**Management of an Avulsed Permanent Incisor with an Open Apex (Apex ≥ 1 mm)**

1. **Immediately replanted at the accident site.**
2. **Extraoral dry storage time < 20 minutes and tooth was transported in Hank’s Balanced Salt Solution (HBSS) or milk for 20 minutes to 6 hours.**
3. **If tooth was kept moist (in water, saliva or other non-physiologic media) for 20 to 60 minutes.**
4. **20 to 60 minutes extraoral dry time/storage.**
5. **> 60 minutes extraoral dry time/storage.**

**Diagnostic tests:**
- Rule out alveolar fracture.
- 3 radiographs angulated differently to rule out root fractures.
- Pulp vitality test maxillary and mandibular anteriors.

**Assess medical history and rule out any neurologic and nondental injuries.**

**Debride with soft pumice prophylaxis, gauze, gentle scaling/root planing, or 3% citric acid for 3 minutes, and rinse well to remove periodontal ligament.**

**Place in 1.23% sodium fluoride (eg, acidulated phosphate fluoride) for 5 to 20 minutes.**

**Soak in doxycycline or Arestin™ solution for 5 minutes.**

**Follow-up:** 1 week, 1 month, 3 months, 6 months, 12 months, and annually for 5 years.

**Ideal outcome:** revascularization and/or apexogenesis occurs over the next 12 to 18 months.

**Alternative outcomes:**
- Initiate apexification with mineral trioxide aggregate (MTA) or calcium hydroxide or root canal therapy if clinical and/or radiographic pathology presents.
- Consider decoronation procedure when clinical infraposition of the tooth appears and/or clinical and radiographic findings of ankylosis manifest.

**Rx:** Antibiotics (eg, doxycycline or penicillin V potassium for non-allergic patients) for 7 days; Chlorhexidine rinse for 1 week.

If HBSS is not available, place in cold milk.

* Adapted with permission from: McIntyre J, Lee J, Trope M, Vann WJ. Permanent tooth replantation following avulsion: Using a decision tree to achieve the best outcome. Pediatr Dent 2009;31(2):137-44.
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• Rule out alveolar fracture.
• 3 radiographs angulated differently to rule out root fractures.
• Pulp vitality test maxillary and mandibular anteriors.

Management of an Avulsed Permanent Incisor with an Closed Apex (Apex <1 mm)*

If root canal therapy was initiated, complete within 1 month.

OR

If patient does not present until >2 weeks after trauma and/or if radiographic resorption is present:
• Pulpectomy/debridement as soon as possible.
• Long-term calcium hydroxide therapy/slurry and change every 3 months.
• Complete root canal therapy when periodontal ligament/lamina dura is observed/healthy.

Follow-up: 1 week, 1 month, 3 months, 6 months, 12 months, and annually for 5 years.

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