

Dental Clinical Procedures

Ø Clinical Dental Assistant:

She is the one who directly involve in patient care. Their role are usually defined as being a:

- Chairside Assistant.
- Circulating Assistant.

Ø The Dental Clinic:

Where the pt. is received, treated, and dismissed.

All the dental clinic areas must be present in organized and professional way.

1. Clinic environment:

- Temperature.
- Lighting.
- Wall and floor coverings.
- Traffic control.
- Sound control.
- Privacy.

2. Rooms in the dental clinic:

- Reception area.
- Administrative area.
- Treatment area.
- Sterilization center.
- Dental laboratory.
- Dentist's private office.

3. Clinical Equipment:

- a. Patient dental chair:
Patient positions are: upright, supine, subsupine.
- b. Operator's stool.
- c. Dental assistant's stool.
- d. Dental unit:
 - delivery system (front, side, and rare).
 - Rheostat.
 - Waterlines.
 - Air-Water syringe.
 - Operating light.
- e. Oral evacuation system.
- f. Curing light.
- g. Amalgamator.

h. Dental Radiography unit, and a view box for radiographs.

4. Care of Dental Equipments:

All must be used carefully and maintained properly in accordance with manufacturer's instructions.

Equipments are:

- Central vacuum compressor.
- Central air compressor.

Ø Organizing the Working Day:

The dental assistant is concerned with the following:

- 1- Maintenance of equipment.
- 2- Expandable item.
- 3- Knowing the patient.
- 4- Preparing the treatment area.
- 5- Admitting and seating the patient.
- 6- Assistance during treatment.
- 7- Arrangement for the next appointment.
- 8- Recording the treatment.
- 9- Patient's records.
- 10- Radiographs.
- 11- Bulky records.
- 12- Laboratory tests.
- 13- Cleaning up the treatment area.
- 14- Awareness of special patient problems.

Ø Reception and General Administration Procedures for Patients:

- a. Preparation for the patient (treatment area, records, and chair position).
- b. Patient reception.
- c. The treatment area.

1. Patient Dental Records and Charting:

The patient record is the principal document of information, it must follow a systematic method such as:

- a. Patient information.
- b. Name and address.
- c. Past and present medical history.

- d. Chief complaint.
- e. Oral examination.
- f. Provisional diagnosis.
- g. Firm diagnosis.
- h. Treatment plan.

2. The dental charting:

Includes diagrammatic representation of existing condition of the teeth as in the F.D.I two digit system.

The surfaces of the teeth are described by their anatomical names or their abbreviated initials.

3. Evening and Morning Routine for Dental Assistants:

The evening routine is a procedure of clinic closing.

The morning routine is a procedure of clinic opening.

Ø Hand Instruments:

1. Instrument identification:

Either by Black instrument formula, or instrument number (universal).

2. Instrument design:

Each had three specific parts: the handle, the shaft, the working end.

3. Instrument classification:

- a. Examination instrument (mouth mirrors, explorer, cotton pliers, and periodontal probe).
- b. Hand (manual) cutting instrument (excavator, hoe, chisel, hatchet, gingival margin trimmer).
- c. Restorative instrument (amalgam carrier, condenser, burnisher, carver, amalgam knife, composite placement, plastic instrument).
- d. Accessory instrument (spatula, scissor, dappen dish & amalgam well, Howe plier).

Ø Rotary instruments:

1. Classification of handpieces:

- a. Low-speed handpieces.
- b. High-speed handpiece
- c. Ultrasonic handpiece.

- d. Laser handpiece
- e. Air abrasion handpiece.
- f. Laboratory handpiece.

2. Rotary cutting instruments:

Dental burs: they are made of tungsten carbide.

Types: diamond, finishing, abrasion, laboratory rotary instruments.

Shapes: round, inverted, straight, tapered, pear, end cutting bur.

Uses: tooth preparation, finishing and removing a restoration.

Ø Principles and Application of Four –Handed Dentistry:

1. Four- Handed Dentistry:

The goal of it is to allow the dentist and assistant to function as a team in a seated position with maximal efficiency and minimal strain.

2. Zones and Positions:

In a clock concept placed over the dental chair, with the patient's head at the center of the circle, the top of the circle at 12 o'clock.

The operator's zone is between 8-11 o'clock, the assistant's zone is between 2-4 o'clock, and the static zone from 11-2 o'clock.

Passing and receiving instrument and materials:

Only move your fingers, wrist, and elbow.

Ø Anaesthesia:

1- General Anesthesia: the pt. is unconscious.

2- Local Anesthesia: the pt. is conscious, these are topical, infiltration, and block injection.

- Irrigation and Aspiration:

Irrigation is done by applying water or saline to the treatment site.

Aspiration is to remove blood, pus, saliva, and debris from the treatment site.

Ø Application of Dental Rubber Dam:

1. Dam equipment:

The frame, napkin, lubricants, punch, stamp and template, forceps, clamps, and a stabilizing cord.

Ø Operative Dentistry:

1. Terminology and classification of cavities:

- a. Simple cavities occur on one surface.
- b. Compound cavities occur on two surfaces.
- c. Complex cavities occur on three or more surfaces.

2. Steps in Cavity Preparation:

- a. Outline form.
- b. Removal of remaining caries.
- c. Finishing the wall and margins.
- d. Cleansing the cavity.

3. Placement of Restorative Materials:

- a. Cavity liners and bases: used to protect the pulp and to aid the pulp recovering from irritation.
- b. Amalgam restorations.
- c. Composite resin restorations.
- d. Glass ionomer restorations.

4. Common Procedures in Operative Dentistry:

Role of dental assistant:

- a. Understand all chairside duties.
- b. Proficient in handling many dental materials.
- c. Had knowledge of the basic operative procedures.

5. Silver Amalgam Restoration:

It is the most common restoration.

Amalgam: it is a metal alloy that has mercury as one of its components.

Instruments used:

- Basic set up.
- Rubber dam
- Spoon excavator.
- Enamel hatchet
- Gingival margin trimmer.
- Amalgamator.
- Cavity medicaments.
- Amalgam carrier.
- Amalgam condenser.
- Amalgam carver.
- Matrix and matrix band.

- Wedges.
- Burnisher.
- Articulating paper.

6. Esthetic Restorations:

Used in the visible tooth surfaces (the labial surface of the anterior teeth).

The tooth colored materials are: Composites – Compomers - Glass ionomer cements, or light cured.

Instrument used:

- Basic sit up.
- Rubber dam.
- Spoon excavator.
- Chisel.
- Teflon filling instrument.
- Medicaments.
- Mylar matrix strip.
- Wedges.
- Burs.
- Polishing strips and disks.

7. Gold Inlay Restoration:

Is a restoration that has been cast to fit a cavity preparation previously prepared by the dentist and is cemented in place.

Ø Oral Surgery:

It deals with the surgical treatment or correction of diseases, defects, or injuries of the oral cavity, teeth, and adjacent tissues.

1. Indications for oral surgery:

- Unrestorable carious tooth.
- To provide space in the orthodontic treatment.
- Teeth without sufficient bone support, root fragments, and over growth of bone.
- Supernumerary or impacted teeth interfering with normal dentition.
- Fracture of the mandible or maxilla.

2. Contraindication for oral surgery:

- When active infection is present.
- Patient suffering from serious disease.
- Pregnancy.

3. Surgical Instruments:

- a. Elevator (periosteal, root, tooth, apical).
- b. Forceps (universal, maxillary anterior, mandibular anterior, maxillary premolar, mandibular premolar, children teeth forceps).
- c. Bone curette.
- d. Rongeur.
- e. Bone file.
- f. Scalpel.
- g. Hemostat and needle holder.
- h. Scissors.
- i. Retractors.
- j. Mouth props, and retractors (tissue, tongue and cheek).
- k. Surgical burs.
- l. Surgical mallets and bone chisel.

4. Miscellaneous surgical instruments:

- a. Surgical suction apparatus.
- b. Surgical aspirating unit.
- c. Operating light.
- d. Chain of asepsis.
- e. Care and sterilization.

5. Pain control in oral surgery:

Sedation and premedications before surgery and analgesics after surgery.

6. The chain of asepsis:

- a. Maintain the sterility.
- b. The surgical team should remain in place until the procedure completed.

7. Staff preparation:

- Use surgical sterile gowns and caps.
- Hand preparation and surgical gloving.
- Assistant scrub after every thing is prepared.

8. Oral surgery procedures:

- a. Tooth extraction: simple, complicated, impacted.
- b. Foreign body removals.
- c. Sequestrectomy.
- d. Alveolar osteitis.

e. Pericoronitis.

9. Immediate postoperative care:

- Verbal and written instructions.
- Written appointment card for re- evaluation appointment.

10. Postoperative care:

- Control of bleeding.
- Control of swelling.
- Control of pain.
- Control of infection.

Ø Periodontics:

- Free tooth surface of calculus, plaque, debris, and diseased tissue so as to attain and maintain healthy periodontal tissues.
- Coronal polishing for extrinsic and intrinsic stain.

1. Periodontal procedures:

- a. Dental Prophylaxis.
- b. Scaling and Root Planning.
- c. Gingivectomy.
- d. Gingivoplasty.

2. Instruments for Periodontics:

- Periodontal probe.
- Scalers.
- Curettes.
- Pocket marker.
- Periodontal knives.
- Ultrasonic scaler.
- Prophyjet.
- Prophy angle.
- Rubber cup and bristle brush.

3. Periodontal Dressing:

Done after a periodontal surgery at the surgical site to reduce the bleeding, protect the tissues and minimize postoperative discomfort.

Types: `Eugenol type - Non-Eugenol type.

Ø Endodontics:

Deal with diagnosis and treatment of the tooth pulp and periapical tissues.

1. Instruments for Endodontics:

- Gates-Glidden drills.
- Broaches.
- Endodontic file
- Reamers
- Working length.
- Stops.
- Glass bead sterilizer.
- Spreaders.
- Condenser.

2. The Endodontic Examination:

- History.
- Radiograph.
- Percussion.
- Thermal sensitivity test.
- Transillumination.
- Pulp vitality testing.

3. Pain control during endodontic treatment:

- Local anesthesia.
- Interdental block.
- Inject directly into pulp.

Ø Pediatric Dentistry:

1. Instrument for pediatric dentistry:

Most are similar to those for adults, but in some situation a special size or shape is required.

- Examination.
- Coronal Polishing: done after examination.
- Topical Fluoride Application: repeated every 6 month.
- Pit and Fissure sealants: apply to the molar as soon they erupt.
- Space maintainers: following premature loss of primary tooth to maintain the space until the permanent erupt.
- Mouth Guards: protect the teeth from accidental injury.

Ø Crown and bridge Prothodontics:

1. Cast Gold crown:

It may be full or three quarter crown.

2. Esthetic crown:

It is a full crown.

3. Fixed bridge:

It is a restoration that is used to replace missing teeth.

4. Temporization:

Aluminum shell type, acrylic crown, polycarbonate crown, or polymer crown. Cemented with zinc oxide eugenol cement.

5. Cementation:

Using zinc phosphate or glass ionomer cement.

Ø Complete and partial dentures:

1. Removable Prothodontics:

It is the specialty limited to the fabrication and fitting of complete and partial removable dentures to replace missing teeth.

2. Partial denture:

It replaces one or more teeth in arch & it consists of framework, clasps, connector, rests and saddle.

Abutment teeth: is the tooth that receives and hold the clasps and rests.

Care of the abutment teeth and partial denture: brush, floss, rinse, and kept in water if not wearing.

3. Complete denture:

It replaces all teeth in one arch & consists of a base and artificial teeth.

Oral hygiene and care of complete denture: clean the denture, rinse the mouth, and put in water when not worn.

Ø Orthodontics:

It is the specialty of dentistry concerned with supervision, guidance and correction of all forms of malocclusion of the growing or mature dentofacial structures.

1. Divisions of Orthodontics:

- a. Preventive.
- b. Interceptive.
- c. Corrective.

2. Instrument for orthodontics:

- Orthodontic bands: a stainless steel ring fitted around teeth.
- Orthodontic bracket: weld on the facial side that serves as an attachment for the arch wire.
- Orthodontic separators: used to create a temporary space between teeth.
- Band cutter, gauge, remove and seating instrument.
- Bracket seating instrument.
- Separator forceps.
- Ligature tying pliers
- Schure instrument.

Ø Supply Procedures:

Using a supply catalog to order supplies as needed.