

Gingivitis and inflammation

Definition

Gingivitis is inflammation of the gums, with or without pain. It can be considered quite benign in its early stages, but can also degenerate quite rapidly. It is undoubtedly the most common oral ailment.

Symptoms and pain

Classic bacterial gingivitis is quite common and often painless. However, it can sometimes manifest itself with symptoms such as:

- Appearance of softer, redder and more swollen gums;
- Bleeding when brushing or eating;
- Some tooth mobility;
- Sensitivity at all times.

In more advanced cases of gingivitis, we can find:

- Loose teeth;
- Bad breath (halitosis);
- Abscess.

Other types of gingivitis can be very painful. This is the case with herpetic gingivostomatitis. In this case, the gums become very red and painful. In addition, very small white spots can be seen on the gums themselves, as well as on the inside of the cheeks.

There are also many other, rarer forms of gingivitis. Here are a few examples:

- Hypertrophic or hyperplastic gingivitis (epulis). In this case, the gingiva swells enormously and becomes fibrous, without changing much in appearance, as the inflamed part is barely visible;

- Gravidial gingivitis. This is characterized by a benign dark-pink tumor with a shiny appearance. In this case, the depth of the gingivodental sulcus (the space between the gum and the root of the tooth) is much greater than normal (7 to 8 mm instead of the usual 2 to 3);

- Ulcero-necrotic gingivitis is a rarer condition, resulting in the destruction of necrotic tissue.

Causes

- The first and most frequent cause of gingivitis is dental plaque, which eventually turns into tartar. Bacterial plaque forms day after day, appearing as a yellowish-white deposit at the boundary between gum and tooth (the neck). Its composition is a mixture of saliva, food debris and bacteria. This deposit is a foreign body in the mouth, against which the gums react. This defensive reaction takes the form of inflammation, due to the blood supply required for the arrival of the body's immune defense cells;

- Other factors may be responsible for the onset of gingivitis, such as certain lesions or traumas inflicted on the gums, especially when brushing teeth too vigorously;

- Some gingivitis is also linked to specific medical conditions (e.g. intolerance to certain medications);

- Certain viruses that invade the mouth can also play a part in the development of gingivitis. The best-known and most common is the herpes virus. It affects not only the gums, but also other parts of the mouth, creating tiny ulcers and perforations;

- Vitamin C deficiency can also lead to gingivitis;

- Finally, "mechanical" causes such as ill-fitting crowns, recent and overflowing amalgams or misaligned teeth can lead to gingivitis.

Bleeding gums when brushing

Definition

Bleeding when brushing or eating can be a symptom of gingivitis. Gingivitis is inflammation of the gums, with or without pain. It can be considered quite benign in its early stages, but can also degenerate quite rapidly. It is undoubtedly the most common oral disease.

Symptoms and pain

- The first sign is often the pinkish color of spit-out toothpaste when brushing teeth;
- Gums are darker than usual, softer and more sensitive;
- Gums bleed easily when flossing and can be painful;
- Symptoms of halitosis (bad breath) can also occur.

Causes

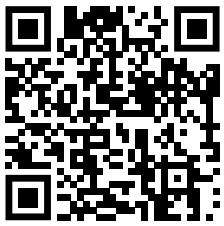
- The most common cause of bleeding gums when brushing is gingivitis, an inflammation of gum tissue caused by the accumulation of bacterial plaque (or biofilm) on the teeth. It is, therefore, a potential result of inadequate oral hygiene. When plaque is not regularly removed with a toothbrush and dental floss, it solidifies and becomes tartar, a porous substance that encourages the adhesion of an additional layer of plaque. In the absence of appropriate care and treatment, the resulting inflammation worsens and develops into periodontitis;

- Periodontitis is the advanced stage of gingivitis. Inflammation reaches the periodontium, i.e. the tissues supporting the teeth, and the condition of the gums deteriorates considerably;
- Tobacco use can also cause gum bleeding, as the pathogens found in this substance irritate the gums;
- The quality of our diet may also be a factor, especially if it is deficient in vitamins B or C;
- Hormonal fluctuations, particularly during pregnancy or with the progression of the regular hormonal cycle, can increase the production of dental plaque and, consequently, increase the risk of gingival bleeding;
- Certain medications, especially those that have the side effect of drying out the mouth or altering blood pressure, can also be responsible for bleeding;
- Finally, some specific medical conditions such as diabetes, leukemia and AIDS can increase gum sensitivity to brushing.

Solutions

Chronic bleeding of the gums is, in itself, only a symptom of a more serious problem. Depending on the diagnosis made by the dentist, different treatments may be proposed:

- In the case of gingivitis, a thorough cleaning including scaling is highly recommended. Hygiene habits should also be adapted accordingly to prevent the problem from recurring;
- Measurements can be taken between the point of attachment of the tooth and the gum to check for the presence of periodontal pockets, which can form in the case of periodontitis. If so, treatment will be suggested. This usually involves root planing and, if necessary, antibiotic treatment.



Periodontitis

Definition

Periodontitis is untreated gingivitis, or gingivitis detected at a late stage. It affects the periodontium, the tissues that support the teeth. It represents the most advanced stage of gum disease, and the damage it causes is irreversible.

Symptoms and pain

- Bleeding gums;
- Bad breath (halitosis);
- Loose teeth;
- Teeth that appear longer.

Causes

- The amount and type of bacteria in the periodontal pockets;
- The presence of certain diseases that influence the effectiveness of the patient's immune system and its ability to fight the bacterial infection that has set in;
- Genetics;
- Smoking;
- Diabetes.

Solutions

- Complete cleaning and scaling;
- Root planing;
- Laser treatment;
- If necessary, surgical treatment to remove periodontal pockets;
- If necessary, antibiotic treatment.

Processing stages and times

The most obvious result is the loss of teeth surrounded by the periodontium affected by the disease.

The damage caused by periodontitis is associated with periodontal pockets that form around teeth where tartar has accumulated. Over time, the bacteria in these pockets destroy the periodontium and, in particular, the periodontal ligament and alveolar bone. Teeth begin to loosen, which can make them appear longer.

Teeth then become mobile and eventually fall out if no intervention by a dental professional is carried out. The mobility of one or more teeth is what usually brings a patient to see his or her dentist, rather than pain, which is not usually present at this stage of the disease.

Gingival recession

Définition

Tooth loosening is characterized by retraction of the gums around the teeth (or gingival recession), which can lead to exposure of the tooth root.

Symptoms and pain

This retraction is most noticeable on the outer surface of the teeth. Because it progresses slowly, it is difficult to detect and diagnose.

Symptoms may include:

- Tooth sensitivity. Gingival recession leads to a reduction in gum tissue around the tooth, exposing the root of the tooth;
- Visible roots or “long teeth”. The roots are exposed, revealing severe, unsightly gingival recession;
- Tooth mobility;
- Bad breath (halitosis);
- Inflammation and bleeding.

As soon as gingival recession is detected, it must be treated; it can be cured and its progression prevented. However, lost gingiva cannot be recovered. Recession is irreversible.

Causes

Gingival recession is an anomaly with multiple causes. It can be caused by one or more of the following factors:

- Poor oral hygiene: insufficient or infrequent brushing can lead to infections (plaque build-up causing inflammation and weakening the gums).
- Brushing too aggressively (or using a toothbrush that's too hard) can traumatize or injure the gums, providing an entry point for bacteria that can cause infection.
- Periodontal diseases (gingivitis and periodontitis of various origins).
- Some orthodontic treatments primarily affect the lower anterior teeth in the case of inadequate dental restoration. There is never a strict cause-and-effect relationship between orthodontic treatment and gingival recession;
- Thin gingiva predisposes to gingival recession.
- Dental malocclusion (poor relationship between the teeth when the jaws are closed).
- Heredity plays a major role in the quality of gum tissue.
- The use of tobacco of all kinds, but especially chewing tobacco.
- Traction of a labial frenulum on the gum (the frenulum is a small muscle covered by a mucous membrane, which attaches the lips and tongue to the jawbone);
- Diabetes: excess sugar creates an ideal environment for oral bacteria, causing infection to progress ever deeper into the gums.
- Tooth grinding (bruxism).
- Excessive chewing (gum).
- Onychophagy (nail biting).
- Ill-fitting dentures.
- Aging: with age, gums become less well irrigated, thinner and retract, revealing the root of the tooth.

Sore gums (adults)

Definition

Pain, suffering, unpleasant effect experienced occasionally or recurrently, in a restricted or extensive region of the gum.

Symptoms and pain

Gingival pain is a symptom in itself. It deserves attention in order to determine its cause. Most often, it's linked to inflammation, but it can also have other causes.

This pain may be mild and diffuse, or may evolve into pulsations or pressure pain.

It may also be associated with slight swelling or lead to visible deformation of the cheek (particularly in the case of abscesses). In more advanced cases, the pain may be accompanied by a purulent discharge or fever.

Pain can be purely gingival in origin, often accompanied by gingival swelling or bleeding.

Solutions

Treatment of gum pain obviously depends on its origin.

If the origin is mechanical, the solution lies in removing the cause. For example, if a prosthesis is ill-fitting or an appliance is poorly positioned, correction can solve the problem;

In the case of canker sores, mouthwashes are recommended to help the ulcer disappear and relieve the pain;

Gingivitis can also be treated with an antifungal agent, in the case of a fungal infection, or with an antibiotic, in the case of a bacterial infection.

Scaling is the main treatment for gingivitis and therefore for sensitive gums. It is performed by the dental surgeon.

In any case, persistent gum pain needs to be examined by a professional to determine the cause and, subsequently, the appropriate treatment.

However, while waiting for an appointment, a number of actions can be taken to alleviate pain or temporarily eliminate it:

Sometimes, simply brushing well and using interdental brushes or dental floss can free up an area clogged with food remnants and relieve pain;

Mouthwash can also be a very good remedy.

Gingivectomy

Definition

Gingivectomy is a surgical procedure to remove part of the gum tissue. It is performed under local anaesthetic and is usually uncomplicated.

Recent techniques make it possible to perform minor gingivectomies using a soft-tissue laser, resulting in even less discomfort and post-operative complications for the patient.

Treatment indications

- Periodontal pockets;
- Periodontitis;
- Gingivitis;
- Gingival hyperplasia;
- Gingival smile.

Benefits

- More aesthetic smile;
- Improved conditions for daily cleaning, as gingivectomy eliminates excess gum tissue, which is a breeding ground for bacteria;
- Improved oral health.

Disadvantages

- If the periodontal pockets to be treated are very deep, the procedure may be aesthetically detrimental. In this case, a gingivoplasty is performed after the gingivectomy to restore a uniform, even appearance to the gums;

- Slight discomfort may be experienced following the operation, and the treated teeth may be more sensitive than usual. This condition is temporary, however, and normally resolves over the next few days.

Treatment indications

There are three main applications for gingivectomy:

- **Aesthetic application:**
  Gingivectomy removes part of the gum around one or more teeth to harmonize the shape of the gum and improve the appearance of the smile;

- **Treatment of gingival hyperplasia:**
  When the gingiva grows so unusually large that part or all of a dental crown is hidden, a gingivectomy is recommended to reduce the excess gingiva. If the situation remains as it is, the patient is at high risk of developing periodontitis. Gingival overgrowth can be caused by medications known to cause gingival overgrowth, such as those used to treat epilepsy and hypertension;

- **Periodontal treatment:**
  As part of periodontal treatment, a gingivectomy involves cutting away excess gingiva not attached to a tooth, in order to reduce the depth of a periodontal pocket that has formed as a result of gum disease. This procedure allows for cleaning (known as “surfacing”) and facilitates the patient’s dental hygiene.

White gums

Definition

Several forms of “whiteness” can appear on the gums. In all cases, it’s important to be concerned.

Symptoms and pain

The main signs of “whiteness” on the gums are:

- White spots on the gums;
- A white ball on the gums;
- White patches in the oral cavity;
- White spots;
- Unusual paleness of the entire gums;
- White spots and patches on your baby’s cheeks.

These are symptoms that can reveal an oral condition that could very quickly become severe if left untreated. So it’s important to know the causes.

Risks and consequences of not treating

White gums, for whatever reason, are evidence of an abnormal intrusion of microscopic elements into the oral cavity. In any case, untreated conditions (responsible for these symptoms of gingival whiteness) can degenerate into much more serious conditions, potentially dangerous to overall health.

Causes

White gums are the manifestation of oral affections, often painful and always unpleasant. The causes are varied.

- Oral thrush (or candidiasis) manifests itself as small white spots that can even form a plaque. These are due to an infection caused by the proliferation of a fungus. Fungal in nature, this infection invades the mouth and gives rise to white spots not only on the gums, but also on the inner cheeks and tongue. This type of infection can be triggered by certain medications (antibiotics, corticoids, etc.). It can also affect babies;

- Herpetic gingivo-stomatitis reveals teeth sometimes covered with a whitish film with small gray spots. The gums also appear to be covered with a whitish paste. Fever and pain are associated, sometimes preventing eating. This condition is caused by the herpes virus and mainly affects young children;

- A localized white spot may develop following trauma or a cyst (a hollow with inflammatory fluid). Also, inside the oral cavity, tumors can be white in color and appear as small nodes formed at the base of the teeth: lipomas. Lipomas are usually harmless;

- Early-stage gingivitis may appear as white patches before progressing to rather red inflammation, and then to periodontitis if left untreated. It is caused by the presence of bacteria forming white spots on the gums;

- A dental abscess can also be revealed by a white ball on the gum. This bacterial infection can sometimes cause intense pain, but it can also develop insidiously. It is located on the gums, around the edge of the tooth root;

- Anemia can result in white gums. In this case, white gums are accompanied by white lips and persistent fatigue;

- Smoking is a possible cause of white, sore gums. When gum disease cannot be explained by an infection, it is useful to take a closer look at the patient's oral hygiene habits. Tobacco, by modifying the bacterial flora in the mouth, can make gums more sensitive and encourage the appearance of oral lesions;

- The appearance of baby teeth causes the gums to swell; this is known as "doubled gums". In reality, they are slightly hemmed and a little whiter than before.

Gingival grafting

Definition

Gingival grafting is performed to restore sufficient bone-attached gingiva in front of teeth with an exposed root. This phenomenon is known as tooth loosening.

Loosening can be caused by a number of factors, including over-vigorous brushing, bone loss due to gum disease, heredity, naturally thin gums, teeth grinding or clenching, or pulling on the brakes of the lips, tongue or cheeks.

When gums are lost, there is also bone loss and exposure of the tooth root, which can make the tooth more sensitive to heat or cold.

Dental health professionals qualified to perform this type of graft are:

- General dentists;
- Periodontists (dentists specializing in the treatment of diseases affecting the supporting bone and gums).

There are three types of transplants:

- Free autogenous grafts (GAL): a thin layer of gum is harvested from the patient's palate;
- Connective tissue grafts: a thin layer of connective tissue, i.e. the tissue under the skin, is harvested from the patient's palate;
- Allogenic grafts: the piece of gum tissue, called a graft, comes from an external human tissue bank. This technique is very safe and approved by Health Canada.

Benefits

- Improved support of the tooth in the bone;
- Reduced progression of loosening under favourable conditions;
- Reduced sensitivity to hot and cold;
- Improved aesthetics of the dentition, depending on the case;
- Very high success rate;
- Beneficial effects lasting for many years under favourable conditions;
- Minimal postoperative pain followed by rapid recovery for connective tissue and allogenic grafts;
- In the case of an allogenic graft, the external origin of the graft avoids the need for a second incision in the palate.

Disadvantages

- Treatment longevity varies according to the causes attributed to the onset of the problem. For example, the duration is shorter for smokers and bruxers who do not wear protective devices;
- Grafting does not always raise the level of the gingiva. The root of the tooth may therefore remain exposed or loose;
- Grafting does not raise the level of the bone;
- Autogenous grafts involve healing the tissue harvesting site on the palate.

Bone grafting

Definition

Bone grafting involves adding a given amount of bone to an area where it has been lost. The most common example is adding bone to the hole left by the removal (extraction) of a tooth.

There are four types of grafts that can be performed in the human mouth:

- **Autogenous bone:**
  The graft bone comes from the patient himself. This type of graft requires the preparation of two surgical sites: the donor site and the recipient site. The patient may prefer it to avoid having a graft from an external source;

- **Allogenic bone:**
  The graft bone comes from a donor external to the patient, i.e. another human. Graft bone is cadaverically sourced, and all provisions for disease transmission are controlled by government authorities. Each company must pass a series of rigorous tests, and the provenance of each sample must be documented in the patient's file. It is possible for the body to reject the material, but this is very rare;

- **Xenogenic bone:**
  The bone graft comes from an animal, often from the bovine family. With the advent of allogenic grafts, which are better accepted by the human body, this type of graft is tending to disappear. Rejection is very rare;

- **Synthetic material:**
  This material is not bone, but a synthetic material. It resembles bone and can play the same role as a bone graft. This type of material is not yet accredited or available in all countries.

Following all these types of grafts, the body creates new bone cells that gradually replace the graft until it is completely gone. This process, known as remodelling, takes place over a period of several months.

In some cases, a larger volume of bone may be inserted to counteract bone loss that occurs during the natural remodeling process, with the aim of achieving adequate final bone volume.

Treatment indications

- Preserve the bone crest after extraction for aesthetic reasons (e.g. future bridge on anterior teeth);
- Create sufficient space in width and height to allow placement of a dental implant (ceramic or titanium) immediately or in future years;
- Restore the jaw to a regular, adequate shape for the fabrication of partial or complete dentures;
- Support the maxillary sinus in cases of sinus elevation;
- Reconstruction of the jaw or jaws following a serious accident, congenital malformations or jaw resection in cases of oral cancer.

Benefits

- Allows the placement of dental implants (ceramic or titanium) in places where it would otherwise have been impossible to position them due to lack of bone;
- Improves smile aesthetics in places where teeth have been extracted;
- Improves the bone emergence profile of a dental implant to produce a crown that mimics the appearance of a natural tooth;
- Supports the maxillary sinus to position one or more dental implants;
- Gives the surgeon the option of choosing an implant format (size) better suited to the patient's masticatory function (for example, being able to fit a larger dental implant to replace a molar);
- Improves the comfort and esthetics of fixed bridges, partial or complete dentures to be fabricated;
- Allogenic or xenogenic bone: the use of allogenic bone requires the preparation of a single surgical site.

Periodontal pockets

Definition

The periodontal pocket is one of the components of periodontal disease. It is characterized by the damage and destruction of the bone surrounding the tooth, the alveolar bone, located beneath the gums. The pocket may be present on only one side of the tooth, or may affect all 4 sides of the alveolar bone. The periodontal pocket is measured with a periodontal probe, and its dimension is expressed in millimeters. If left untreated, periodontal pocketing progresses and may extend to the root of the tooth. If it reaches the junction between the roots (furcation), it can lead to tooth mobility and eventual tooth loss.

Symptoms and pain

Pockets are generally painless, but can cause the following symptoms:

- Inflammation of the gingiva, which may bleed in places;
- Possibility of small abscesses responsible for bad breath (halitosis);
- Localized pain or sensation of pressure;
- Bleeding when brushing or flossing;
- Presence of pus coming out of the gingiva;
- Changes in gum color, shape, texture and position (potentially red, swollen, spongy gums and possible gingival recession);
- Localized bad taste;
- Pain radiating into the bone (may worsen);
- Sensitivity to hot and cold;
- Toothache-like pain in the absence of caries.

Causes

- Periodontal pockets are mainly induced by periodontal pathogens generated by the presence of dental plaque (also known as biofilm) and calculus below the gum line. These agents create inflammation, which provides a favorable environment for periodontal pocket development;

- Other factors are associated with the development of periodontal disease, including certain genetic predispositions, diabetes, stress, smoking, hormonal changes and menopause.

Solutions

Removal of the pocket involves reducing its depth to that of a normal gingival-dental sulcus and restoring periodontal health. To achieve this, the main treatment is to remove the cause of the disease - plaque and calculus under the gums - under local anaesthetic, by cleaning the pockets through scaling or planing.

Surfacing is the first step in the treatment of periodontitis. This minimally invasive method is generally highly effective. The aim is to eliminate as many bacteria as possible from the tissues, and to remove the intrusive calcareous reliefs so that the periodontal pocket disappears, allowing the gum to re-adhere to the tooth.

To complete the disinfection and decontamination of the periodontal pocket, surfacing can be followed by periodontal pocket irrigation with an antiseptic, antibiotic or laser.

Sometimes, surfacing the teeth and decontaminating the periodontal pocket are not enough to stabilize periodontitis. The dentist may resort to periodontal surgery to correct the supporting bone and gain direct access to the roots. In this respect, the laser is a tool increasingly used by dentists.

Swelling or bump on the gums

Definition

A lump, swelling or swelling of the gums are reactions to a problem affecting the teeth or the bone on which they are implanted. It is often a sign of infection.

Symptoms and pain

Swollen gums are quite common and symptoms can appear in different forms:

- Gums that are swollen, red, smooth and shiny;
- Gingival pain on contact with food or when brushing teeth;
- Injuries, bleeding gums;
- Gingival recession (lowering of the gums around the teeth);
- Ulcers characterized by a white or yellow center;
- Hard bump under the gum.

Processing stages and times

When plaque bacteria enter your gums, they cause an infection. The body reacts to these foreign bodies by attacking the bacteria, resulting in swelling. In all cases, swelling should not be neglected. If it's mild, the solutions are simple (mouthwash or gum massage).

If it persists, it may be indicative of more serious problems such as gingivitis or periodontitis. In these cases, it's usually best to consult your dentist without delay.

Sometimes, swollen gums are indicative of a more serious disorder, accompanied by other symptoms such as:

- Difficulty swallowing;
- Difficulty breathing;
- High fever (over 38.5°C);
- Significant bleeding from the gums.

In the presence of these symptoms, it is advisable to consult a dentist as soon as possible.

Risks and consequences of not treating

Too much neglect can lead to severe gingivitis, acute periodontitis and even loosening of the teeth. If the problem persists, it's time to seek help.

Root planing and curettage

Definition

Root planing and dental curettage are non-surgical procedures designed to disinfect tissues affected by periodontitis by removing bacteria and tartar lodged in periodontal pockets and along tooth roots. Used in conjunction with scaling, root planing, once completed, enables the gums to re-adhere to the tooth surface.

Benefits

- Minimally invasive method with proven efficacy;
- Reduces inflammation and stops bleeding;
- Prevents degradation of supporting bone;
- Prevents the need for more invasive treatments;
- Prevent migration of bacteria from periodontal pockets to the rest of the body, which can lead to lung infections or heart problems.

Disadvantages

Surfacing can result in a slight retraction of the gums, exposing part of the roots of the teeth. “Black holes” may appear between the teeth, and they may become more sensitive to temperature changes.

Risks and consequences of not treating

- Gingival recession (lowering of the gums around the teeth) and loosening of the teeth;
- Irreversible bone loss;
- Loss of one or more teeth;
- Proliferation of pathogens into the body through gum tissue and the bloodstream, which can lead to serious complications for patients with cardiovascular disease, diabetes, osteoporosis or rheumatoid arthritis.

Processing stages and times

- Performed under local anaesthetic, root planing and curettage require 2 to 4 sessions, depending on the severity of the problem and the number of teeth affected;
- Bacteria and tartar accumulated along the roots of the teeth are removed using curettes, precision instruments for removing tartar, or an ultrasonic device. A curettage is then performed to thoroughly scrape the tissues inside the periodontal pockets;
- To complete the disinfection and decontamination of the periodontal pocket, surfacing and curettage can be followed by irrigation of the periodontal pockets with an antiseptic or antibiotic, or by the use of a laser.

Restrictions

- Despite the proven effectiveness of root planing, it is important to maintain good oral hygiene habits, including brushing 2-3 times a day, flossing and using interdental brushes;
- A cleaning (prophylaxis), including scaling, performed twice a year or as recommended by the dentist, is also essential to ensure healthy gums and underlying bone.

Bone resorption caused by missing teeth

Definition

The presence of natural teeth stimulates the bone to maintain its height and thickness. Under the action of occlusal forces, deployed during mastication, the roots transmit and distribute the pressure enabling bone remodeling.

Following the loss of natural teeth, the alveolar bone is no longer sufficiently stimulated, and the bone atrophies. Bone loss is greater when several teeth are missing.

Symptoms and pain

- Difficult chewing;
- Gum pain;
- Gradual deformation of facial features;
- Unstable removable prosthesis;
- Headaches and migraines caused by an unstable prosthesis.

Causes

- Tooth loss due to natural causes (aging) or due to various conditions (e.g. untreated periodontitis or abscesses);
- Dental extractions;
- Dental trauma following an accident;
- Certain diseases such as osteoporosis;
- Wearing a removable prosthesis for several years.

Solutions

Placement of ceramic or titanium dental implants (with or without bone grafting)

Once a tooth has been extracted, it's ideal to place a large-diameter implant as soon as possible. If the waiting period is prolonged, there will be a rapid reduction in bone level. Smaller-diameter implants will then have to be placed. The rate of bone loss varies from one individual to another and is difficult to predict. If the implant diameter is smaller, the replacement tooth offers less support to the patient. Significant bone loss can lead to borderline situations where implant placement becomes impossible without bone grafting or sinus lift. It is therefore preferable to act promptly after tooth extraction to ensure optimum results and implant diameter.

There are many options for implant-supported prostheses, depending on the number of teeth to be replaced:

- Single-unit implant-supported crowns;
- Implant-supported bridges;
- Implant-supported removable full dentures;
- Implant-supported fixed full dentures.

Bone resorption caused by prolonged wear of removable prostheses can also be treated with relining or relining.

Orthodontics (tooth alignment)

Malocclusion

Definition

The term “occlusion” refers to the relationship of the teeth to each other when the jaws are closed. To understand what a malocclusion is, we must first understand what a normal dental occlusion is.

The relationship between the anterior teeth is said to be “normal” when the upper teeth bite slightly forward and over the lower ones. The relationship between the posterior teeth of both arches, and their meshing, must also be very precise. There should be no large gaps, tooth rotations or overlapping teeth (lack of space). This ideal arrangement of teeth usually provides the best balance between aesthetics and function for the dentition.

When this optimal, aesthetic and functional relationship is not present, and there is malposition of teeth and poor relationships between them, we speak of a “malocclusion”. In theory, malocclusion refers to any deviation or variation from a normal or ideal occlusion as conceived by “nature”.

In popular terms, people refer to various bite problems as “crooked teeth”. However, misalignment of teeth is only one of several factors causing these irregularities.

In the North American population, the most frequently encountered occlusion problems are a lack of space causing dental crowding (overlapping, rotations) and excessive advancement of the upper teeth. It’s also common for the upper front teeth to overhang the lower ones, partially or completely covering them.

The dental and orthodontic field uses a classification system to categorize and describe the different aspects and types of malocclusion. The main criterion refers to the relationship of the molars to each other, but many other aspects are also considered. The most widely used system is the “Angle” classification, which refers not to the measurement of an angle somewhere in the occlusion, but simply to the name of an orthodontic pioneer, Edward H. Angle, who developed this system almost 100 years ago.

Symptoms and pain

- Irritation, pain or receding gums;
- Temporomandibular joint pain;
- Speech difficulties;
- Difficulty chewing;
- Premature tooth wear.

Causes

- Most malocclusions are hereditary or genetic in origin. As a result, family members often have similar problems, such as too little or too much space between the teeth, extra or missing teeth, and imbalances between the shape and size of the jaws.
- Other factors that may contribute to the development of malocclusions are acquired causes, or external elements (influenced by the environment), for example:
- Chronic finger-sucking habits which, if maintained over a long enough period of time, can exert enough force to displace teeth;
- Airway obstruction problems causing chronic mouth breathing. This can affect jaw development and tooth position;
- Poor tongue position at rest or during swallowing;
- Premature loss of primary or permanent teeth due to accident, decay or disease of the gums and bones supporting the teeth;
- Tooth loss can displace other teeth and contribute to the development of malocclusions;
- Trauma, an accident or a blow to the face can also cause teeth to shift, leading to malocclusion problems.

Orthodontics for children (interceptive)

Definition

The Canadian Association of Orthodontists (CAO) and the American Association of Orthodontists (AAO) recommend that all children receive their first orthodontic evaluation as early as 6 or 7 years of age, as it is around this age that the first permanent molars erupt and establish the posterior occlusion. By this time, it's already possible to assess the relationship between teeth and jaws in 3 dimensions (front-back, width and height), and to detect many dental and skeletal problems, as well as functional deviations of the lower jaw.

Taking a panoramic radiograph around this age can reveal a great deal about a child's "dental future" and developing occlusion. Early assessment does not imply the need for early intervention, but for some children, timely assessment can lead to significant improvements if orthodontic intervention is indicated, while for others, the immediate benefit of early assessment will promote parental peace of mind.

Treatment indications

- Misalignment between lower jaw (mandible) and upper jaw (maxilla);
- Malocclusion;
- Migration of teeth after loss of deciduous teeth;
- Dental arches too narrow;
- Severe malpositioning.

Some indications for treatment

- An early orthodontic consultation can help identify specific problems: overlapping, tooth rotation, closed bite (too much vertical overhang between teeth), anterior hollowness, certain habits and facial asymmetries;

- A palatal expansion can be planned to widen a palate or upper jaw that is too narrow;
- Control of finger or thumb sucking habits can be exercised;
- The use of an oral screen to try to stop an infantile or atypical swallowing habit may be prescribed;
- The orthodontist can perform selective extractions to help the eruption of permanent teeth;
- The correction of an anterior or posterior crossbite can be considered;
- An orthodontic assessment at an early age is unlikely to avoid the need to intervene again later, but it can lead to simpler, more effective treatment for patients while reassuring them about their dental condition;
- Several intervention and interception procedures can be undertaken at an early age, which can help minimize the severity of developing problems;
- Only the most severe problems will present indications for early orthodontic intervention.

Risks and consequences of not treating

Not having early orthodontic intervention may increase the following risks:

- Subsequent extraction of one or more permanent teeth;
- Permanent teeth becoming impacted;
- Worsening of a malocclusion;
- Tooth wear;
- Development of temporomandibular joint (TMJ) dysfunctions;
- Only the most severe problems will present indications for early corrective orthodontic intervention.

Space maintenance following the loss of a temporary tooth

Space preservation

The most normal eruption sequence possible is very important to allow the teeth to fit in the right place in the jaw during growth. Temporary molars serve to maintain the space necessary for the eruption of the (permanent) premolars. This space is also called leeway space.

When a situation such as a fracture or tooth decay necessitates the premature removal of a primary molar, the space required for eruption of the adult tooth may be reduced by the forward sliding of the adult first molar. As a result, the eruption of the adult premolar may be blocked, or the premolar may emerge in the wrong place.

To prevent displacement of the first molar, a space maintainer can be used until the premolar erupts normally.

- This appliance can be fixed or removable (the patient can take it off). The fixed appliance consists of two metal bands placed on the first permanent molars and connected by a wire running along the inside (tongue side) of the teeth;
- As the name suggests, a space maintainer maintains or preserves the space already available for the eruption of permanent teeth following the extraction or loss of temporary teeth;
- It holds permanent teeth that have already erupted in place and prevents them from shifting during the eruption of other teeth;
- It is not, however, a “spacer”; the space maintainer does not create space. If there is a lack of space in the mouth, which is often the case and is an indication for using such a device, there will always be a lack of space, but this device will prevent the loss of additional space. This is a passive appliance, meaning that it does not perform any correction. Its sole purpose is to ensure that the space already present for the permanent teeth remains available during their eruption;

- It is not intended to correct tooth malposition, increase available space or recover lost space (crooked teeth will stay crooked!). Orthodontic corrections using other types of appliances (braces or aligners) are often indicated following the use of a space maintainer;
- It does not correct the width of the jaws or their relationship to each other;
- The use of a space maintainer is no guarantee that teeth that have not yet erupted will emerge correctly or that the occlusion will be adequate once the permanent dentition is complete. Indeed, even if such an appliance is used, it's to be expected that, in most cases, the remaining teeth will emerge with significant irregularities or malposition if the lack of space is severe to begin with. Should this be the case, corrections using corrective appliances (e.g. braces or aligners) may be necessary to optimize the function and aesthetics of the teeth.

Benefits

- The space maintainer can be used on the upper or lower jaw;
- It can be fixed (which cannot be removed) or removable (which can be removed by the patient);
- The manufacture of space maintainers requires only the taking of a dental impression to make a model of the dentition on which the appliance will be custom-made in the laboratory;
- Fitting and wearing space maintainers is not painful or uncomfortable when the appliances are well made and adapted to the dentition;
- After a short adaptation period, it does not interfere with pronunciation or chewing.

Orthodontics for adolescents

Definition

Orthodontics is a specialty of dentistry concerned with the diagnosis, development, prevention and correction of dental malocclusions and malpositioned teeth, and aims to correct both aesthetic and functional problems. Adolescence is the ideal time to undertake most comprehensive orthodontic corrections. Most orthodontic patients are in this age group (between 11 and 18). It's also worth noting that the period between 11 and 13 is a prime developmental stage for orthodontic treatment, as the permanent dentition is almost complete and still has growth potential that may be essential for correcting certain jaw imbalances.

Treatment indications

- Protrusion of teeth;
- Overlapping of teeth, lack of space;
- Rotation, tilting, etc. of teeth;
- Excessive spacing of teeth;
- Asymmetry of dental arches;
- Impacted teeth (canines and others);
- Jaw imbalances;
- Excessive overhang of teeth (high vs. low);
- Smile aesthetics;
- Gums too visible when smiling.

Benefits

- Improved smile and facial aesthetics;
- Improved function (chewing, phonetics, etc.);
- Longer life for natural teeth;
- Easier tooth care;
- Treatment is simpler, sometimes faster, and may require fewer extractions of permanent teeth or complex procedures such as jaw surgery than if treatment is undertaken in adulthood;
- Prevention of more invasive and costly treatments through early intervention.

Risks and consequences of not treating

- Functional disorders caused by malpositioned teeth and jaws ;
- Difficult cleanings due to overlapping teeth, which can contribute to the formation of cavities, the development of gum disease and even tooth loss;
- Inadequate chewing due to incorrect interlocking of teeth, which can lead to excessive wear of teeth and pain in the jaw, head, neck and facial muscles;
- Low self-esteem due to unsightly appearance of teeth.

Orthodontics for adults

Definition

Orthodontics is a specialty of dentistry concerned with the diagnosis, development, prevention and correction of dental malocclusions and malpositioned teeth, and aims to correct both aesthetic and functional problems.

Today, over 25% of orthodontic patients are adults. Modern braces are more aesthetic and less bulky, and new techniques using clear aligners like *Invisalign®* or *ClearCorrect®* and a new generation of “invisible” lingual braces make treatment more accessible than ever. Orthodontic correction in adulthood can have a hugely beneficial effect on your appearance and self-esteem, not to mention improving dental function and health throughout your life.

Treatment indications

- Protrusion of teeth;
- Overlapping of teeth, lack of space;
- Rotated, tilted teeth, etc.;
- Teeth too far apart;
- Asymmetry of dental arches;
- Impacted teeth (canines and others);
- Jaw imbalances;
- Excessive overhang of teeth (top to bottom);
- Aesthetics of smile;
- Gums too visible when smiling.

Benefits

- Improved smile and facial aesthetics;
- Better function (chewing, phonetics, etc.);
- Extended life of natural teeth;
- Easier maintenance of teeth;
- May allow better quality dental work after orthodontics (bridges, crowns, etc.);
- May improve periodontal health.

Disadvantages

- Adults often have more problems affecting the bone and gums around the teeth (periodontal disease) than the adolescent population, requiring a special approach and treatment;
- Adults are more likely to have broken, restored or missing teeth, dental implants or other forms of prosthetics (crowns, bridges, partials), which can alter tooth movement and orthodontic mechanics;
- Adults frequently have teeth that have been “mutilated” by extraction or loss, teeth that are more worn or damaged, teeth that have shifted or migrated, and more bone and gum problems around the teeth. These conditions can make treatment more complex.

Invisible orthodontics

Definition

The use of clear aligners such as *Invisalign® and ClearCorrect®* is an alternative to traditional braces. This technique uses a series of clear aligners custom-designed to cover the surface of the teeth and allow them to be moved. Each tray is replaced on a regular basis, approximately every two weeks or as recommended by the orthodontist, by a new, precision-molded tray, allowing the progressive movement of the teeth to continue according to the planned movements. As the realignment process continues, the teeth move into the final position prescribed by the specialist.

Treatment indications

- Overlapping of teeth;
- Excessive spacing of teeth;
- Crossbite (upper and lower jaws incorrectly aligned);
- Overbite (upper teeth overlap lower teeth);
- Underbite (lower teeth protrude beyond upper teeth).

Benefits

- No metal or wires (almost invisible treatment), so more aesthetic;
- Generally comfortable;
- Removable gutter (can be removed by patient);
- Does not affect oral hygiene or restrict food choices, as the tray is removed for eating and cleaning;
- Greater self-esteem during treatment due to the invisibility of the aligners ;
- Fewer adjustments required at appointments.

Disadvantages

- Control over tooth movement may be more difficult in some cases with treatment using transparent shells;
- The mouthpiece may have a tendency to slip and the tooth may not follow the prescribed movement;
- Requires excellent cooperation from the patient;
- There are cases where traditional orthodontic approaches may be more effective, as control of tooth movement is more direct, depending on tooth shape or direction of movement.

Risks and consequences of not treating

- A less attractive smile;
- Poor positioning of teeth and jaws.

Orthodontic brackets

Definition

One of the goals of orthodontic treatment is to correct dental misalignments and align teeth to improve their appearance and function. Conventional fixed orthodontic appliances, commonly known as braces, are the best known and are still considered the most effective and versatile for the majority of cases.

Braces are made up of several parts, including small brackets glued to the front of the teeth and connected by wire of different sizes and alloys, depending on the movements required. Fortunately, these appliances have greatly evolved over the last few decades, and their appearance is now much more discreet. Their size has also been significantly reduced, making them more comfortable and less conspicuous. Orthodontic braces are available in many shapes and materials: metallic, ceramic, plastic, transparent and even gold-plated.

Fixed orthodontic appliances apply a very light but constant force to the teeth, allowing them to be individually and simultaneously corrected to their optimum position. Regular adjustments are necessary to ensure and check the progress of corrections and to maintain appropriate forces. Orthodontic treatment can be used to correct virtually any type of malocclusion, from the simplest to the most complex problems.

Treatment indications

- Correct alignment of teeth;
- Reposition jaw and teeth;
- Correct various occlusal and functional problems as described above.

Benefits

- Aesthetic improvement of the smile;
- Resolution of masticatory problems;
- Improved occlusion (aesthetics and function);
- Prolonging the life of natural teeth (aligned teeth are easier to maintain and therefore less prone to decay and periodontal disease).

Disadvantages

- Some devices, such as completely clear (ceramic) housings, although more aesthetically pleasing, have the disadvantage of being more fragile;
- In some cases, the hardness of the materials used to make the cases can lead to wear of the opposing teeth that bite into them;
- Wearing braces can cause discomfort and irritate mucous membranes;
- Some orthodontic treatments involve a significant financial investment.

Processing stages and times

- Varies according to the treatment plan established for each patient;
- Treatment duration can range from 6 months to over 2 years, depending on the severity of the problem, treatment goals, oral health status and patient age.

Sleep and breathing

Sleep and breathing

Definition

Sleep-disordered breathing refers to a variety of conditions that can affect breathing during sleep. These can range from simple primary snoring to severe apnea, which can be debilitating and even fatal for those affected.

To understand sleep abnormalities, it's important to first understand what is considered normal sleep.

The importance of sleep and breathing

Sleep is an integral part of our lives. We spend a third of our lives sleeping, so a 60-year-old will have spent almost 20 years sleeping. A good night's sleep is essential for recovering our physical and mental strength, and contributes to our quality of life. Breathing and sleep are inseparable activities, but ones that healthy people often take for granted. Normal sleep is characterized by regular breathing to maintain normal gas exchange. It has been shown that, during REM sleep, the brain consumes more oxygen than during wakefulness. It's not just the quantity of sleep that's important, we now know that the quality of sleep is just as important as its quantity. Sleep will influence our state of alertness, our intellectual capacities and, in general, the functioning of our organism in every respect.

Breathing disturbances during the night affect sleep quality; nocturnal arousals (conscious or unconscious) will eventually lead to significant clinical manifestations affecting health and quality of life, and may have significant personal social consequences.

Normal sleep

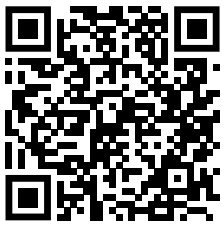
Individual variation

- The average sleep duration is around 8 hours, but this can vary from one individual to another.
- Everyone has specific sleep requirements to feel rested. Although the average is between 7 and 9 hours, some are content with less than 7 hours, while the “heaviest sleepers” require more than 9 hours. Some go to bed late, while others are early risers.
- There are no universal standards, and heredity plays a role in this.

Sleep varies with age

Sleep changes with age. Infants, young children, teenagers, adults and the elderly all have different sleep patterns. As people age, their sleep patterns change.

- **Children:** An infant sleeps on average between 16 and 18 hours a day, and has several sleep cycles. This will increase to 10 to 12 hours by the age of 6, without the need for **daytime naps.**
- **Adolescents:** Adolescents sleep an average of 9 hours a night. They go to bed later and get up later, which can affect their circadian sleep rhythm.
- **Adults:** Sleep for an average of 7-8 hours, falling asleep quickly and waking up little at night, making this sleep one of the most restorative. This ideal sleep can, however, be disrupted by lifestyle (night shifts), bad sleeping habits (going to bed too early or too late), or illness (arthritis, depression, etc.).
- **Older people:** Their sleep period is shorter, averaging 6 hours, and daytime naps are frequent. Sleep is also lighter, and there are more periods of nocturnal wakefulness, which last longer than in younger people. Older people tend to go to bed earlier and get up earlier.



Sleep apnea

Sleep disorders; why are they important?

Why is it important to identify, detect and treat disorders that can affect sleep? Because anything that affects sleep quality has the potential to influence your health. What's more, anything that affects breathing during sleep can have an even greater impact. A respiratory disorder such as sleep apnea is often very debilitating and can, in extreme cases, lead to death.

Sleep-disordered breathing is relatively common in the general population. Sleep apnea is a common condition, but its prevalence is underestimated.

Awakenings or micro-awakenings during the night, whether conscious or unconscious, will, over time, lead to clinical manifestations that affect the health and quality of life of those affected by sleep disorders, which can have significant social consequences.

There are several types of sleep disorder, but those that affect breathing, sleep-disordered breathing, are the most common and unfortunately go undiagnosed most of the time.

What is sleep-disordered breathing?

The U.S. National Institutes of Health (NIH) defines sleep-disordered breathing (SDB) as any type or degree of obstruction that occurs in the nasal cavity or oral airway during sleep.

One such disorder, obstructive sleep apnea (OSA), also known as obstructive sleep apnea syndrome (OSAS), is a highly disabling problem that can, in some cases, even cause death. More often than not, this untreated syndrome can contribute to the development of very serious health problems such as hypertension, heart problems, strokes, diabetes and depression.

What is sleep apnea?

Definition

Sleep apnea is a sleep-disordered breathing condition characterized by either frequent cessation of breathing (apnea) or decreased respiratory flow (hypopnea) caused by complete or partial obstruction of the upper airway. This syndrome is also known as sleep apnea-hypopnea syndrome (SAHS) or obstructive sleep apnea syndrome (OSAS) when apnea is associated with upper airway obstruction.

Currently, there is no consensus among sleep-disordered breathing specialists regarding the definition of hypopnea. It has been defined as an abnormal respiratory event of at least 10 seconds duration causing a reduction of at least 30% in respiratory flow or thoracoabdominal movements, relative to a baseline value, and which is accompanied by a blood oxygen desaturation of at least 4%. (5)

The resulting lack of ventilation is associated with clinical manifestations such as excessive daytime sleepiness and sometimes uncontrollable sleepiness.

Other symptoms associated with OSA include snoring, morning headaches, apnea and sleep irregularities.

Causes

There are two main causes of sleep apnea:

- **Obstruction**
- **Neurological cause**

Treatment of sleep apnea

Definition

It is estimated that over 90 million people in North America suffer from insomnia, snoring or sleep apnea.

Sleep apnea is a disease. It can be treated, but there is no cure. The treatment proposed by your doctor will depend on whether your apnea is mild, moderate or severe.

To date, there is no drug that can cure sleep apnea, but there are two therapies that have proven effective in treating obstructive sleep apnea (OSA): a continuous positive airway pressure (CPAP) device or a mandibular advancement orthosis (M.A.O.).

Continuous positive airway pressure (CPAP)

- This treatment uses a device with a compressor and humidifier to blow air continuously through the nose, using a mask worn during sleep.
- This device is considered the treatment of choice or the “gold standard” for people suffering from obstructive sleep apnea syndrome (OSA), especially in moderate and severe cases.
- The insufflated air keeps the airways continuously open, eliminating apneas and normalizing air flow (oxygen) and gas exchange.
- The continuous pressure of the CPAP machine is set specifically for each individual to prevent collapse of the airway in the throat. The severity of apnea will determine the pressure to be used with the CPAP.
- Although this treatment is extremely effective, it takes time to get used to sleeping with the mask on. It may feel uncomfortable at first, but you need to be patient. Symptoms will diminish after 4 to 6 weeks, provided the mask is worn every night.

- This treatment will not lead to a cure, but it will improve sleep quality and reduce many of the symptoms associated with OSA, such as lack of alertness, memory problems and blood pressure in the case of associated hypertension.

- This treatment often improves quality of life, memory and alertness, as well as lowering blood pressure in cases of associated hypertension.

Mandibular advancement orthosis

The mandibular advancement orthosis is a custom-made oral appliance for the treatment of sleep and snoring.

- There are different types of oral appliances called mandibular advancement braces (MABs) (or mandibular advancement orthoses) that progressively advance the lower jaw (mandible) and tongue to clear the upper airway and facilitate the passage of air by eliminating the obstruction caused by the tongue.

Surgery

If treatment with CPAP ventilation doesn't work or isn't well tolerated, surgery may be considered for the most severe cases of apnea.

- Several types of operation exist to reduce snoring and apnea, but their effectiveness is relatively low, and apnea tends to reappear some time after the operation.

- Surgery is not effective for all patients. It can sometimes improve symptoms, but in some cases it can make sleep apnea worse. This procedure is therefore rarely the treatment of first choice.

Snoring

What is snoring?

- Unless it's accompanied by sleep apnea, snoring is not usually considered a health problem and doesn't bother the person who snores.
- Snoring can, however, be indicative of the presence of more serious problems, such as sleep apnea, from which a good proportion of snorers suffer. The louder the snore, the more likely it is to be accompanied by apnea.
- Anyone can snore occasionally, but if the problem is chronic, it can affect the quality and quantity of your sleep, as well as your health (daytime fatigue, irritability, concentration problems, etc.).

Do you sleep with a truck?

- Snoring can also cause sleep disturbance in those around the snorer, as the irritating noise of snoring can often be unbearable.
- An average snore generates a sound varying between 45 dB and 60 dB, equivalent to the sound of a voice.
- Major snoring can reach over 95 dB, which is the equivalent of a truck passing by!
- Not surprisingly, such noise is a nuisance for snorers' sleeping partners, even causing chronic insomnia that can affect their health.

Incidence

- Many snorers are unaware that they snore. It is therefore difficult to assess the frequency of this sleep-disordered breathing disorder in the population.
- The American Academy of Otolaryngology estimates that 45% of adults snore occasionally and 25% are regular snorers.
- 50% of middle-aged men are snorers.

- 40% of adults over 40 snore.
- Over 10% of children are regular snorers.
- 60-70% of snorers also suffer from sleep apnea.

Causes

During sleep, the muscles, tongue, palate and throat tissues relax and can partially block the passage of air from the upper respiratory tract. This causes resistance to airflow, which in turn causes these tissues to vibrate, producing the sound of snoring (see illustration).

If you sleep on your back, the tongue can add to the obstruction by partially blocking the throat.

With airflow restricted, the flow of air is accelerated to keep the lungs supplied with oxygen. The tissue vibration generated when air passes through during inspiration produces the sound of snoring.

Certain factors can cause or accentuate this sound breathing, such as:

- **Overweight;**
- **Anatomical peculiarities (ENT);**
- **Narrow nasal passages;**
- **Pregnancy;**
- **Enlarged tonsils;**
- **Nasal congestion;**
- **Medication and alcohol;**
- **Smoking;**
- **Age (aging);**
- **Sleeping position.**

Sleep studies

Polysomnography (PSG)

- The definitive diagnosis of sleep apnea is based on clinical assessment using a sleep test and polysomnography (PSG). This standardized test is reproducible, validated in research and clinically, and is the reference method for diagnosing sleep apnea.
- Nocturnal polysomnography is the most comprehensive examination and remains the one of choice for assessing sleep-disordered breathing. However, it requires a technician and must be carried out in a laboratory or clinic specializing in sleep assessment, using heavy equipment.
- PSG consists of a night of recordings of various parameters over a period of at least 6 hours.
- This comprehensive test can diagnose several types of sleep disorder, including obstructive sleep apnea (OSA), restless legs syndrome and narcolepsy.
- Electrodes placed on the head, face, chest and legs are used to assess several neurophysiological and respiratory parameters, such as breathing (respiratory rhythm, tracheal sound analysis), oro-nasal airflow measurement, exhaled CO2 measurement, blood oxygen saturation, snoring, and heart rate (ECG).

Cardiorespiratory sleep polygraphy (CRSP)

- There's a simpler version of sleep studies that measures fewer signals, called cardiorespiratory polygraphy.
- This simplified polysomnography does not assess physiological parameters, and is mainly used to explore sleep-disordered breathing. It is not a screening test, but a simplified diagnostic test.

Using various receivers, this test measures and records, but is not limited to:

- Oxygen saturation and heart rate;
- Respiratory flow;
- Thoracic effort;

- Abdominal effort;
- Body position.

Nocturnal oximetry (nocturnal saturometry)

- Several diseases, such as chronic obstructive pulmonary disease, decompensated heart failure and sleep apnea-hypopnea syndrome (SAHS), can lead to nocturnal oxygen desaturation.
- Nocturnal pulse oximetry uses a simple device placed on the tip of a finger to assess the functional oxygen saturation of the blood by means of a painless optical measurement. Measuring blood oxygen saturation indicates the percentage of oxygen-carrying hemoglobin in the blood.
- The device is worn overnight, and the data is stored in the device for later computerized interpretation.
- This enables easy screening, which may lead to a more comprehensive assessment if necessary, depending on the results obtained.

How do I undergo a polysomnography or sleep test?

- A medical prescription or order is required for polysomnography. It can be written by your family doctor, a pulmonologist, ENT specialist, etc. Some dentists, orthodontists and other dental specialists can also write such a prescription.
- This examination, which will identify respiratory sleep abnormalities (mainly sleep apneas or hypopneas), requires the recording of certain parameters during a night's sleep (at least 6 hours).
- The test can be carried out in hospital, in some private clinics, or on an outpatient basis at home for simpler tests (polygraphs).

Sleep-disorders in children

Sleep apnea in children

Although obstructive sleep apnea (OSA) was first observed and documented over a hundred years ago, it wasn't until the 1970s that the phenomenon was first described in children. As in adults, OSA is characterized by episodes of upper airway obstruction during sleep. Obstruction may be partial or complete. Three main components of OSA have been identified:

- Episodes of reduced blood oxygenation (hypoxia);
- Intermittent increase in blood carbon dioxide levels (hypercapnia);
- Fragmentation of sleep, resulting in poorer quality sleep.

Snoring without sleep apnea is more common, but can still cause sleep fragmentation and health problems for children.

Incidence: The Canadian Lung Association estimates that between 0.7% and 10.3% of children suffer from sleep-disordered breathing, which can include:

- Obstructive sleep apnea;
- Upper airway resistance syndrome;
- Shallow breathing due to obesity.

Many of these problems remain untreated because they go undetected and unnoticed.

Children vs. adults: Obstruction mechanisms, side effects, diagnostic criteria and treatment modalities are different in children and adults.

Symptoms of sleep disorders in children

If your child or teenager experiences one or more of the following symptoms, ask your doctor to refer you to a sleep specialist:

- Snoring;
- Breathing pauses during sleep (even one pause per hour is considered abnormal);
- Fatigue during the day, even after a full night's sleep;
- School problems.

Possible causes of sleep apnea in young people

A frequent cause of upper airway obstruction in children, which can contribute to snoring and sleep apnea, is enlarged tonsils (throat) and adenoids (nasopharynx). The larger these tissues are, the more they can obstruct the passage of air.

Nearly 70% of children with apnea have a mandible that's too short (recessed), a jaw that's too narrow and are overweight.

A child with swollen tonsils, snoring and silent pauses in breathing during the night should see a doctor for an examination.

Lack of physical activity and poor diet can also affect a child's sleep.