

Mounting Dental X-rays

Objective/Rationale

Radiographs provide valuable information about the condition of the teeth. They must be displayed so that the operator can see them to help in treatment of conditions of the dentition. The student will mount dental X-rays.

TEKS 121.4 13A, 16A,B, 17A,B,C
121.5 6F, 7A,D

TAKS ELA 1

Key Points

1. Radiographs or x-rays of the teeth look like the negatives from black and white photographs. They are produced when an x-ray passes through the teeth.
2. Radiolucent areas are dark on the x-ray. This means that the x-ray passes through softer tissue of the tooth like the pulp and caries.
3. Radiopaque areas are white on the film. This occurs where the x-ray cannot pass through the structure. This occurs when the x-ray encounters the enamel of the tooth and dentin, metallic restoration such as amalgam fillings and some crowns, and appliances used in root canal work.
4. X-ray film contains a dimple that points toward the x-ray machine when in proper position. The concave side is pointing inward.
 - a. The view on the convex (pointing outward) side is the facial surface (also known as the buccal or labial surfaces.)
 - b. The view on the concave (pointing inward) side is the tongue or lingual surface.
5. When mounting film, the preference of the doctor is used. All dimples should face the same way.
 - a. When the dimples are convex, the films on the right as the assistant looks at them are the left side teeth, and the films on the left are the right side teeth.
 - b. When the dimples are concave, the films on the right are the patient's right teeth and on the left are the left teeth.
6. Several different types of dental x-rays are taken.
 - a. Bitewings (BWXR): used to detect cavities by showing decay between teeth (interproximal) and under restorations. Usually two to four x-rays are taken of the posterior teeth and sometimes two to four radiographs are taken of the front (anterior) teeth of the adult. Film sizes for bitewings are size 1 for the front teeth and size 3 for the posterior teeth. Bitewing films do not show infections in the root ends or abscesses.

- b. Periapical films (PA): used to show root-end infection and to illustrate the number and shape of the roots, the condition of the bony structures in the jaws and how the tooth is situated in relationship to the other teeth in the mouth. A periapical series has fourteen pictures to show the complete dentition. Film sizes used include size 2 for most mouths, but size 1 may be appropriate for children over six or adults with small mouths.
 - c. Pedodontic (child) films: radiographs of the dentition of children. Pedodontic films show essentially the same information as films in the adult mouth. The operator may choose to take bitewings and or periapical films. Size 0 film is used on children.
 - d. Occlusal films: twice the usual size, used to detect the occlusal or chewing surface of the mandibular teeth. Usually uses film size 4.
 - e. Panoramic films: Special films made with equipment that rotates around the patient's head and takes x-rays of the entire dental arch (all the teeth) on one film. Shows all the teeth, the bone structure, and the surrounding tissue.
7. Radiograph mounts indicate the dental arches: maxillary for upper and mandibular for lower.
8. Mounting the film:
- a. Assemble the x-ray mount, properly marked with the patient name and the date the x-rays were made. If the information is not present, indicate the name of the dentist and/or the clinic.
 - b. Turn on the view box. The surface should be clean and dry to prevent damaging the films.
 - c. Place the films on the view box so they are all facing the same way. (Make sure all the dimples are facing the same way.)
 - d. Locate the bitewings and mount them in the proper positions on the mount.
 - e. Place the central and lateral incisor films. Remember that the maxillary incisors (upper jaw) are larger than the mandibular (lower jaw) central incisors. With the lateral incisors, the lower (mandibular) incisors are wider than the upper (maxillary) incisors.
 - f. Locate and place the cuspids. Maxillary cuspids are longer than the mandibular cuspids.
 - g. Locate and mount the molar films. The maxillary molars have three roots (called trifurcated) and may look blurred or swirly because of the maxillary sinuses. The mandibular molars are bifurcated, or have two roots.
 - h. Double check that all films are facing properly and that they are placed on the proper arch.
9. After mounting the films, be sure to leave the work area clean for the next worker. Turn off the view box and wash hands before continuing with duties.

Activities

- I. Practice mounting x-rays. (<http://www.hosa.org> – HOSA DA skill sheet)
- II. Identify individual teeth by looking at the films

Materials/Resources

Diversified Health Occupations Sixth Edition by Louise Simmers. Delmar Thompson Learning. 2004.

Delmar's Dental Assisting A Comprehensive Approach by Donna J. Phinney and Judy H. Halstead. Delmar Thompson Learning 2000.

Dental radiographs and mounts

Assessment

Successful mounting of x-rays

Accommodations

For reinforcement, the student will study the structure of the teeth and identify in pictures.

For enrichment, the student will help mount x-rays in the dental office.