

# Dental Assistant



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## Chapter -1 – Professional Presentation

### **Dental Assistant Profession:**

A highly skilled dental assistant is a vital member of the dental healthcare team.

Dental assisting is a career that requires dedication, personal responsibility, integrity, and a commitment to continuing education.

The dental assistant is trained in dentistry techniques and also performs general office duties, including a variety of patient care, office, and laboratory duties.

Dental assistants work chairside as dentists examine and treat patients

Dental assistants record vital signs and dental and medical histories, prepare patients for examinations, treatments or surgical procedures

They expose and develop dental radiographs, and prepare dental materials and injections.

Dental assistants possess a thorough knowledge of the equipment, supplies, instruments, and techniques required for every dental procedure, and proper disinfection and sterilization techniques for infection control.

They sterilize and disinfect instruments and equipment, prepare trays of instruments for dental procedures, and instruct patients on postoperative and general oral health care.

## Chapter - 2 – Professional Manner in relation to corporate health sector

### Professional Manner:

The following are some important qualities of a Dental Assistant:

#### A. Team work

- a. Team work is extremely important in a dental clinic
- b. Dental assistants should offer to do an absent colleague's work and should be willing to help co-workers when other tasks are completed
- c. When there are several assistants in a dental clinic, each should be able and willing to substitute for the others in an emergency

#### B. Attitude

- a. Patients, co-workers and employers appreciate the dental assistant who has a good attitude
- b. Have a positive attitude
- c. Appreciate what others do
- d. Be willing to help others

#### C. Dedication

- a. Truly care for patients
- b. Be sincere
- c. Be sensitive to patients needs

#### D. Responsible

- a. Arriving on time

## **Medical sciences and its auxiliary branches**

**Medicine** is the field of applied science related to the art of healing by diagnosis, treatment, and prevention of disease.

It encompasses a variety of health care practices evolved to maintain and restore health by the prevention and treatment of illness in human beings.



### **Branches:**

**These branches can be basically divided into basic sciences and clinical speciality sciences.**

#### **1) Basic sciences are**

- i) Anatomy**
- ii) Physiology**
- iii) Biochemistry**
- iv) Cytology**
- v) Histology**
- vi) Embryology**
- vii) Epidemiology**
- viii) Immunology**
- ix) Genetics**
- x) Microbiology**
- xi) Neuroscience**

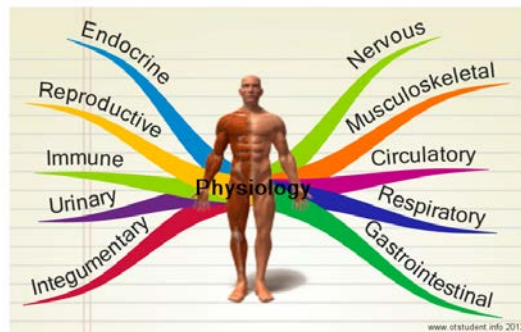
- **Pathology** is the study of disease—the causes, course, progression and resolution thereof.



- **Pharmacology** is the study of drugs and their actions.



- **Physiology** is the study of the normal functioning of the body and the underlying regulatory mechanisms.



- **Radiobiology** is the study of the interactions between ionizing radiation and living organisms.



## Chapter 2: Introduction to profile & career as a dental assistant

**Dental Assistants** assist the dental operator in providing more efficient dental treatment, by

- preparing the patient for treatment,
- sterilizing instruments,
- passing instruments during the procedure,
- holding suction devices,
- exposing dental radiographs,
- taking impressions, and
- fabricating provisional crowns.

Dental operators can focus more time on the procedure; the dental assistant then effectively becomes the operator's extra hands. Some dentists are willing to pay a dental assistant-in-training that has a good attitude and work ethic.

Expanded duties dental assistants or Expanded Functions Dental Assistants, as they are known as in some states, may work one on one with the patient performing restorations after the doctor has removed decay.

Ideally a dental assistant should have both administrative and clinical skills although it's still acceptable to have one or the other.

Duties may also include seating and preparing the patient, charting, mixing dental materials, providing patient education and post-operative instructions. They also keep track with inventory control and ordering supplies.



### **Chapter 3: Prepare work area for patient treatment**

This OS unit is about the Dental Assistant's preparation of a well-organized workplace for dental treatment of patient and maintaining work area asepsis. As instructed by the dentist, they setup the work area to facilitate the process and ensure that all instruments, equipment and materials are available and ready for use.

#### **Scope:**

This unit/task covers the following:

- Disinfecting and preparing patient treatment area
- Preparing, sterilizing and storing instruments and equipment
- Preparing for patient treatment and management
- Preparing patient for dental treatment
- Maintaining workarea asepsis throughout the procedure

#### **Description:**

A well-organized and sterilized work station is very essential to commence any good treatment in a dental setup. It is the prime duty of a dental assistant to disinfect and sterilize the equipment, keep the



# DENTAL ANATOMY

## Description:

Dentistry is primarily related to maxillofacial region, and hence understanding the anatomy and anatomical structures within the maxillofacial region including oral cavity is essential.

Oral cavity is considered to be the beginning end of digestive system.

It mainly comprises of

- **Vestibule:** The space between the teeth and the inner mucosal lining of the lips and cheeks.
- **Oral cavity proper:** The space contained within the upper and lower dental arches.

## Oral Cavity Proper:

Oral cavity proper comprises of jaws and teeth.

The term dentition is used to describe the natural teeth in the jawbones.

Human dentition is diphyodont type i.e. it comprises of the primary teeth also called as deciduous or milk teeth shed and permanent teeth erupt in their place.

What is the importance of teeth?

- To start with, teeth are important structures in the human body where they play a pivotal role in
  - ✓ Digestion - i.e. chewing, making the food to bolus
  - ✓ Speech - for specific sounds in phonetics
  - ✓ Aesthetics
- Teeth are the hardest structures in the human body especially the enamel.
- Teeth are situated in the jaws, namely maxillary jaw also called upper jaw and mandibular jaw also called lower jaw.
- Based on location, teeth can be classified into
  - ✓ Maxillary / Upper arch teeth (teeth present in the maxillary arch)
  - ✓ Mandibular / Lower arch teeth (teeth present in the mandibular arch)

## The Dentition:

Human dentition shows three variants based on age. It includes:

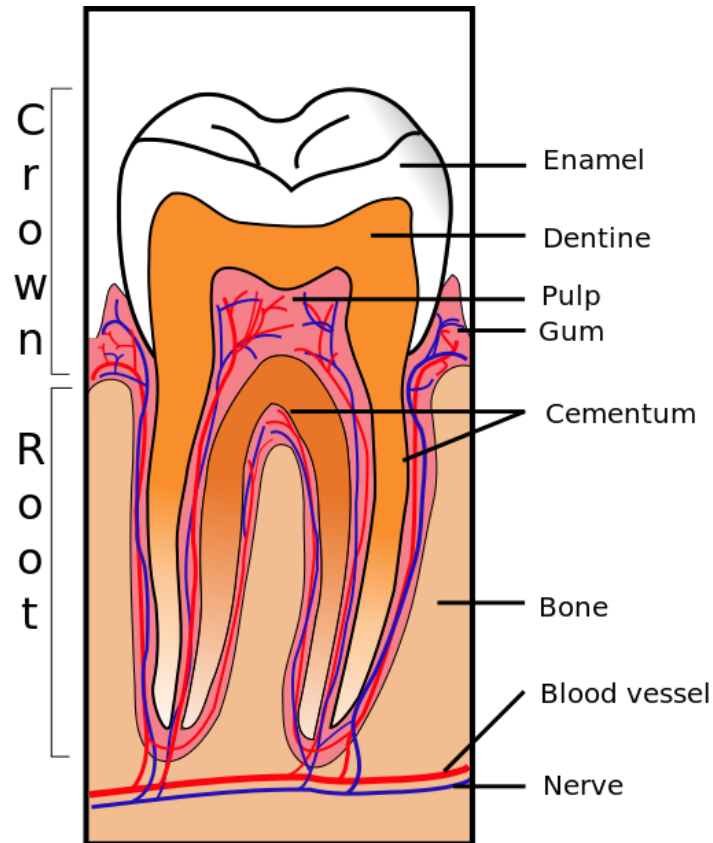
- Primary dentition is the first set of 20 primary teeth. Also referred to as “baby teeth” or “deciduous teeth”
- Permanent dentition refers to the 32 secondary or “adult” teeth.

Mixed dentition occurs when both primary and permanent teeth are present, usually between the ages of 6 to 12.

## Parts of tooth:

Grossly, a tooth has two main parts. They are

- Crown
- Root



**Crown** is the visible or upper part of tooth in the oral cavity while **root** is the part covered by alveolar bone and gingiva.

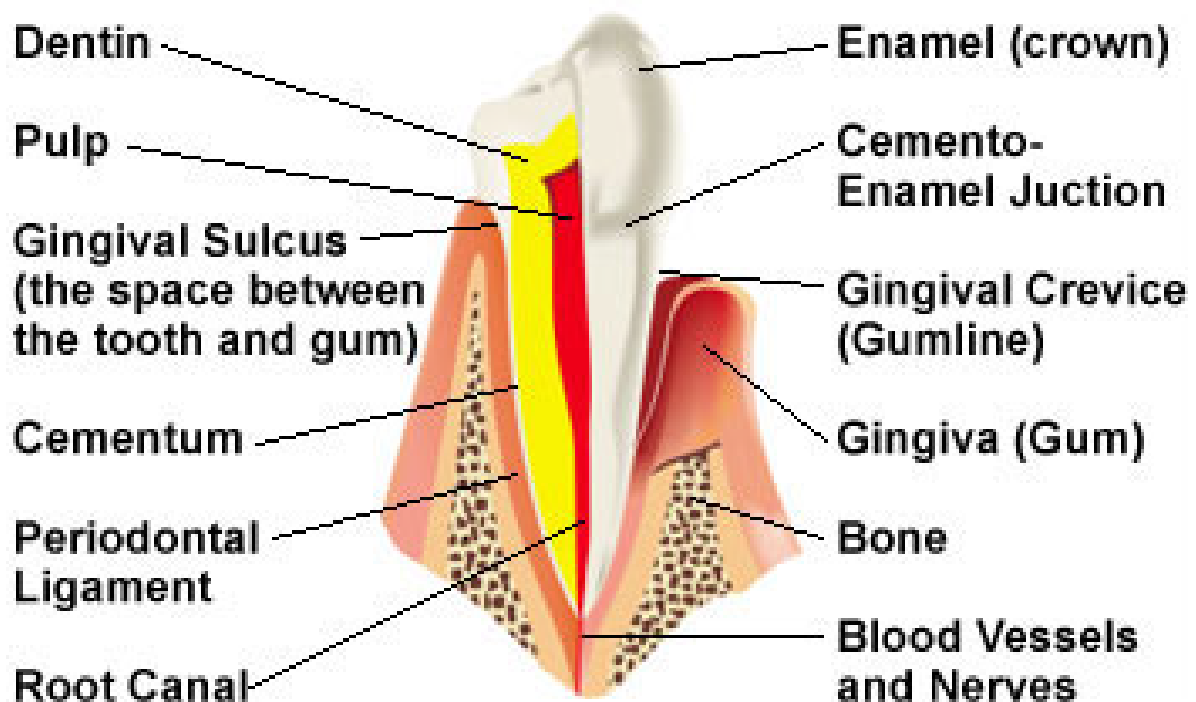
**Cervix**, also called as neck of the tooth is the demarcating point between crown and root.

**Apex** is the tip of the root.

Coming to the tissues of the tooth, it consists of:

- Enamel
- Dentin
- Pulp
- Cementum

4. **Gingiva:** It is also called as gums. Gingiva is the soft tissue covering that immediately surrounds the tooth.



#### Identification of Teeth Using Numbering Systems:

For easy identification, recording and for discussion purposes, teeth are given specific codes or numbers. There are different teeth numbering systems and of them three are most popular and universally accepted. They include:

1. Universal Numbering System
2. Federation Dentaire Internationale System (FDI System)
3. Palmar-Zygmody system

#### Universal Numbering System:

This system is first suggested by Parriedt in 1882; was officially adopted by ADA in 1975. It is also endorsed by many third party providers and especially the American society of Forensic Odontology.

For Permanent teeth:

This numbering system uses numbers 1 through 32 for the permanent dentition starting with 1 for the maxillary right third molar to 16 to the maxillary left third molar. Dropping down on the same side, it starts with 17 for the mandibular left third molar to 32 for mandibular right third molar. The whole number system moves in a clock wise direction.

1 2 3 4 5 6 7 8	9 10 11 12 13 14 15 16
32 31 30 29 28 27 26 25	24 23 22 21 20 19 18 17

# Sterilization- Storage & Asepsis & Its Protocols

## Description:

Dental clinic is a place where there is much risk of contamination due to repeated exposure to microorganisms in blood, saliva and other oral fluids during the treatment procedures. Unorganized handling of these situations may lead to exposure to these organisms. In dentistry, both patients and dental health care personnel are at the risk of exposure to pathogens. Hence maintaining strict asepsis via sterilization and proper storage helps in minimizing the risk of exposure to small infections to dreadful diseases.

## Definition of Sterilization:

According to Panikar, sterilization is defined as *“The process by which an article, surface or medium is freed of all microorganisms either in vegetative or spore state”*.

## Definition of Asepsis:

According to Miller, asepsis is defined as *“The absence of infection or infectious materials or agents”*.

While preparing the instruments for sterilization, correct cleaning is very essential. Cleaning before sterilization removes any adherent material on the instruments thus preventing their interference with sterilization.

## Categorization of the instruments:

Based on the type of usage, instruments are categorized as:

1. **Critical Instruments:** These instruments are used to cut the tissue or bone. They include surgical instruments, periodontal knives, scaling instruments, forceps and burs etc.,



2. **Semi-critical instruments:** These instruments touch the mucous surfaces but will not be used to cut the bone or tissue. These instruments include dental mouth mirror, amalgam condenser, reusable dental impression trays, and dental hand pieces. These

These steps protect items from contamination after the sterilization cycle and during storage.

## **Methods of sterilization:**

### **I. Physical methods of sterilization:**

#### **a) Sterilization by Dry Heat:**

- Hot air oven: Operated between 50°C to 250/300°C.



- Flaming
- Incineration

#### **b) Sterilization by Moist heat:**

- Temp below 100°C: “Pasteurisation”, Inspissator.
- Temperature at 100°C: Boiling.
- Steam at atmospheric pressure: Koch/Arnold’s steamer.
- Steam under pressure: Autoclave.

## Chapter 1: Maintain a safe, healthy, and secure working environment

This is about monitoring the working environment and ensuring a safe, healthy, secure and effective working conditions

### Scope

This unit covers the following:

- Complying the health, safety and security requirements and procedures for workplace
- Handling any hazardous situation with safely, competently and within the limits of authority
- Reporting any hazardous situation and breach in procedures to ensure a safe, healthy, secure working environment

### **To be competent, the individual on the job must be able to:**

PC1. Identify individual responsibilities in relation to maintaining workplace health safety and security requirements

PC2. Comply with health, safety and security procedures for the workplace

PC3. Report any identified breaches in health, safety, and security procedures to the designated person

PC4. Identify potential hazards and breaches of safe work practices

PC5. Correct any hazards that individual can deal with safely, competently and within the limits of authority

PC6. Promptly and accurately report the hazards that individual is not allowed to deal with, to the relevant person and warn other people who may get affected

PC7. Follow the organization's emergency procedures promptly, calmly, and efficiently

PC8. Identify and recommend opportunities for improving health, safety, and security to the designated person

PC9. Complete any health and safety records legibly and accurately

The above performance criteria can be met by having the knowledge of following:

## Chapter 2: Biomedical waste and infection control policies

### **Biomedical waste disposal protocols**

In dental office, dental professionals deal with body tissues and fluids, where there is much chance for contamination and spread of infection. Hence, biomedical wastes and by products have to be treated carefully, separated, properly collected and disposed properly. Certain infection control policies and biomedical wastes management protocols have to be maintained. This OS unit is about the safe handling and management of health care waste.

### **Scope**

This unit/task covers the following:

- Classification of the Waste Generated
- Segregation of Biomedical Waste
- Proper collection and storage of Waste

### **To be competent, the user/individual on the job must be able to:**

PC1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type

PC2. Apply appropriate health and safety measures and standard precautions for infection prevention and control and personal protective equipment relevant to the type and category of waste

PC3. Segregate the waste material from work areas in line with current legislation and organizational requirements

PC4. Segregation should happen at source with proper containment, by using different color coded bins for different categories of waste

PC5. Check the accuracy of the labeling that identifies the type and content of waste

PC6. Confirm suitability of containers for any required course of action appropriate to the type of waste disposal

PC7. Check the waste has undergone the required processes to make it safe for transport and disposal

PC8. Transport the waste to the disposal site, taking into consideration its associated risks

PC9. Report and deal with spillages and contamination in accordance with current legislation and procedures

PC10. Maintain full, accurate and legible records of information and store in correct location in line with current legislation, guidelines, local policies and protocols

The above mentioned criteria can be met by the knowledge of the following methods and steps followed in Biomedical waste disposal:

## **Biomedical waste management**

It is very essential to understand the need of separation of decontamination work from the clinical activity.

The dental setup, for example, the chair, light, drawer knobs etc., can get contaminated during patient care and can act as reservoirs of microorganisms.

Whenever these surfaces are contacted they can get transmitted from one surface to another. Usage of personal protecting equipment, proper hygiene is very essential while handling these areas and any wastes in the dental clinic.



### **Wastes from the dental office can be divided into**

- General office waste and
- Biomedical waste.

According to the law and medical protocols, biomedical waste has to be handled and disposed properly. Hence it is very important to know about various types of wastes, their differences, and the way they have to be rightly separated, stored, and disposed.



### **The Dental Office/Clinic**

Patients often judge the quality of care by the appearance of the dental office/ clinic.

#### *Specific areas of dental office/ clinic*

- Reception area
- Administrative/ Business office
- Treatment area
- Sterilization area
- Dentist's office
- Staff lounge

#### **Reception area:**

Patients are received, greeted and guided in this area. So it is important to:

- Keep the area clean
- Ensure adequate seating
- Provide basic facilities like water
- Keep some books and magazines

## Dental Chair and its functions

The dental chair is used to position the patient so that the oral cavity is in the desired position for the dentist to perform various dental procedures. Dental chairs can be either hydraulically or electromechanically operated.

The dental chair is used for diagnosis, treatment and doing dental procedures.

The dental chair is the center of all clinical activity. The chair is designed for the operator and the assistant to work on the patient in a comfortable and efficient manner.

Positions of the dental chair:

- Upright – the back of the chair is upright at a 90-degree angle
- Supine – the patient is lying down so that the patient's head and knees will be at approximately the same level
- Sub-supine – the patient's head is lower than the feet

Parts of a dental chair and their functions:

12. Cuspidor – for patient to clean the mouth and spit
13. Post-mounted service console - The main control system of the dental unit
14. Chair base - Base of Chair supports the dental chair and allows the chair to move up and down and side to side

### **Sterilization zone in dental clinic for unit chair and for OT**

At Dental Clinic, the most hygienic treatment environment in order to ensure complete care for our patients must be ensured. We know that a safe and clean environment is essential for ensuring utmost care for the patients

At Dental clinic, all rooms and equipment are properly set and sterilized daily.

Protective equipment such as latex gloves, masks, eyewear and lab coats must be used. Only disposable needles and syringes are used and they are not recycled.

The dental chair and unit are always kept clean and disinfected at any given point of time. The surfaces of the dental unit are covered with disposable food grade cling foil plastic film. The use disposable glass and suction tips for each patient is done.

During treatment with intra-oral camera and LC unit, a sensor should be placed in the patient's mouth. These are placed in plastic pouches before placing in the patient's mouth. .

#### **Sequential sterilization Process should be followed:**

- **CHEMICAL STERILIZATION** - CIDEX Solution. The used instruments are first soaked to ensure effective *debridement* method and facilitate easy cleaning. They are then scrubbed to clean the surfaces and fine grooves.

microbial contamination and ensures that the instruments are safe to use.

### **DISTILLED WATER PLANT:**



In dental treatment, the importance of distilled water cannot be neglected. Yet many dentists do not fully realize its importance.

In the distillation process, water undergoes prolonged boiling, which kills bacteria and other biological contaminants. Then the pure steam rises and is separated and cooled back down into liquid water. The contaminants that were in the boiling tank are simply drained away. The result is water that has been boiled, sterilized and purified, and we made sure that distilled water is used during all modes of treatment.

## **Patient psychology and behavior**

**BEHAVIOUR:** The term behavior is broadly used to include the entire complex of observable and potentially measurable activities including cognitive and physiological classes of response.

### **I. WRIGHT'S CLASSIFICATION**

#### **A) Co-operative (Positive behavior)**

1. Co-operative behavior is cooperative, relaxed with minimal apprehension.

2. Lacking in Cooperative Ability

## Chapter -1 – Communicable Diseases

### **Communicable diseases:**

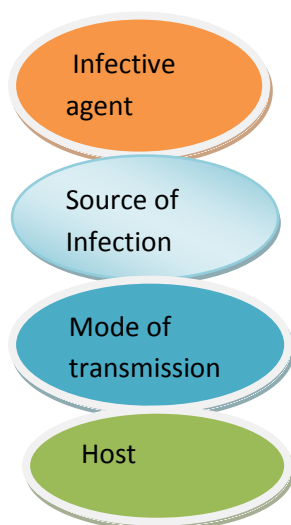
Communicable diseases refer to disease that can be transmitted and make people ill. They are caused by infective agents (pathogens) e.g. bacteria and viruses, which invade the body and multiply or release toxins to cause damages to normal body cells and their functions. In severe cases, they may lead to death. These infective agents can spread from a source of infection (e.g. patients, sick animals) to a person through various routes of transmission.

### **Characteristics of communicable diseases:**

1. They are very common
2. Some of them cause death or disability
3. Some of them cause epidemics
4. Most of them are preventable
5. Many of them affect infants and children

### **Chain of infection:**

Infective agent – source of infection – mode of transmission – host



Vectors (insects)	The infective agents either parasitize and breed in the body of the insects or contaminate the legs and mouths of the insects and then infect human when the insects bite humans or by cross contamination	Dengue fever, malaria (mosquito borne)  Infectious gastrointestinal diseases ( fly-borne or rodent-borne)
Blood/Body fluid transmission	Transmitted through blood transfusion, tattooing, ear piercing or sexual intercourse	Hepatitis B, AIDS
Congenital Infection	Infective agents enter the foetus through the mother causing infection	Congenital syphilis

**Host:**

Hosts refer to the susceptible population. Some people are more prone to become hosts. For instance, elders with chronic diseases are more susceptible to infection as a result of weakened body immunity.

**Chapter 2: various pathological diseases: allergy, hypersensitivity, hypoglycemia, and hypoxia**

**HOW TO RESPOND IN A DENTAL CLINIC IN CASE OF A SUDDEN UNKNOWN ALLERGIC REACTION FOR A PATIENT**

An allergic reaction is the body's way of responding to an "invader." When the body senses a foreign substance, called an antigen, the immune system is triggered. The immune system normally protects the body from harmful agents such as bacteria and toxins. Its overreaction to a harmless substance (an allergen) is called a hypersensitivity reaction, or an allergic reaction.

- Anything can be an allergen. Dust, pollen, plants, medications, (such as [ibuprofen](#), sulfa drugs like [sulfamethoxazole and trimethoprim](#) [Bactrim], [codeine](#), [amoxicillin](#) [Amoxil, Amoxil Pediatric Drops, Moxatag, Trimox]), foods (common food allergies include shrimp and other shellfish, peanuts), [insect bites](#) (such as from mosquitos or bees), animal dander, viruses, or bacteria are examples of allergens.

## Chapter 3: various protocols to be followed in case exposed to any undetected diseases

### VARIOUS PROTOCOLS TO BE FOLLOWED IN CASE EXPOSED TO ANY UNDETECTED DISEASES

Following an exposure ,Post-exposure evaluation and follow-up is a critical element of a comprehensive infection control / exposure control protocol. Exposure to blood or OPIM, including Saliva (even when blood is not visible) , must be considered potentially infectious. Oral Health Care Workers shall immediately undergo a confidential medical evaluation and a subsequent follow- up by a qualified Health care professional in accordance with the current recommendations of the U.S. Public Health Service.

#### EXECUTION /COMPLIANCE:

1. Immediately after an exposure incident
  - a. Wash injuries with soap and water and apply an antiseptic agent.( if available)
  - b. Report the incident immediately to the Office Infection –control officer or other designated person.
  - c. Complete the Uniform Needle stick and Sharp Object Injury Report Form.
2. Within 2hours of exposure and with the consent of the oral health care workers (OHCW), Arrangements are made for a post-exposure evaluation by a physician who will be provided with the following information:
  - a. A copy of the completed Uniform Needle stick and Sharp Object Injury Report Form.
  - b. A copy of the OHCWs Medical Record.
  - c. Any information available about the source individual :
    - If the source person is identified (unless it can be established that identification is infeasible or prohibited by state or local law).
    - With the source persons consent, the source persons blood is tested as soon as feasible to determine Hepatitis B and C virus, and HIV infectivity.
    - Results of the source persons testing are made available to OHCW.
3. Post- exposure management and prophylaxis:
  - After percutaneous , mucous membrane or non-intact skin exposure to blood or OPIM the consulting physician will initiate post- exposure management (prophylaxis) according to the latest CDC Recommendations.

## **DENTAL AMALGAM FILLINGS**



Dental amalgam is a self- hardening mixture of silver-tin – copper alloy powder and liquid mercury and is sometimes referred to as silver filings because of its color. It is often used as a filling material and replacement for broken teeth.

Advantages:-

- Durable, long lasting
- Wears well, holds up well to the forces of biting
- Relatively inexpensive
- Generally completed in one visit
- Self –sealing; minimal –to-no- shrinkage and resists leakage
- Resistance to further decay is high; but can be difficult to find in early stages
- Frequency of repair and replacement is low

**DISADVANTAGES:**



Disadvantages:-

- Is not tooth colored; alloy is yellow
- Conducts heat and cold; may irritate sensitive teeth
- High cost; requires at least two office visits and laboratory services

CONCLUSION:-

The durability of any dental material is influenced not only by the material it is made from but also by the dentist's technique when placing the restoration. Other factors include the supporting materials used in the procedure and the patient's cooperation during the procedure. The length of time a restoration will last is dependent upon your dental hygiene, home care, and diet and chewing habits

## **Chapter 2: Isolation technique, method and application**

In dentistry, separation of a tooth or group of teeth from oral tissues and saliva by use of a dental dam, cotton rolls, or other means to improve access, visibility, and control moisture contamination while restorative or operative dental procedures are performed.

Matrix bands:

Matrix bands for primary and permanent Class II composite restorations. Choosing the best matrix system for the procedure and the patient can enhance clinical success

When restoring Class II adhesive restorations in children, teenagers, and adults, the goal is to provide

- 1) Tight contacts,

## Chapter 3: Coronal polish, topical fluorides pit & fissure sealant, and its application.

### *CORONAL POLISH*



#### Factors in Coronal Polishing



Coronal polishing is a procedure used to remove stain and plaque from the enamel surfaces of the teeth, after the removal of hard deposits such as calculus from the tooth surfaces. This process requires the use of a dental handpiece, a polishing agent, and a rubber cup/brush.

#### Fundamentals of Coronal Polishing

Coronal polishing produces a smooth surface on the tooth, whereby the dental plaque, extrinsic stain, and calculus adherence on the tooth surface is reduced. The major benefit of coronal polishing is the



**1** Prepare cavity. Wash thoroughly with water spray and air dry at maximum air pressure for 5 seconds.



**2** Dispense Vertise™ Flow to prep with a dispensing tip.



**3** Brush a thin layer (<0.5 mm) of Vertise Flow onto entire cavity wall and beveled area with moderate pressure for 15-20 seconds. Remove excess material around margins with the provided brush, if necessary. Light cure for 20 seconds.\*



**4** Build restoration with a universal composite such as Premise™ or Herculite® XRV Ultra™



**5** Light cure each increment of universal composite according to manufacturer recommendation.



**6** Finish and polish restoration (HiLuster<sup>PLUS</sup> polisher shown).

\*For A3.5 and Universal Opaque shades, light cure each increment for 40 seconds.

Refer to the Instructions for Use for complete directions.

## Chapter 4: Assist with intra-oral Preventive Procedures

### Includes

- Mechanical polishing of the coronal portion of the teeth
- Placement and removal of rubber dam
- Taking of preliminary impressions of teeth for study models
- Topical application of anti-cariogenic agents
- Oral hygiene instruction with an intra-oral component
- Dietary counseling relative to dentistry
- Application of materials topically to prepare the surface of the teeth for pit and fissure sealants
- Application of pit and fissure sealants
- Application of topical anaesthetics

Conservative dentistry includes various kinds of direct and indirect restorations and is concerned with the conservation of single teeth in the mouth.

Conservative dentistry means the restoration functionally and aesthetically of patient's original tooth, including dental fillings (new fillings and replacement), root canal treatment, crowns, bridges, veneers, inlays and onlays.

## Chapter 1: Composites & its usage

### Aesthetic restorative materials

All aesthetic restorative materials in current use employ adhesive technology. They bond to tooth structure physically or chemically. Adhesion and bonding provide resistance to displacement and give good but not perfect protection against micro leakage.

Basically, a composite is a mixture formed when inert particles are added in sufficient quantity to another material so that the useful properties of both are improved.

Concrete is a composite of gravel particles set in a matrix of cement.

Restorative composite materials consist of filler particles set in a matrix of unfilled resin. In other words an inorganic resin matrix combines with composite resin.

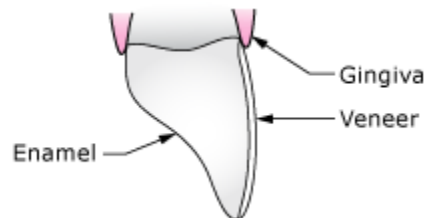
Organic resin matrix + Inorganic filler particles = Composite restorative material

The organic resin matrix used in composite restorative materials is a Bis-GMA (bisphenol A-glycidyl methacrylate) resin. The same material is used as the bonding agent, and in pit and fissure sealants. These resins are relatively weak, and the purpose of the filler particles is to provide reinforcement.

Minimal enamel reduction is done, the tooth is carefully isolated, etched, and a thin layer of composite is applied to the labial surface, light cured and finished.

Usually only 0.5 millimetre of enamel is removed. In some cases enamel preparation is limited to cleaning and etching to conserve tooth structure.

Veneers may chip if very hard things such as ice cubes are bitten, and will wear and discolour with age. They can then be redone or replaced with a more permanent type of restoration.



Labial composite veneer in place with minimum tooth reduction

### **Health and safety features**

Etching gels and liquids are powerful acids. You must ensure that the patient's eyes and skin are protected and that clothing is covered by a napkin. Protect yourself with gloves and glasses.

Curing lights are high intensity and can be damaging to the eyes over a period of time. Orange-coloured protective glasses or shields should always be used to protect against eyestrain and prevent retinal damage.

The resin component of composites and bonding agents can penetrate rubber gloves and will cause allergic contact dermatitis in sensitive persons. Use a no-touch technique when handling these materials.

Chapter 2: All silver amalgam, GIC & other restorative procedure

PC13. Recognise the boundary of one's role and responsibility and seek supervision from superior when situations are beyond one's competence and authority

PC14. Establish trust and rapport with colleagues

PC15. Promote and demonstrate good practice as an individual and as a team member at all times

PC16. Identify and manage potential and actual risks to the quality and safety of practice

PC17. Evaluate and reflect on the quality of one's work and make continuing improvements

The above performance criteria can be met by the knowledge of the following:

## Chapter 1: Oral surgery all about various surgeries done

Oral and maxillofacial surgery is surgery to treat many diseases, injuries and defects in the head, neck, face, jaws and the hard and soft tissues of the oral (mouth) and Cranio-maxillofacial (jaws and face) region.

Oral surgical treatment ranges from a simple dental extraction through to involved maxillo-facial surgery. This topic covers oral surgery procedures that may be carried out in the general dental surgery, or by a specialist oral surgeon.

Oral surgical treatment ranges from simple tooth removal right through to maxillo-facial surgery.

Comprehensive list of oral surgery procedures would include:

1. Exodontia (extractions)
2. Surgical removal of impacted teeth
3. Retained roots
4. Apicectomy
5. Biopsy
6. Removal of cysts



There are many different styles and brands of elevators and all operators have their own preference choosing instruments that are comfortable and easy for them to hold and manipulate.

## Chapter 2: Learning chair positions

### **For maxillary extraction:**

The chair should be tipped backwards and maxillary occlusal plane is at 60 degrees to the floor.

The height of the chair should be patient's mouth is at or below the operator's elbow level.

The dentist has to be to the front and right( and to the left, for the left handed dentist) to the patient.

### **Mandibular teeth:**

The patient should be positioned in a more upright position. The occlusal plane is parallel to the floor.

The chair should be lower than for extraction of maxillary teeth.

The dentist has to be positioned in the front of or behind and to the right (or to the left, for left handed dentists) of the patient.

## Chapter 3: Learning about local Anesthesia

### **Topical anesthesia**

Topical anesthesia has a temporary effect on the sensory nerve endings in the surface of the oral mucosa. The effectiveness of these products depends on their diffusion through mucosa and how long they are left in contact with the mucosa. The speed of onset of this form of anesthesia is very dependent on the thickness of the tissue that it is diffusing through. For example, topical anesthesia is most effective in the buccal vestibule, less effective on the palate and useless on the skin of the palm of the hand.

The main use of these products is prior to the administration of local anesthetic using an injection.

The use of a topical anesthetic paste is designed to make the injection more comfortable for the patient.

The concentration of topical anesthetics commonly used in dentistry range from 2% to 5%. Because the process of diffusion through the mucosa is a slower process, the rate of the onset of the anaesthetic effect is much slower compared to drugs that are injected into the mucosa. A minimum of 2 to 5 minutes is required to allow enough time for the topical anaesthetic to be effective.

Important in ensuring the topical anaesthetic is effective is also ensuring that the mucosa it is applied to is dried.

### **Types of topical anaesthesia used in dentistry**

The main presentations and methods of application of topical anaesthesia include:

- Topical solutions, pastes and gels



## Disposal

After injection the operator should carefully slide the protective sheath forward to the first locking level to recover the exposed needle.

While holding the plastic barrel in one hand, slide the protective sheath to the second, final locking position. The solid 'click' indicates that the sheath is in the final locking position. Do not try to unlock the system, as this is where a needlestick injury could occur.

Hold the T-bar and pull the thumb ring back until the plunger is completely out of the anaesthetic cartridge.

Hold the T-bar and snap off the entire injection unit. You will now have two parts – the syringe handle and the injection unit.

Dispose of the injection unit directly into the 'sharps container'.

Prepare the syringe handle for sterilisation. It is safe to autoclave.

## Chapter 4: Assisting in suture removal

Sutures can be removed 3 to 7 days following surgery, depending on the material and procedure.

After the extraction site is examined by the dentist, suture removal can be delegated to the assistant.

- ✓ With the scissors in the other hand, slip one blade of the scissors under the suture and one blade over the suture.
- ✓ Cut the suture material as close to the tissue as possible so that a minimum of material is pulled through the tissue.
- ✓ Grasp the knot and gently slide the suture out of the tissue. Take care not to pull the knot through the tissue, since this causes unnecessary discomfort to the patient.
- ✓ Continue lifting and snipping the suture material until all sutures are removed.
- ✓ Count and compare the number of sutures removed with the number placed as indicated in the patient's record. Irrigate the surgical area with antiseptic solution if there is any bleeding.

## Chapter 5: Post-operative - handling complication in surgery

### **Post-operative instructions following oral surgery**

These will vary with the health of the patient and the extent of the operation. You must reinforce the instructions that the dentist gives to the patient. These are detailed below.

#### Day 1

- Avoid warm drinks and mouth rinsing for several hours, to avoid disturbing the blood clot.
- Avoid hard and hot foods, alcohol and smoking for at least 24 hours.
- Continue ice-pack applications for the first few hours if advised by the dentist.
- Use usual or specifically prescribed analgesics according to instructions, but only if necessary for the relief of post-operative pain.
- Remember the risks accompanying local anesthesia? Patients should be warned of the damage which can occur from chewing the anaesthetized lip, cheek or tongue. The

which often distresses patients if they do not expect it. While unpleasant, it may play a valuable part in healing by resting the operative site. It eventually disappears.

- **Bruising:** Sometimes a bruise may appear on the face near the operative site. Patients should be aware that this is not a sign of rough handling but is simply internal hemorrhage at the time of operation appearing eventually on the face as a bruise. Fortunately it does not often occur.
- Latent (rebound) or secondary hemorrhage
- Infections of wounds. This may result in pain and swelling after surgery. Most infections usually respond well to antibiotics.
- Dry socket. This is a very painful condition. It is a localised osteitis (inflammation of the bone) which may occur for no apparent reason usually two or more days following extractions. The patient experiences constant pain and a foul taste in the mouth. When the patient is examined, the extraction socket is quite empty - the blood clot has been lost. Treatment includes gentle irrigation with saline, isolation of the socket, and the placement of an analgesic type of dressing or pack (e.g. Alvogyl). This type of dressing does not need later removal by the dentist but rather dissolves of its own accord.

## Chapter 6: Assist with operative dentistry procedure

### **The pre-operative stage**

Before the operation an initial appointment is made for medical history, diagnosis, treatment plan and any necessary radiographs to be taken.

A decision is made whether local; IV sedation or general anesthesia is to be used. Remember also that an informed consent is essential for all types of surgery.



## Chapter 1: Materials used in endodontics

In Endodontics, we use a wide range of materials for treatments like root canal treatments, pulp capping and fillings.

Materials used for filling or restorative purposes are basically of two types:

### ***Temporary restorative materials:***

These materials are not intended to last in the long term and have therapeutic properties.

To Seal and prevent bacteria and fluid products from the oral cavity from contaminating the root canal space

Most Common

- IRM (a reinforced zinc oxide cement)
- Cavit

A common use of temporary dressing occurs if root canal therapy is carried out over more than one appointment. In between each visit, the pulp canal system must be protected from contamination from the oral cavity, and a temporary filling is placed in the access cavity.

Material most commonly used:

- ThermaFil (GP on a core similar to a plastic file)

Needs to be warmed and inserted

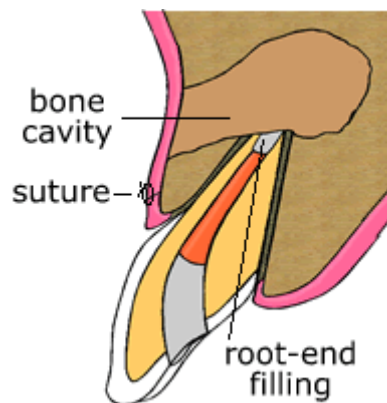
- Injection Techniques

UltraFil heats GP to 158°F(70° C) and you inject this GP into the prepared root canal

Obtura heats GP to 302°F to 338°F (150-170°C)

## ROOT END FILLING MATERIALS

These materials are used for root end filling in procedures like apicectomy.



Silver Amalgam

Zinc in the amalgam may cause tissue damage therefore use zinc free amalgam

IRM

Super EBA Cement

Glass ionomer cements

Cavit

MTA (Mineral trioxide aggregate

Predominantly Portland cement (75%)

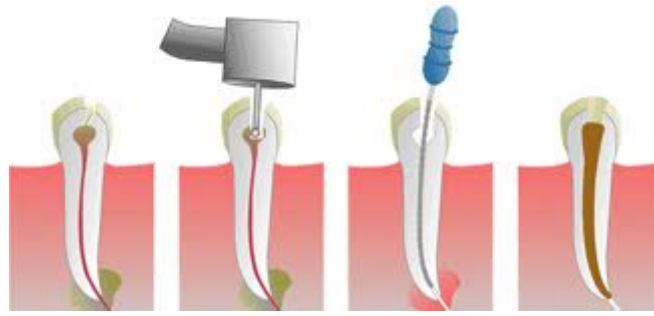
Calcium silicate compounds

Calcium compounds containing iron and aluminum

Hydrated calcium sulfate

Chapter 2: Various procedures in endodontic like RTC, filling

**Procedure for restorations:  
Amalgam Filling Instrumentation**



This procedure is standard, and applies whether the tooth being treated has a totally necrotic pulp, an acute abscess, or a diseased but vital pulp. Let's look at each stage more closely.

The instruments used are explained below.

### Chapter 3 and 4: Instrument used in Endodontics its uses, sterilization and storage and Arrangement

Instruments used in endodontic treatment are basically Diagnostic instruments, isolating instruments, root canal instruments and restorative instruments.

Diagnosing equipment helps in identifying the cause of tooth pain i.e. helps in detecting caries.

And equipment for treatment includes

- Isolating instruments,
- Root canal instruments and
- Restorative instruments.

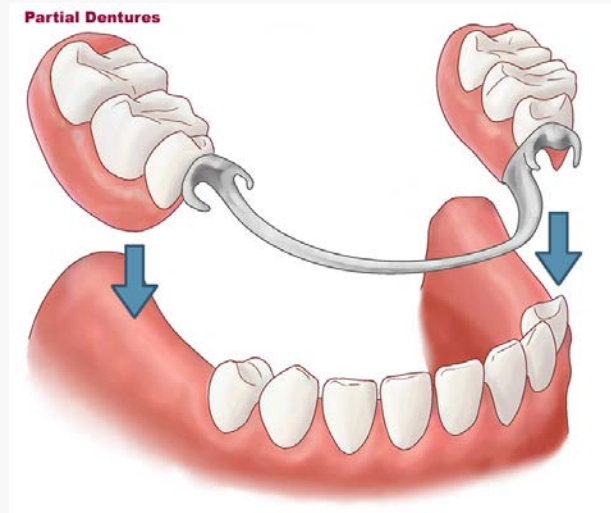
These instruments should be sterile when treatment commences, and every possible effort must be made to avoid contamination. These materials should be arranged according to the preference of the dental surgeon and according to the treatment procedure to be done.

## Chapter 1: Various prosthodontic procedure done (RPD, FPD, CD)

The various prosthodontic procedures used for rehabilitation of missing teeth in the oral cavity are

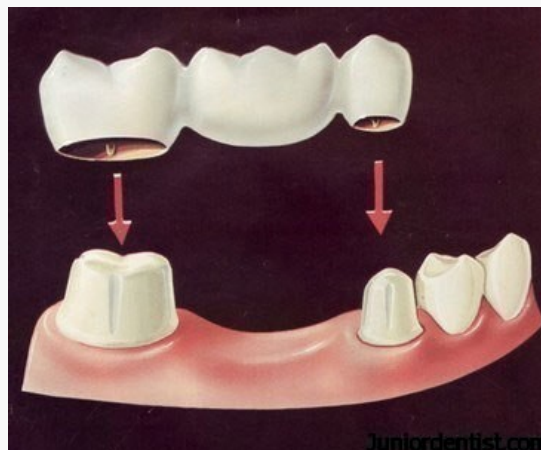
### 1) RPD : Removable partial denture

A removable partial denture is a denture for a partially edentulous patient who desires to have replacement teeth for functional or aesthetic reasons.



### 2) FPD : Fixed partial denture

A fixed partial denture is a fixed dental restoration (a fixed dental prosthesis) used to replace a missing tooth (or several teeth) by joining an artificial tooth permanently to adjacent teeth.



These custom made trays should be stored properly till the next appointment.

Acrylic special trays should be stored in water to avoid warpage.

Shellac trays should be stored in a cool and dry place.

### Chapter 3: Casts - diagnostic, models, etc. & how to pour them and their storage

The **primary cast** is poured immediately after making the primary impression because the impression compound/alginate tends to distort due to environmental changes.

The impression is poured using dental plaster using the three pour technique.

Required quantity of water and powder are dispensed in a rubber bowl and mixed in a circular motion.

Once the plaster reaches a sufficient consistency, it should be placed on a vibrator to remove air bubbles.

Impressions are usually poured in three pours.

- ✓ In the first pour it should be of a more liquid consistency. The plaster mix should be placed on distal end of the impression and allowed to flow all over. This prevents the entrapment of air bubbles. The impression should be placed in a vibrator to avoid occurrence of air bubbles. The first pour should extend up to half the height of the ridge.
- ✓ The second pour should be thicker in consistency. This should fill the entire ridge and should have surface irregularities.
- ✓ The last pour is done using a base former. Plaster is mixed and poured into base former and impression is inverted in base former.

Excess plaster should be trimmed away.



The **diagnostic cast** should be separated from impression after initial set and trimmed.

The base can be properly smoothed using sand paper and is ready to use.

For the **master cast**, dental stone is used and beading and boxing of secondary impression is done before pouring the cast. Appropriate amount of dental stone and water are mixed and cast is poured.

## Chapter 4: Various impressions taken

Impression materials used in prosthodontics are basically of two types:

Elastic: Alginate, Putty, Agar, Polysulphide etc

Rigid: Impression compounds, Impression plaster and waxes.

### ➤ **Impression compound:**

The compound disc is completely immersed in a water bath at 55-60°C for about 4-5 minutes to ensure complete softening. Gauze is placed at the bottom of the water bath to prevent adherence.

However if it is left in too long some of the constituents may be leached out into the water bath, altering the properties of the material (it is often the plasticiser stearic acid that is leached out). If the compound is kneaded water will become incorporated and act as a plasticiser. The compound is loaded on to the tray and firm pressure is used to seat the tray home in the mouth. After the impression has been taken it is carefully examined, a common mistake is not softening the compound enough. In this is the case the impression can be reheated in a separate bowl of water (cross infection control) and the impression is repeated.

### ➤ **Alginate:**

It is an elastic, irreversible impression material which is used to take the impression of both dentulous and edentulous impressions.

Liquid component of paste/liquid system may cause irritation

## **Polyethers**

Used for crown and bridge work, partial dentures, implants and overdentures. Mixed in a 1:1 ratio until homogeneous colour, the amount of catalyst used can be used to control the setting time. Used in special or stock trays with an adhesive. A one or two stage technique can be used. Although dimensionally stable the A mouth mirror and explorer, as always, are used as is a syringe with anesthetic to make sure the patient is comfortable. A high-speed drill with different sizes and grits of diamond burs reduce the tooth to accommodate the thickness of the crown. With the crown prep completed, scissors cut a piece of retraction cord. Retraction cord treated with epinephrine impression should be cast within 24 hours.

## **Chapter 5: Materials used in prosthodontics**

Materials used in the prosthodontics are different for different procedures.

Materials used for crowns in fixed prosthetics:

A crown is a restoration which completely replaces the natural crown of a tooth. It restores its anatomical form and its function in the occlusion.

Crowns are also used in the FPD over the abutment teeth and for replacement of missing teeth.

Types of crowns

Pedodontics is a dental specialty that deals with the care of children's teeth.

Paediatric dentistry focuses on the delivery of preventive care, beginning from infancy and up to late adolescence (including the treatment of handicapped patients in need of specialized care).

This branch is extensively concerned with prevention, which includes instruction in proper diet, use of fluoride, and practice of oral hygiene. To deal with children the dental assistant needs patience and a basic knowledge of children's psychology, behavioural patterns, as well as a knowledge of the effects on the mouth of physical and mental diseases treatment modalities available in this branch.

## Chapter 1: Child psychology

Professionals dealing with children should have a brief knowledge about child psychology for better handling of patients.

There are many theories explaining the child psychology. The dental assistant should have knowledge of the following for better handling of paediatric patients:

- 1) Operant conditioning: individual response is changed as a result of reinforcement or extinction of previous responses. Hence, satisfactory outcome will diminish in frequency.

According to this theory, the consequence of behavior itself acts as stimulus and affects the future behavior.

Thus types of operant conditioning are:

- 1) Positive reinforcement
  - 2) Negative reinforcement
  - 3) Omission
  - 4) Punishment
- 2) Cognitive theory : this states that the child and adults actively seek and understand the environment they are in.

assistants often spend the most time with a child during a dental visit and may be in the best position to evaluate behaviors.

The dental hygienist can provide education through appropriate communication with the child and parent, that can help the family minimize future dental disease. Whenever the dentist is trying to tackle with defiance or temper-tantrums of the child, the dental assistant can restrain any thrashing legs and hands. Children can often be terrified of going to the dentist, so it is a helpful skill if dental assistants are quick thinking, great with kids, and able to soothe and calm a nervous patient.

## Chapter 2: Behaviour management

The clinical staff is an extension of the dentist in terms of using communicative behaviour guidance techniques. Therefore, their communicative skills are very important. The dental team should work together in communicating with parents and patients. A child's future attitude toward dentistry may be determined by a series of successful experiences in a pleasant dental environment. All dental team members are encouraged to expand their skills and knowledge in behaviour guidance techniques by reading dental literature and attending courses.

The dental assistant must be aware of the following for the better behaviour management of the pediatric patients:

The children of age 2years are considered to be in the stage of precooperative behaviour.

The behaviour management of children can be done using:

- 1) Euphemisms: these are word substitutes.
- 2) Retraining: this is a technique of making a negative behaviour child who had previous unpleasant dental experience cooperative by different approach.

### 3) Reinforcement:

**Positive Reinforcement:** this is the one which influences the child to become cooperative to the treatment.

Eg: Gifts etc

**Negative Reinforcement:** this is the one whose contingent withdrawal increases the frequency of behaviour.

Eg: Withdrawal of mother

**Social reinforcement:** Praise, Positive facial expression, shake hand etc.

**Material Reinforcement:** Toys, games etc.

### 4) Bio feedback: involves the use of certain instruments to detect certain physiological processes associated with fear.

## Chapter 3: Treatment available

Various treatments that are carried in pediatric dentistry include:

#### 1) Preventive treatment based on caries risk assessment:

- Oral hygiene measures/ instructions
- Fluoride treatment
- Pit and fissure sealant
- PRR application

#### 2) Paediatric Operative Dentistry and Endodontics: Pulpotomy and Pulpectomy.

**Pulpotomy:** A **pulpotomy** is the removal of a portion of the pulp, including the diseased aspect, with the intent of maintaining the vitality of the remaining pulpal tissue by means of a therapeutic dressing.

**Pulpectomy:** A **pulpectomy** is a dental procedure in which all of the pulp in the pulp chamber and root canal of a tooth is removed.

#### 3) Prosthodontic rehabilitation including cleft lip and palate patient management.

PC8. Instruct the patient on follow-up procedures

PC9. Assist in ensuring timely implementation of appropriate procedures

PC10. Recognise the boundary of one's role and responsibility and seek supervision from superior when situations are beyond one's competence and authority

PC11. Establish trust and rapport with colleagues

PC12. Promote and demonstrate good practice as an individual and as a team member at all times

PC13. Identify and manage potential and actual risks to the quality and safety of practice

PC14. Evaluate and reflect on the quality of one's work and make continuing improvements

To have the above performance criteria you should have the knowledge of the following:

- Chapter 1: All about periodontology instruments arrangement for flap surgery

## **PERIODONTAL INSTRUMENTS:-**

- Periodontal probes
- Explorers
- Scaling, root planning & Curettage
- Periodontal Endoscope
- Cleansing & polishing instruments

## **CLASSIFICATION:-**

- **Periodontal probes** are used to locate, measure and mark pockets as well as determine their course on individual tooth surfaces.
- **Explorers** used to locate calculus and caries
- Scaling, Root-planning and Curettage instruments are used for removal of plaque and calcified deposits from crown and root

## Chapter 2: Material used in periodontics, its usage, packing & storage

### PERIODONTAL MATERIALS:-

Periodontics is a rapidly evolving area of dental care with new diagnostic and treatment options continuing to emerge. The materials available for periodontal care include those designed to assist clinicians during treatment as well as those designed to promote healing.

These periodontal materials include

- Bone Grafting Materials such as Allograft Materials
- Bovine Bone Grafting Materials,
- Synthetic Bone Grafting Materials
- Autogenous Bone Collectors,
- Periodontal Pocket Therapies,
- Periodontal Anesthetics
- Surgical Dressing
- Hemostatic Materials.

### PERIODONTAL DRESSINGS:-



Periodontal dressing is a surgical dressing used post operatively to cover and protect the surface of surgical wound created by periodontal therapy. The sequelae of periodontal surgery are commonly pain, swelling, inflammation and bleeding and thus, many periodontists advocate that some form of protection should be applied over the injurious tissue so that the affected area is shielded

When the patient return after 1 week, the periodontal dressing is taken off by inserting a surgical hoe along the margin and exerting gentle lateral pressure.

Re-packing :

A low pain threshold who are particularly uncomfortable when the pack is removed

Periodontal Dressing.

### BIOLOGICAL SIDE EFFECTS

- Tissue Irritation
- Effects on Cell Cultures
- Tissue Disturbance
- Allergy and sensitization
- Asbestos-related Disease
- Bacterial Ecology

### • Chapter 3: Sterilizations of used instruments

Correct cleaning is an essential step in preparing instruments for sterilization. Cleaning removes adherent materials that could interfere with sterilization.

Instrument preparation involves 5 sequential activity sets:

- Chairside and transport,
- Holding (presoaking),
- Cleaning,
- Corrosion control/drying/lubrication, and
- Packaging.



There are no reports of wound breakdowns due to loss of tensile strength in sutures following soaking (Nylon, Prolene, coated Vicryl or Ethibond sutures).

#### 4. Needle sharpness

Povidone iodine does not affect needle sharpness.

### Chapter 4: Different scaler tips & how to connect a scaler units, its cleaning and storage



Scaling with a slim universal tip.

Ultrasonic scalers come in two platforms:

- Magnetostrictive and
- Piezoelectric engines .

Activated piezo tips move in a linear fashion, while magnetostrictive insert tips have an elliptical figure-eight pathway.

Worn-out, broken, or bent ultrasonic scaling tips can't be expected to effectively remove stain or calculus or disrupt biofilm. Tip wear is subtle, occurring over a period of time. A wear guide is a useful, impartial tool. Place your existing tip over the corresponding image to determine if it is time to replace a tip or insert. It is estimated that a 2 mm reduction in tip length reduces scaling efficiency by 50%.

- Chapter 5: Assist with periodontic procedure

## PRE AND POST OPERATIVE INSTRUCTIONS TO BE GIVEN TO PATIENTS:-

### Pre-operative Instructions

- Patient should be clean-shaven, or if necessary, make sure patients thoroughly wash their face and facial hair with soap and water. Women should not wear and facial makeup such as concealer or foundation.
- All medications as directed that patient would normally use for other medical reasons. If antibiotic prescribed should be taken as directed before your surgery.
- It may be important to stop taking aspirin, fish oil and non-steroidals such as Motrin and Advil, 5-7 days prior to surgery, unless prohibited from doing so by physician.
- If the patient is taking Coumadin or another blood thinner, remember to discontinue them as directed by physician.

### Antibiotics

Any allergies or sensitivities that patients might have to antibiotics should be noted.

### Sedatives

PC7. Assist in providing all prescriptions and patient items to the patient

PC8. Clearly and accurately instruct the patient on follow-up procedures

PC9. Assist in ensuring timely implementation of appropriate procedures

PC10. Recognise the boundary of one's role and responsibility and seek supervision from superior when situations are beyond one's competence and authority

PC11. Establish trust and rapport with colleagues

PC12. Maintain competence within one's role and field of practice

PC13. Promote and demonstrate good practice as an individual and as a team member at all times

PC14. Identify and manage potential and actual risks to the quality and safety of practice

PC15. Evaluate and reflect on the quality of one's work and make continuing improvements

The above performance criteria can be met by knowledge of the following:

## Chapter 1: Introduction about orthodontics

**Orthodontics is a branch of dentistry that specializes in treating patients with improper positioning of teeth when the mouth is closed (malocclusion), which results in an improper bite.**

Orthodontics also includes treating and controlling various aspects of

People may require orthodontic treatment for different problems:

- **The front teeth protrude** - treatment not only improves the patient's appearance, but also protects the teeth from damage; people with protruding front teeth are more likely to injure them in sports, falling down, etc



**Before**

**After**

- **Crowding** - if the patient's jaw is narrow, there may not be enough space for all the teeth. In such cases the orthodontist may have to remove one or more teeth to make room for the others.



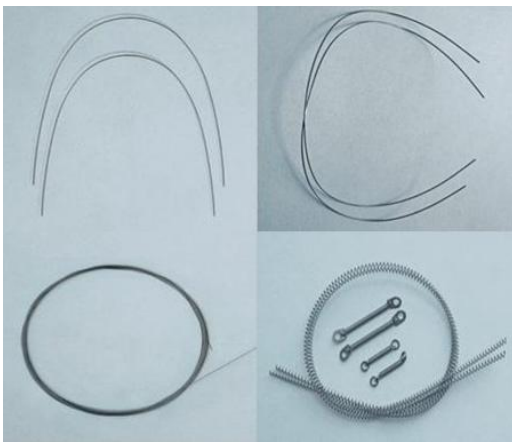
*Before*

*After*

- **Impacted teeth** - as the adult teeth come through, they are not in the right position
- **Asymmetrical teeth** - the upper and lower teeth do not match, especially when the mouth is closed but the teeth are showing.
- **Deep bite (overbite)** - when the teeth are clenched, the upper ones come down over the lower ones too much



Wires:



### Chapter 3: Various procedures in orthodontics

People of any age can benefit from orthodontic treatment. Teeth that are crooked crowded, or that stick out affect the way your teeth look and work. Orthodontic treatment not only improves the look of your smile but your health as well. Straight teeth are easier to clean and less likely to get tooth decay or injured.

Orthodontic treatment straightens teeth so they look and work better. Braces or other appliances are used to put gentle pressure on teeth. Over a number of months or years this pressure can move teeth into the right position.

Although removable appliances are not as precise as braces, they can move a tooth or a group of teeth. They are fitted by dentist or orthodontist. Removable appliances can be worn before braces are applied, while braces are worn, or on their own to treat specific problems.

### **Retainers**

Once braces have been removed, a retainer can be used to keep teeth in the right place. Retainers are fixed (attached to the teeth) or removable. They may need to be worn all the time or part of the time.

### **Oral surgery**

Tooth removal may be needed if teeth are crowded or if a tooth is badly out of position. Jaw surgery (or orthognathic surgery) may be needed when there are major differences in the size or position of the upper and lower jaws. If orthodontist thinks you will need jaw surgery, he or she will refer you to an oral and maxillofacial surgeon.

## **Chapter 4: Assist with orthodontic procedure**

A trained, competent and indemnified assistant can undertake the following:

- Clean and prepare tooth surfaces ready for orthodontic treatment
- Identify, select use and maintain appropriate instruments
- Insert passive removable orthodontic appliances
- Insert removable appliances activated or adjusted by a dentist

- Manage situation as appropriate to diagnosis
- Take and record vital signs for patient breathing with pulse
- Never attempt to transport the patient yourself
- Call emergency immediately for any of the following;
  1. Cardiac arrest
  2. Respiratory arrest
  3. Unconsciousness >one minute
  4. Prolonged confusional state
  5. Chest pain >five minutes not relieved by nitroglycerin
  6. Respiratory difficulty
  7. Seizures
  8. Blood pressure < 100 systolic or pulse >120

Use judgement for conditions not covered above

Treat patient supportively until rescue squad arrives

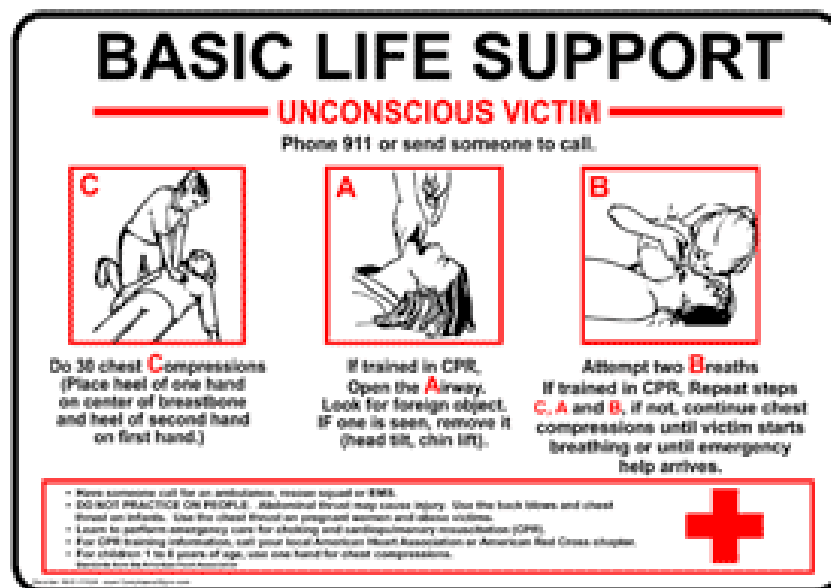
## Chapter 1: Hypoglycemia, syncope, Allergy etc

### **Airway Obstruction:-**

Foreign bodies falling into the hypo pharynx can lead to partial or complete airway obstruction. The patient may complain of a foreign body sensation in the throat, be coughing and dyspnoeic, exhibit stridor, or become apnoeic and cyanotic. They may grasp their throat with their hand (universal choking symbol) and, in the case of complete airway obstruction, will be unable to speak. If not corrected immediately, respiratory arrest will lead to cardiac arrest within minutes Dental materials should be eliminated as potential airway obstructions by appropriately securing the operative area. If the patient is coughing forcefully, allow them to continue to cough, as this is their best chance for clearing their airway. If the patient is conscious, but continues to choke and is unable to breathe, abdominal

(orthostatic) hypotension. When faced with a fainting episode, help the patient to the floor or place them in a supine position in the dental chair with the legs elevated. Once supine, the patient will regain consciousness almost immediately. Administer oxygen and loosen any tight clothing. Do not allow the patient to sit up, as they will frequently faint again. Keep the patient supine for a few minutes.

- Chapter 2: Basic life support



Basic life support:-

The term basic life support (BLS) refers to maintaining an airway and supporting breathing and the circulation. It comprises the following elements: initial assessment, airway maintenance, expired air ventilation (rescue breathing; mouth-to-mouth ventilation) and chest compression. When all are combined the term cardiopulmonary resuscitation (CPR) is used.



Emergencies in the field of dentistry should be dealt very carefully by the dental team. The dental assistant plays a major role by always being alert and acting promptly at the time of emergency.

The immediate action in emergencies is by being alert, being prepared and anticipating.



## Chapter 1: Role of various emergencies- aspiration, syncope, bleeding

The common emergencies experienced during the dental treatment:

### **Aspiration**

Foreign body aspiration is the act of inhaling or breathing foreign bodies into the respiratory tract.

The aspiration of dental instruments and materials represents a critical situation that must always be classified as an emergency.

Acute symptoms

- Frequent touching of the throat by the distressed patient
- Facial paleness followed by cyanosis
- Coughing
- Choking, vomiting

Early complications

- Specific assignments made to ensure all designated procedures completed

During the emergency the dental team should:

- Evaluate vital signs
- Diagnose nature of emergency
- Decide on appropriate treatment
- Instruct others what to do
- Phone for help
- Prepare for treatment administration
- Administer treatment
- Monitor vital signs
- Reassure patient
- Record events that occur
- Ensure privacy/and or manage other patients

The dental assistant should be considerate to relatives, carers, partners and others close to the patient or client and respectful of their role in the care of the patient, and with appropriate consent, being responsive in providing information.

### Chapter 3: How to monitor intensive care patients

The intensive care patients should be closely monitored by the dental assistant, should always

- Assess the level of consciousness: Evaluate the patient's lack of response to sensory stimulation.

## Chapter 1: Perform Supportive Tasks

A dental assistant may perform such basic supportive dental procedures as the following under the general supervision of a licensed dentist:

1. Extra-oral duties or functions specified by the supervising dentist;
2. Operation of dental radiographic equipment for the purpose of oral radiography
3. Examine orthodontic appliances.

A dental assistant may perform such basic supportive dental procedures as the following under the direct supervision of a licensed dentist when done so pursuant to the order, control and full professional responsibility of the supervising dentist. Such procedures shall be checked and approved by the supervising dentist prior to dismissal of the patient from the office of said dentist.

### ORTHODONTICS:-

- Take intra-oral measurements for orthodontic procedures;
- Seat adjusted retainers or headgears, including appropriate instructions;
- Check for loose bands;
- Remove arch wires;
- Remove ligature ties;
- Apply topical fluoride, after scaling and polishing by the supervising dentist or a registered dental hygienist;
- Place and remove rubber dams;
- Place, wedge and remove matrices.

- Root planing;
- Polish and contour restorations;
- Oral exfoliative cytology;
- Apply pit and fissure sealants;
- Preliminary examination, including but not limited to:
- Periodontal charting;
- 1. Intra and extra-oral examination of soft tissue;
- 2. Charting of lesions, existing restorations and missing teeth;
- 3. Classifying occlusion;
- 4. Myofunctional evaluation;
- 5. Irrigate sub-gingivally with an antimicrobial and/or antibiotic liquid solution(s).

## Chapter 2: Act within the limits of one's competence and authority

Unless specifically so provided by regulation, a dental assistant may not perform the following functions or any other activity which represents the practice of dentistry or requires the knowledge, skill and training of a licensed dentist

1. Diagnosis and treatment planning;
2. Surgical or cutting procedures on hard or soft tissue;
3. Fitting and adjusting of correctional and prosthodontic appliances;
4. Prescription of medicines;

5. Placement, condensation, carving or removal of permanent restorations, including final cementation procedures;
6. Irrigation and medication of canals, try-in cones, reaming, filing or filling of root canals;
7. Taking of impressions for prosthodontic appliances, bridges or any other structures which may be worn in the mouth;
8. Administration of injectable and/or general anesthesia;
9. Oral prophylaxis procedures.

Only make decisions about a patient's treatment and care when you are confident that you have had the necessary training and are competent to make the decision

When treating patients, make sure there is someone else – preferably a registered team member – present in the room, who is trained to deal with medical emergencies.

### Chapter 3: Work effectively with others

The dental team is the group of people who together provide care for a patient. Teamwork means working together to provide good-quality dental care.

Dental teams can take many different forms, depending on the needs of the patient. The dental team is not just limited to dental professionals working together in the same practice. For example: You may also be part of a wider healthcare team, with members outside your professional group.

Patients should have a full mouth assessment by a dentist. The dentist should then give the patient an outline treatment plan or full treatment plan if necessary, depending on the patient's needs.

