Extraction technique of the maxillary canines

- Anatomy review
  - The maxillary canine is usually the longest tooth in the mouth.
  - The root is oblong in cross section and usually produces a bulge called the canine eminence on the anterior surface of the maxilla.
  - The result is that the bone over the labial aspect of the maxillary canine is usually thin.
  - In spite of the thin labial bone, this tooth can be difficult to extract simply because of its long root and large surface area available for periodontal ligament attachments.

It is common for a segment of labial alveolar bone to fracture from the labial plate and be removed with tooth.

- The technique
  - After elevation. As with all extractions the initial placement of the beaks of the forceps on the canine tooth should be as far apically as possible.
  - The initial movement is apical and then to the buccal aspect, with return pressure to the palatal.
  - As the bone is expanded and the tooth mobilized, the forceps should be repositioned apically.
  - A small amount of rotational force may be useful in expanding the tooth socket, especially if adjacent teeth are missing or have just been extracted.
  - After the tooth has been well luxated, it is delivered from the socket in a labial–incisal direction with labial tractional forces

| 1- | apical force |
| 2- | buccal force |
| 3- | palatal force |
| 4- | small amount of rotational force |
| 5- | labial–incisal force with labial tractional forces |

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Figure 7-58  
A. Hand and forceps positions for removal of the maxillary canine are similar to those for removal of incisors. The forceps are seated as far apically as possible. B. The initial movement is in the buccal direction. C, Small amounts of lingual force are applied. D, The tooth is delivered in the labial-incisal direction with a slight rotational force.
During the luxation process with the forceps, if the surgeon feels a portion of the labial bone fracturing, the surgeon must make a decision concerning the next step:

1) If the palpating finger indicates that a small amount of bone has fractured free and is attached to the canine tooth, the extraction should continue in the usual manner, with caution taken not to tear the soft tissue.
2) If the palpating finger indicates that a large portion of labial alveolar plate has fractured, the surgeon should stop the surgical procedure:
   - Usually, the fractured portion of bone is still attached to periosteum and, therefore, is viable, so:
     - The surgeon should use a thin periosteal elevator to raise a small amount of mucosa from around the tooth, down to the level of the fractured bone.
     - The canine tooth should then be stabilized with the extraction forceps, and the surgeon should attempt to free the fractured bone from the tooth, with the periosteal elevator as a lever to separate the bone from the tooth root.
     - If this can be accomplished, the tooth can be removed and the bone left in place attached to the periosteum. Normal healing should occur.
   - If bone becomes detached from the periosteum during these attempts, it should be removed because it is probably nonvital and may actually prolong wound healing. This same procedure can be used whenever alveolar bone is fractured during extraction.

Prevention of labial plate fracture
After elevation and during the luxation process with the forceps, if a normal amount of pressure has not resulted in any movement of the tooth (if the tooth is not moving), the surgeon should seriously consider doing an open extraction. By reflecting a soft tissue flap and removing a small amount of bone, the surgeon may be able to remove the stubborn canine tooth without fracturing a large amount of labial bone. By using the open technique, there will be an overall reduction in bone loss and in postoperative healing time.

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