

Anxiety and Pain Control

Dentalelle Tutoring

Pain Mechanisms

- Note → SEE SEPARATE LOCAL ANESTHETICS POWER POINT FOR INFORMATION ON PAIN MECHANISMS

PAIN MANAGEMENT

Methods

- A variety of pharmacological options for pain control include local anesthesia, oral sedation, intramuscular (IM) sedation, and nitrous oxide sedation, allowing conscious sedation and pain management.

Non-Opioid Analgesics

- Preventing mild to moderate pain
- **Ibuprofen** – is the choice for pain
 - Onset: 30 minutes
 - Peak: 2-3 hours after admin
 - Administer second dose after 4 hours of initial dose
 - For Treatment pain take 2 HOURS before
 - For post operative pain take right after procedure (with LA)
and before treatment (for no LA used)

Acetaminophen

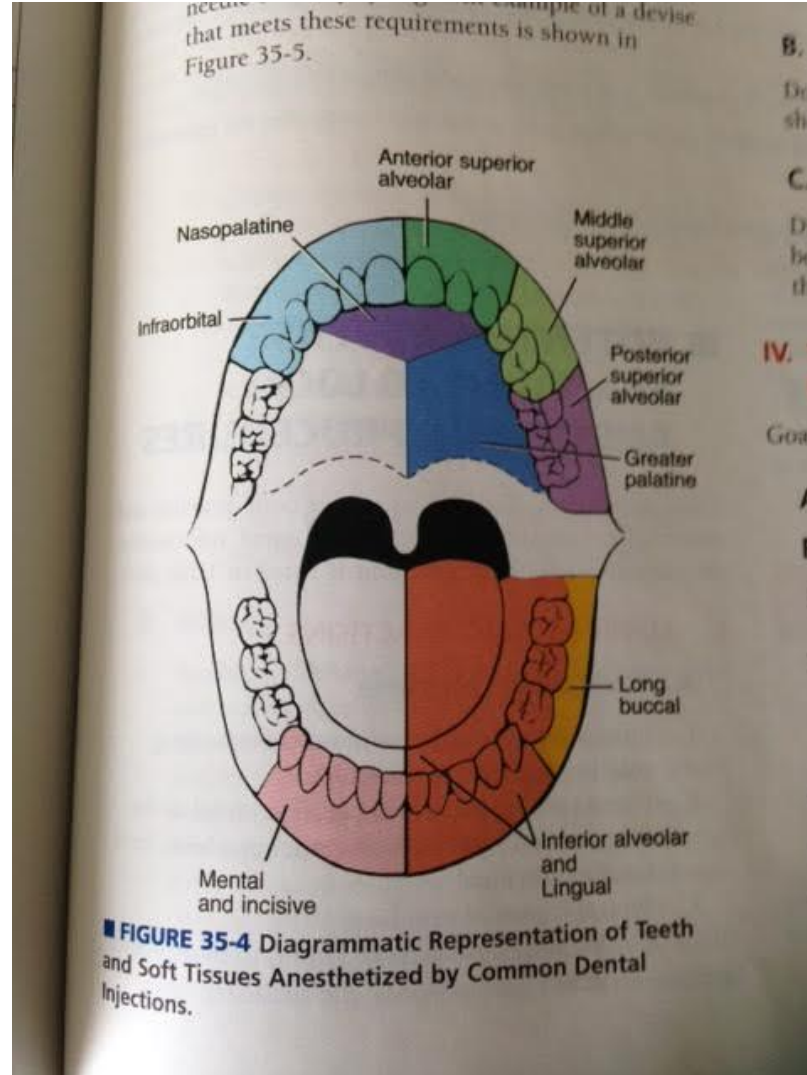
- Blocks prostaglandin synthesis at peripheral nerve endings to inhibit generation of pain message
- Suppresses onset of pain
- Decreased pain severity

- Mild to moderate pain

Local Anesthetic

- Administration of local anesthesia allows for a safe and efficient way of pain management — the most commonly used method in dentistry today.
- Local anesthetics may be used to anesthetize either an isolated tooth through an infiltration injection or a quadrant with the administration of a block injection. Local anesthetics function by temporarily blocking the action potential in the nerve at the site of administration. They may be short-acting, intermediate-acting, or long-acting.

Study →



Study →

600 SECTION VI • TREATMENT

TABLE 35-4 COMMON LOCAL ANESTHETIC INJECTIONS FOR DENTAL HYGIENE PROCEDURES

INJECTION	TISSUES ANESTHETIZED	BRANCH OF THE TRIGEMINAL NERVE
Maxillary Arch		
Posterior superior alveolar (PSA)	<i>Hard tissue:</i> second and third molars; first molar excluding mesiobuccal root; associated supporting structures <i>Soft tissue:</i> overlying facial tissues	Maxillary Division Posterior superior alveolar
Middle superior alveolar (MSA)	<i>Hard tissue:</i> first and second premolars, mesiobuccal root of first molar, and associated supporting structures <i>Soft tissue:</i> overlying facial tissues	Middle superior alveolar
Anterior superior alveolar (ASA)	<i>Hard tissue:</i> canine and incisors and associated supporting structures <i>Soft tissue:</i> overlying facial tissues and lip	Anterior superior alveolar
Infraorbital (IO)	<i>Hard tissue:</i> premolars, canine, incisors, and associated supporting structures <i>Soft tissue:</i> overlying facial tissues, cheek, and lip	Infraorbital (includes both anterior and middle superior alveolar)
Greater palatine (GP)	<i>Hard tissue:</i> none <i>Soft tissue:</i> palatal tissue from teeth to midline from distal of third molar to canine	Greater palatine
Nasopalatine (NP)	<i>Hard tissue:</i> none <i>Soft tissue:</i> palatal tissues from left canine to right canine	Nasopalatine
Infiltration (Inf)	<i>Hard tissue:</i> individual teeth associated supporting structures <i>Soft tissue:</i> facial tissue overlying individual teeth	Individual terminal branches
Mandibular Arch		
Long buccal (LB)	<i>Hard tissue:</i> none <i>Soft tissue:</i> facial tissue of molars	Buccal (long buccal)
Inferior alveolar with lingual (mandibular block) (IA)	<i>Hard tissue:</i> molars, premolars, canine, and incisors to midline, as well as associated supporting structures <i>Soft tissue:</i> facial tissue anterior to mental foramen, including lip	Inferior alveolar (includes dental, mental, and incisive branches)
	<i>Hard tissue:</i> none <i>Soft tissue:</i> lingual tissue from molar to midline, including anterior two thirds of tongue; floor of mouth	Lingual
Gow-Gates technique (GG)	<i>Hard tissue:</i> mandibular teeth to midline; body of mandible; inferior portion of ramus <i>Soft tissue:</i> facial and lingual tissue; anterior two thirds of tongue and floor of mouth; skin over the zygoma; posterior portion of the cheek and temporal regions	Third division nerve block (includes inferior alveolar, mental, incisive, lingual, mylohyoid, auriculotemporal, and buccal nerves)

Oral Sedatives

- Oral sedatives may be an option for highly anxious or fearful patients, young children, and mentally challenged patients.
- **Valium and chloral hydrate are two common medications.** This option allows the patient to remain conscious yet comfortably sedated during the procedure. Patients may be asked to take the sedative medication at home prior to the appointment.
- In this manner, they are sedated when they are at the office for the procedure. Some offices may administer the medication and have the patient wait while it takes effect.
- Older antihistamines such as **hydroxyzine cause mild sedation** and also decrease salivary secretions, creating a dry working field for the dental practitioner. Regardless of when the patient takes the medication, a family member will need to drive the patient to and from the appointment.

Intramuscular Sedation

- Intramuscular (IM) sedation is an option for anxious or fearful patients who may need to be sedated for a dental procedure.
- The sedative injection is administered either in the thigh or the upper arm and starts to take effect within 30 minutes.
- **Special training is required for dentists** who opt to use this pain management technique. A knowledge of medications and how much can be safely administered to a patient is critical.

Drawback

- One drawback to IM sedation is that the **results may be unpredictable**. The drug cannot be titrated and the rate of absorption from the injection sites varies greatly from patient to patient.
- As a result, some patients may be oversedated and some may be undersedated. **Because of the lack of predictability, this is the least frequently used method in adults**. However, when utilized, equipment such as a pulse oximeter (which will allow the practitioner to monitor the vital signs of the patient) is required.
- **Reversal agents must also be available in the office in case of oversedation.**

Nitrous Oxide

- Nitrous oxide and oxygen (N₂O/O₂) sedation is a commonly used method of inhalation conscious sedation in the dental office.
- Nitrous oxide, a weak general anesthetic, is delivered with a **minimum of 30% oxygen** to the patient via a nasal hood. This combination reduces anxiety, raises the pain threshold, and produces a state of **Stage I anesthesia**. The patient is relaxed and mildly sedated yet able to respond and maintain a patent airway.
- Because nitrous oxide has a very low solubility in the blood, it has **a rapid onset and also allows for a rapid recovery**. Because of this property, patients do not need to be brought to the office by a family member nor do they need to be released to a family member at the end of the appointment.
- **At the end of the appointment, 100% of oxygen is delivered to the patient for five minutes.** This allows full recovery of the patient. He/she is able to drive, go to work, and conduct their day as they normally would. Nitrous oxide can also be safely combined with other pharmacological methods of pain control such as local anesthesia, oral, IM and intravenous sedatives.

Laughing Gas

- Depending on the concentration and length of administration of laughing gas, four levels of sedation can be experienced (after an initial feeling of light-headedness):
 - a tingling sensation, especially in the arms and legs, or a feeling of vibration (“parasthesia”), quickly followed by
 - warm sensations, and
 - a feeling of well-being, euphoria and/or floating. During heavier sedation, hearing may dissolve into a constant, electronic-like throbbing.
 - At a deeper level of sedation again, sleepiness, difficulty to keep one’s eyes open or speak (“dream”) can occur. Should nausea set in, it means you’re definitely oversedated!

Equipment

- The equipment used for delivering “happy gas” is quite simple. It consists of a supply of compressed gases and an apparatus which delivers the gases to the client. By turning some knobs and flipping on/off switches, the administrator can produce the desired mix of N₂O-O₂ in the desired quantities. Flowmeters and pressure gauges allow the administrator to keep an eye on the flow of gases.
- The desired N₂O-O₂ mix is fed through a tube to which a nasal hood or cannula is attached.

Continued

- The twin tubes running to the mask are for “gas in” and “gas out”.
- The “gas out” line is attached to the vacuum machine, while the “gas in” line is attached to the RA (short for relative analgesia) machine. The inner mask is attached to the “line in”, you breathe out through a one-way valve in the inner mask, and the exhaust gas is collected inside the outer grey mask (pictured to your right) and sucked into the vacuum machine.

Disadvantages of N₂O

- Some people are not comfortable with the effects of laughing gas. If you're prone to nausea, it's a good idea to have a meal (not a huge one) about 4 hours before your appointment. If that's not possible, make sure your stomach isn't completely empty. Some people will not achieve adequate sedation with permissible levels of oxygen.
- If you can't breathe through your nose (either because you're a pure mouth breather, or because your nose is blocked), or you feel too claustrophobic when something is put over your nose, it can't be used.
- Apart from that, most of the disadvantages of inhalation sedation don't affect you, but the dental team: there's training required, the equipment is quite bulky and takes up a lot of space, and there is a possibility that dental staff who are chronically exposed to nitrous oxide might develop health problems. The cost of the equipment and gases is high, so you'll have to contribute to the cost – but it's quite a bit cheaper than IV sedation.

Contraindications

- There aren't any major contraindications to relative analgesia, except for **M.S., emphysema and some exotic chest problems**. It hasn't been proven to be safe during the first trimester of pregnancy, so you can't use it then.
- Because you have to breathe it in through your nose, it's not suitable for people who have a cold or some other condition which prevents them from breathing through their nose.
- **You can't be allergic to N₂O**. It's also safe to use if you suffer from epilepsy, liver disease, heart disease, diabetes, or cerebrovascular disease.
- It is also used quite successfully in many people with respiratory disease

Cylinders

- Nitrous – BLUE
- Oxygen - Green

Stages of Anesthesia

- **The first stage** is the actual administering of the drugs. There are only a few seconds in between the initial administering of the drug and unconsciousness. The patient may be asked at this time to start counting back from one hundred. Although the patient can communicate and knows what is going on, at this point he can begin to feel the affects fast.
- **In stage two** the patient is now unconscious but the affects of the anesthesia might cause him to vomit or become excited. He might have spastic muscle movements also and if any of these things happen he will be given medications to get him to the next stage as soon as possible. These medications help to calm the patient
- **When stage three** is observed, it is time to perform surgery. The patient first has rapid eye movement and his breathing may be labored but over the next few minutes the muscles completely relax. The rapid eye movement ceases and breathing becomes more relaxed and slows down and becomes regular. The surgery can now begin.
- During the last stages of anesthesia the patient might need help. **The fourth stage is called an overdose.** This means that too much anesthesia was given to the patient and he is suffering because of it. Respiration and cardiovascular health becomes affected. With out breathing apparatus and heart support the patient can die at this point.

General Anesthesia

- General anesthesia (GA) is utilized in dentistry for the most fearful and phobic patients. GA is performed in a hospital setting where full monitoring and recovery equipment is available. General anesthetic medications many times are combined with nitrous oxide during procedures.
- Nitrous oxide enhances the effect of other general anesthetics; combining the medications allows less of the more potent drug to be used, increasing the safety factor for the patient. **During a state of GA, the patient is maintained in Stage III anesthesia.**
- Just as for IV sedation, the patient is continuously monitored for level of consciousness, respiration, oxygen concentration of the blood, heart rate and rhythm, as well as blood pressure.

Continued

- This does involve risks and pre-operative tests for physical status must be conducted due to the risks involved.
- As recovery may take several hours, patients must be released to a family member once adequately recovered. **Advanced training and an anesthesia team are required.** As a result, GA is not the recommended option for routine dental procedures but may be beneficial in invasive surgical procedures.
- **If the goal is to help the patient overcome anxiety, GA is not the best option.** Instead, the holistic methods and nitrous oxide sedation described earlier may help the patient overcome dental anxieties.

HYPERSENSITIVITY

Hypersensitivity

- The hypersensitivity of dentin is based on **Brännström's hydrodynamic theory** that stimuli create a pressure change or disturbance within the fluid that fills the dentinal tubules. The movement of the fluid in the open tubules is then transmitted to the A-delta nerve fibres.
- Heat, cold, air, and pressure can cause this rapid movement of fluid in open dentin tubules. Cold stimuli will cause the fluid in the tubules to contract while heat stimuli will expand the fluid, both of which will cause a notable pressure change within the tubules.^{4,5}

Etiology

- Dentin is covered and protected by hard tissues, including enamel and cementum. A vital tissue, dentin is naturally sensitive because of the extension of odontoblasts, which contain pain-sensing nerve fibers, and the existence of the dentin-pulp complex.^{11,12}
- Dentin consists of numerous dentinal tubules that traverse from the pulp of the tooth to outer dentinal fibers.¹ Three types of sensory fibers exist within dentin: A-delta, A-beta, and C-fibers. A-deltas are small myelinated fibers that evoke short, sharp pain responses and are thought to be responsible for dentinal hypersensitivity. A-beta fibers are susceptible to the same types of stimuli but respond more sensitively to electrical stimulation. In contrast to the A-delta and A-beta fibers, stimulation of unmyelinated C-fibers results in a more aching pain response, usually associated with pulpal pain.¹

Dentin Exposure

- The phenomenon of dentin hypersensitivity is characterized predominantly by erosion, which both exposes dentin and more importantly initiates the lesions.
- **Dentin hypersensitivity then occurs when dentin becomes exposed and tubules are open at the dentin surface.** Gingival recession is the primary way dentin is exposed in the cervical region of the tooth.
- Once the root is exposed, the protective layer of cementum is easily removed, resulting in open dentin tubules. Other causes of the typically short and sharp pain may include caries, chipped teeth, fractured or faulty restorations, specific restorative materials and cracked tooth syndrome. It is important to rule out any other possible etiology before proceeding with specific management of dentin hypersensitivity.

Who suffers?

- The profile of the patient who suffers from dentin hypersensitivity is varied with the majority of **sufferers between the ages of 20 to 50 years**, peak sensitivity appears to be in the age group of 30 to 40 years. The decline after the fifth decade of life may be due to the development of secondary or sclerotic dentin.⁶
- **There also appears to be gender specificity with females significantly more likely to experience sensitivity than males.**¹

Features

- Dentin is naturally sensitive owing to its close structural and functional relationship with the dental pulp. Normally the dentin is well protected so sensitivity does not present an issue. It is a calcified tissue of the body usually covered by enamel on the crown and cementum on the root surface. **By weight, 70% of dentin consists of hydroxyapatite, with 20% being organic material and 10% water.⁷**
- Dentin consists of microscopic channels called dentinal tubules which radiate outward through the dentin from the pulp to the exterior cementum or enamel border. As a result dentin has a degree of permeability which can increase the sensation of pain.
- **Dentin is thought to be covered by a smear layer, consisting of a combination of both inorganic and organic elements, which occludes the dentinal tubule orifices forming a smear plug or natural "bandage" that blocks stimuli.** Conversely, removal of these occluding materials can also frequently occur as a result of physical or chemical agents that open the dentinal tubules.

Hydrodynamic

- If the hydrodynamic theory is to be accepted as the mechanism involved for inducing dentin hypersensitivity, then lesions must have open dentin tubules at the surface.
- Through the use of scanning electron microscopy as well as dye penetration, studies have demonstrated the presence of a greater number (up to 8x) and wider tubules with average diameter being 2x greater on hypersensitive dentin compared to nonsensitive dentin.

Recession and Sensitivity

- The majority of studies report that **gingival recession occurs in descending order of canines and premolars followed by incisors and second premolars and finally molars with the majority of sites being buccal and cervical.**
- In comparison, the majority of studies show a similar preference of distribution for gingival recession and both conditions have been shown to be more common on the left than on the right sides of the mouth and also possess an inverse relationship with plaque scores.
- This provides some interesting conclusive evidence to support that the majority of the population are right-handed and most likely exhibit a heavier brushing force on the opposite side of the mouth.¹⁰ The other factor to note is that there is an inverse relationship with the plaque score again supporting that the brushing force may be heavier on the opposing side.

Factors

- There are a number of predisposing factors that individually or collectively place the patient at risk for **dentin hypersensitivity**. These include gingival recession, tooth wear, lifestyle behaviors, oral self-care habits, and the pH of the oral environment which may be related to dietary as well as xerostomic conditions.

Assessing

- The assessment and evaluative phase of the dental hygiene process of care should include the identification and elimination of any predisposing factors affecting the pH of the oral environment.
- **The pH of the oral environment is the single most contributory factor to hypersensitive cervical and occlusal surfaces.**
- Any food substance with a critical pH value of less than 5.5 can become a corrosive and demineralize the tooth structure creating erosion. Enamel is comprised of 96% mineralized substrate with 4% being water and organic protein. Under normal conditions with an oral environment of pH greater than 5.5, the enamel is very resistant; however, once compromised by low pH, it becomes vulnerable to abrasion, attrition, and even abfraction. Dentin will demineralize earlier due to its composition.

Whitening

- The role **that erosive agents** play in the development of dentin hypersensitivity is well established. Erosion of the dentin appears to bring about a **rapid loss of the smear layer** and the opening of dentinal tubules.
- Those foods and beverages with a low pH readily remove the smear layer after a few minutes of exposure. Studies suggest that athletes may be particularly at risk for tooth wear and acid erosion due to the more recent emergence and popularity of acidic sports and energy drinks.
- **Attention should be given to obtaining a dietary history in order to identify predisposing acidic factors in the dental hygiene patient's diet.**
- Whitening agents may as well induce dentin hypersensitivity. In fact, 55% to 75% of patients undergoing bleaching procedures report sensitivity.¹¹ Proactive desensitization and appropriate selection of an efficacious whitening agent will have a large impact on controlling the sensitivity incurred with professional whitening treatments.

Endogenous

- Endogenous or internal contributory factors may include regurgitation associated with gastroesophageal reflux disease or eating disorders, both of which are capable of lowering the pH of the oral environment rapidly and significantly. Xerostomia as a result of the vast array of prescription medications can severely diminish the saliva's ability to buffer the oral environment.
- Oral self-care habits can add another dimension which can be particularly destructive in combination with lowered oral pH. The combination of erosion and abrasion can exacerbate dentin hypersensitivity quickly. Acid studies in vitro suggest that surface softening can extend to 3 to 5 μm and that the tissue is highly susceptible to physical wear.¹²

Causes

- Brushing the teeth too hard is the most common cause
- Also, repeated **brushing, immediately following the intake of a low pH food or beverage**, can further exacerbate the dissolution of both the enamel and dentin. Wear of enamel and dentin can be dramatically increased if tooth brushing follows an erosive challenge. It is for this reason that the dental patient should avoid toothbrushing for a minimum of 30 to 60 minutes or longer after consuming acidic foods or drinks to reduce the co-effects of acids and abrasion.¹³

Tooth Pain →

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TABLE 41-1 DIFFERENTIAL DIAGNOSIS OF TOOTH PAIN

CONDITION	SIGNS AND SYMPTOMS	CLINICAL ASSESSMENT
Dentinal hypersensitivity	Thermal, mechanical, evaporative, osmotic, chemical sensitivity Sharp, sudden, transient pain	Clinical examination: gingival recession and loss of tooth structure
Caries extending into dentin	Thermal sensitivity Pain upon pressure Pain with sweets	Clinical examination Radiographic examination
Pulpal caries	Thermal stimuli Severe, intermittent, throbbing pain on chewing	Clinical examination Radiographic examination
Fractured restoration	Thermal sensitivity Pain upon pressure	Clinical examination
Fractured tooth	Thermal sensitivity Pain upon pressure	Occlusal examination Transillumination
Recently placed restoration	Thermal sensitivity Pain upon pressure	Dental history Clinical examination Occlusal examination
Occlusal trauma	Chemical sensitivity Thermal sensitivity Pain upon pressure Mobility	Occlusal examination
Pulpitis	Severe, intermittent throbbing pain	Percussion Thermal and electrical pulp tests
Sinus infection	"Nondescript" tooth pain Nasal congestion (drainage) Sinus pressure	Clinical examination, including extraoral sinus palpation Radiographic examination
Galvanic pain	Sudden stabbing pain upon tooth to tooth contact	Examination for contact between restoration of dissimilar, non-precious metals
Periodontal ligament inflammation	Pain on chewing	Percussion Clinical examination, including palpation for apical tenderness
Abfraction	"Cratered" areas of enamel or dentin at CEJ in the shape of a wedge- or V-shaped notch Thermal, mechanical, evaporative, osmotic, chemical sensitivity Sharp, sudden, transient pain	Clinical examination Occlusal examination

REASSESSMENT
A. Evaluate Treatment Interventions

DENTAL HYGIENE CARE AND TREATMENT INTERVENTIONS

Sorry it's a little blurry!

Ideal Desensitizing Agents

- Easy application
- Minimal Application Time
- Does not endanger tissues
- Inexpensive
- Few appointments
- Rapid and Lasts Long
- No Staining
- Good Taste
- Effective

Toothpastes

- The general functions of these dentifrices are:
- 1- **Physico – mechanical function**; that is by the action of the abrasive materials and the toothbrush.
- 2- **Chemical function**; that is by the reaction of fluoride with the outer enamel surface and the antimicrobial effect.
- Types of fluoridated agents in dentifrices include;
- - Sodium fluoride (NaF).
- - Stannous fluoride (SnF₂)
- - Sodium monofluorophosphate (MPF)
- - Amine fluoride
- - Combination of NaF and MPF
- **5% potassium nitrate** is the primary ingredient used. Tartar control toothpastes can increase sensitivity in some people.

Mouthwash

- Types of agents used:
- 1- **Sodium fluoride**, it is the main type used in neutral or acidified forms in a water vehicle. Concentrations 0.2% (900 ppm F) applied once a week. 0.05% (225 ppm) applied daily.
- 2- **Stannous fluoride** Concentration 100, 200, 300 ppm.
- 3- **Amine fluoride or ammonium fluoride.**

- A 10 ml of rinse used by forcefully swishing of liquid around the mouth for one minute then expectorate. **Fluoridated mouth rinse should not be given:**
- 1- To children under six years of age, as they cannot control muscles of swallowing.
- 2- Children living in fluoridated area

Fluoride Gel

- **Types of agents:**
 - - Sodium fluoride which **creates a barrier** (1.1%) or acidulated phosphate fluoride (concentration 5000 ppm).
 - - Stannous fluoride which **occludes tubules** (0.4%).
 - These can be applied using special tray or applied directly to teeth by toothbrush. Applied for 1- 5 minutes, then expectorate.
 - Patients advised not to rinse by water or eat or drink for at least 30 minutes.
- **Indications for use:**
 - - Patients with rampant caries.
 - - Patients with xerostomia.
 - - Patients with sensitive teeth due to tooth wear as (abrasion, attrition, erosion) or because of exposed root.
 - - Root caries.
 - It can be used for four weeks course, when the onset of the disease is stopped the patient can switch back to mouth rinse. **Fluoridated gel is not recommended for children under 6-years of age.**

Techniques

- - *Paint on technique*, by which fluoride material applied to teeth by cotton applicator or brush.
- - *Tray technique*: a small amount of fluoride is added to a tray then inserted in the patient mouth. Trays come in different shapes and types as foam lined or paper, custom vinyl etc.
- **For both techniques:**
 - - Teeth are cleaned first (scaling and polishing) to remove dental plaque, calculus, stain and debris. These may interfere with the uptake of fluoride ions and reduce its effectiveness.
 - - Teeth are isolated using cotton roll and saliva ejector. The head of the patient tilted forward to avoid accidental swallowing of the materials.
 - - The fluoridated agent applied following dryness of teeth for 1 – 4 minutes. The amount of agent used must not exceed 4 ml to prevent acute toxicity.
 - - Use un waxed dental floss to push the material between teeth.
 - - Following treatment ask the patient to expectorate several times.
 - - Instruct the patient not eat or drink for at least 30 minutes.

Fluoride Types

- **Sodium Fluoride (NaF)**
 - These materials are available in form of powder, solution or gel. The concentration of fluoride is 2 %. When powder is used 0.2 gram dissolved in 10 ml distilled water. These agents have a basic pH, chemically stable when stored in plastic or polythene containers, a flavoring and sweetening agents can be added. These materials are not irritant to the gingival, and do not cause discoloration to teeth.
- **Acidulated Phosphate Fluoride (APF)**
 - The success of any topical fluoridated agent depends on its capability of depositing fluoride ions in the enamel as fluoroapatite and not only calcium fluoride. Fluoroapatite crystals are stable not like calcium fluoride
- **Stannous fluoride (SnF₂)**
 - It contains cation (stannous) and anion (fluoride), both react with enamel surface forming calcium fluoride, stannous fluoroapatite and hydrated tin oxide.

Indications of Fluoride

- **Indication of use**
- 1- Primary preventive programs (once or twice a year).
- 2- High risk group and rampant caries (every 3 or 6 months).
- 3- Initial caries (3 or 6 months)
- 4- Desensitizing agents (once a week then every 3 – 6 months)
- 5- Patients with xerostomia (3- 6 months).
- 6- Patients with hypoplasia or calcifications (as amelogenesis imperfecta or dentinogenesis imperfecta).
- 7- Root caries.

Disadvantages

- 1- Not stable in aqueous solution, it under goes rapid hydrolysis and oxidation to form stannous hydroxide and stannic ions.
- These may reduce the effectiveness of fluoride. Thus, stannous fluoride solution need to be freshly prepared.
- 2- Unpleasant taste, it has metallic astringent taste.
- 3- Reversible irritation to gingival, as gingival bleaching may occur. It is not recommended to be used in sever gingival inflammation

Debridement

- If a client is sensitive during debridement you can do the following:
- 5% Sodium Fluoride varnishes
- Nitrous Oxide
- Local Anesthetic
- Oraquix

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