MANAGEMENT OF AVULSED PERMANENT TEETH WITH OPEN APEX

**Tooth Immediately Replanted at Accident Site**
- Verify normal position of the replanted tooth both clinically and radiographically
- Follow the same treatment guideline for extra-oral dry time < 60 minutes with the exception of the replantation step
- Do not extract the replanted tooth

**Extra-oral dry time < 60 minutes OR tooth kept in appropriate transport media**
- Place tooth immediately in HBSS (Use saline, if no HBSS); Gently remove persistent debris with saline or HBSS

**Extra-oral dry time > 60 minutes OR tooth kept in inappropriate transport media**
- Obtain complete and detailed health history
- Administer local anesthetic and clean affected area with saline or Chlorhexidine
- Assess extent of injuries clinically and radiographically
- Soak tooth in a 1% Doxycycline solution (200 mg Doxycycline/20 ml saline) for 5 minutes OR cover root surface with Minocycline Hydrochloride Microspheres (ArestinTM) before replanting the tooth
- Allow for possible pulp revascularization; follow-up replanted tooth periodically to assess for the need of RCT in case of unsatisfactory outcomes
- Remove coagulum of socket with saline and replant tooth slowly with slight digital pressure
- Suture tissue lacerations (i.e. gingival lacerations)
- Verify position of replanted tooth clinically and radiographically
- Apply flexible splint up to 2 weeks (< 60 minutes) and up to 4 weeks (> 60 minutes)
- Administer systemic antibiotics † and assess tetanus status
- Provide post-op patient instructions ‡

**Extra-oral dry time > 60 minutes OR tooth kept in inappropriate transport media***
- Remove necrotic periodontal ligament mechanically with gauze
- Soak tooth in a 2% sodium fluoride solution or foam (i.e. Oral B Neutra-Foam) for 20 minutes before replantation
- During emergency visit, perform RCT while tooth is held in a fluoride-soaked piece of gauze (if apex is open procedure can be done from apical direction) OR RCT after 7-10 days post-replantation

*Goal in delayed replantation (extra-oral dry time > 60’’) is to maintain alveolar ridge contour for open apex tooth. Ankylosis and root resorption are expected. Monitor patient very closely. In children < 15 years old, if ankylosis occurs, and infraposition of tooth crown is more than 1mm, perform the “Decoronation” technique

† For patients not susceptible to tetracycline staining (> 12 yrs), RX: Doxycycline 4.4 mg/kg/day q 12h on day one, then 2.2-4.4 mg/kg/day for seven days. For patients susceptible to tetracycline (< 12 yrs), RX: Pen VK 500 mg QID or child equivalent dose for 7 days

‡ Soft diet for up to two weeks
- Brush teeth with a soft toothbrush after each meal
- Use a chlorhexidine mouthrinse (0.12%) twice a day for 1 week

‡ For patients not susceptible to tetracycline staining (> 12 yrs), RX: Doxycycline 4.4 mg/kg/day q 12h on day one, then 2.2-4.4 mg/kg/day for seven days. For patients susceptible to tetracycline (< 12 yrs), RX: Pen VK 500 mg QID or child equivalent dose for 7 days