Chapter 5 Presentation of Radiographs

Properly mounted and labeled dental radiographs are an important part of the patient's dental record.

Why use a film mount?

- To help prevent film loss.
- To keep films in an organized arrangement for viewing.
- To simplify labeling and storage in the patient's record.
- To prevent retakes that can result from misplaced or unidentified films.

There are a wide variety of mounts available for use with dental radiographs.

Mounts come in different shapes, sizes, colors and materials. Check to see what kinds of film mounts are used in your clinic. Whichever mount you use, be sure that it is one that can be easily labeled, and neatly organizes the films. You need a mount that can be secured in the patient's chart to permit easy retrieval and prevent loss.

How should the film mount be labeled?

1. Clearly PRINT the patient's name as it appears in the dental chart.

The actual location of the required information may vary from one mount to another. This is not of great importance. What is important is that the information does appear clearly somewhere on the mount



Yes

No – The name is not readable.

2. Indicate the date the radiograph was taken.



3. Record initials of dentist and dental assistant.

For legal reasons, **the initials of the dentist** ordering the film and the **dental assistant** exposing the radiograph must be recorded. This may be done on a film mount, as in the example, or as a chart entry. It is strongly recommended that this information be recorded in both locations.



4. Record other useful information.

Place any other information that may be useful in identifying the radiograph, such as the tooth number. This may be helpful when looking for specific films.



Properly labeled radiographs might look like this:



- Patient's name and chart number (printed)
- Initials of dentist and dental assistant
- Complete date
- Any other useful information

What should be done to label an extra-oral film?

Special imprinter and flasher devices can be purchased that transfer the required information from a small label directly onto the film. This is a good method, and legally an acceptable means of identifying large size films such as panoramic or cephalometric radiographs. However, not all clinics have such devices. If your clinic does not, be sure to clearly print all the required information directly onto the film. Use a radiographic marking pen specifically designed for that purpose, or a Sharpie permanent marker.

Remember, the following information should be on a panoramic radiograph:

- Patient's name and chart number •
- Initials of dentist and dental assistant
- Complete date
- Additional information as required by your clinic.





We have briefly discussed the importance of using and properly labeling an x-ray mount. Now let's turn our attention to the radiographs themselves, and the anatomical landmarks you will use to correctly mount the radiographs.

What is a landmark?

It is something that is familiar, easily seen, and can be used to determine where to place a radiograph in a film mount. Landmarks can serve as guides to make mounting films easier. For example, if you see a landmark like sinuses on a radiograph, you will know it is a maxillary radiograph. Why? Mandibular radiographs will not show sinuses.

What landmarks are used to help mount radiographs?

Look for the following features when mounting a radiograph.



Now let's look at some examples of other landmarks to help you mount radiographs.

Roots of teeth

Maxillary molars



Maxillary (upper) molars usually have **three** roots, with the large palatal root hiding in the bony space between the roots.

Maxillary roots point up.



When property mounted, the roots of maxillary teeth should point upward.

Mandibular molars



Mandibular (lower) molars will usually show **two** roots with a bony space between them.

Mandibular roots point down.



When properly mounted, the roots of mandibular teeth should poin downward.

Single rooted teeth

Central and lateral incisors will usually have only one root.



Maxillary incisors - one root



Mandibular incisors- one root

Curved roots will usually curve toward the distal or back of the mount.



Maxillary distal curve



Mandibular distal curve

Size of Teeth



Molars are larger than premolars, and are posterior (distal) to the premolars. This information will help you to determine which part of the film is posterior.

Maxillary Incisors



Maxillary anterior teeth are usually **larger** than mandibular anterior teeth and vary in size. The central incisors are usually larger than lateral incisors.

Mandibular Incisors



Mandibular anterior teeth are usually **smaller**, and more uniform in size.

Maxillary Sinus

On a periapical radiograph of the upper posterior teeth you will usually see a dark (radiolucent) area that seems to surround the roots of the molars and premolars.

This is the maxillary sinus. Ask the dentist to show you this area on several radiographs. You will then be able to use the sinus as an important landmark.



Shape of Bone

The posterior end (tuberosity) of the **maxilla** curves upward toward the root end of the teeth.

The posterior end (ramus) of the **mandible** curves upward toward the occlusal (biting) surface of the teeth.



Existing Restorations or Missing Teeth

Metal crowns, bridges, and silver alloys will appear very white (radiopaque) on radiographs. If you notice restorations during film placement, this information may be used when mounting radiographs.



Crowns and alloy restorations



Space resulting from missing tooth.

If you notice missing teeth during film placement, you can use this information when mounting radiographs.

Keeping in mind the information you now have concerning film mounts, labeling and landmarks, let's go through the 5 steps to actually mount a radiograph.



1. Select an appropriate mount.

YES – Films placed in this mount can be easily labeled and handled on a viewer.



NO – Films in an envelope can easily be lost, and are difficult to view and handle.



YES – All necessary information is on the mount and readable.



NO – The date is not present.

2. Properly label the mount.

3. Carefully handle the film.



YES – Handling a film by its edges will cut down on scratches or other problems that may reduce the diagnostic usefulness of the radiograph.



NO – Holding a film this way can leave fingerprints, smudges, and scratches.

4. Determine upper/lower and right/left.

If the film is a periapical radiograph, identify whether the film is a maxillary or a mandibular exposure, using key anatomical landmarks (shape of bone, size and number of roots). If the film is a bitewing, identify which teeth are maxillary and which are mandibular, again using anatomical landmarks as previously discussed.



YES – This is a maxillary periapical radiograph. It is correctly mounted with the roots pointed up.



NO – Based on anatomical landmarks, this is a mandibular periapical radiograph. It is not correctly mounted

5. Insert and check.

Carefully insert radiographs into the mount. Multiple films, such as a full-mouth survey, should be placed in the mount so they are in sequence. For example, the molar radiographs are on the outer edge and next to premolar radiographs. The premolar radiographs are next to the canine radiographs. The incisors are in the middle position on the film mount. Also, be sure maxillary and mandibular radiographs are sorted and mounted appropriately



At this point you should look at the mounted films on a viewer to make certain each radiograph is in the correct position. This is the time to make corrections so that you will have radiographs that are clearly identified and uniformly mounted for viewing by the dentist.

Dental x-ray films have a small raised dot. The radiographs are put in a mount so that all the dots are either toward or away from you. Most often, the raised dot is mounted towards you.

Ask your dentist or another dental assistant to show you the embossed dot on a film packet and on a radiograph. Also ask whether the clinic policy is to mount radiographs with dots toward or away from you.

Tip: The embossed dot is useful when exposing radiographs. The raised dot should be kept toward the occlusal surfaces or incisal edges of the teeth. This prevents the dot from obscuring any anatomical structures.

In conclusion, remember the following when mounting radiographs:

- ✓ Select the appropriate film mount for the size and number of radiographs being mounted.
- ✓ Properly label and mount the film with:
 - □ Patient's name and chart number
 - □ Date of exposure
 - □ Initials of the dentist and assistant
 - □ Additional information that may be useful.
- ✓ Mount the radiographs.
- ✓ Be sure to handle the films by the edges whenever possible.
- ✓ Look for the raised dot, and key landmarks that will help you identify the teeth shown in the radiographs.
- ✓ After placing the radiographs in a mount, be sure to briefly examine them for correct placement before presenting them for use.

This completes Chapter 5: Presentations of Radiographs. You are now ready to test your understanding of the information you learned.