Emergency and Follow-Up Management of the Avulsed (Knocked-Out) Tooth

	10 years of age or older–*permanent teeth with closed apex*			Under 10 years of age–*permanent teeth with open apex*		
On-Site	**Replant Tooth** Rinse gently to remove foreign objects from tooth	**Unable to Replant** Place in transport media *a.* special storage media *b.* milk *c.* saline *d.* saliva Dry time less than 1 hour	**Unable to Replant Tooth** Transport media not used Dry time greater than 1 hour	**Replant Tooth** Rinse gently to remove foreign objects from tooth	**Unable to Replant** Place in transport media *a.* special storage media *b.* milk *c.* saline *d.* saliva Dry time less than 1 hour	**Unable to Replant Tooth** Transport media not used Dry time greater than 1 hour
	Clean affected area with: *a.* water *b.* saline *c.* chlorhexidine; do not extract tooth	Rinse gently to remove foreign objects; remove coagulum from socket with saline; gently reposition socket wall if fractured; gently replant tooth with finger pressure	Remove debris and necrotic cementum; remove coagulum from socket with saline; gently reposition socket wall if fractured; soak tooth in any available flouride solution for at least 5 minutes; gently replant tooth with finger pressure	Clean affected area with: *a.* water *b.* saline *c.* chlorhexidine; do not extract tooth	Clean contaminated root and apical foramen with saline; soak tooth in ~100 mg doxycycline/20 mg saline; remove coagulum from socket with saline; gently reposition socket wall if fractured; gently replant tooth with finger pressure	Replantation is generally not indicated
Emergency Facility	Suture gingival lacerations					*office stamp:*
	Clinically and radiographically verify normal tooth position					
	Flexible splint					
	Antibiotics *a.* Penicillin–1000 mg stat and 500 mg every 6 hours for 7 days *b.* Doxycycline–100 mg every 12 hours for 7 days for patients not susceptible to tetracycline staining			**Antibiotics** *(use appropriate doses for patient age and weight)* Penicillin–every 6 hours for 7 days		
	Tetanus booster as needed					
	Patient Instruction: 1. Soft diet; 2. Brush with soft toothbrush after each meal; 3. Rinse with 0.12% chlorhexidine every 12 hours for 1 week					
7–10 Days	Remove flexible splint					
	Remove pulp			If revascularization is a possibility, avoid endodontic treatment unless obvious signs of nonhealing are present; sensitivity may take 3 months to respond positively; if endodontic treatment is necessary, follow guidelines for teeth with closed apices until apexification is completed; obturate with gutta-percha		
	Place calcium hydroxide paste					
30 Days	Obturate with gutta-percha if lamina dura intact; if root resorption present, replace $Ca(OH)_2$—evaluate and change $Ca(OH)_2$ every 3 months; then obturate with gutta-percha if lamina dura intact					
6 Months	Clinical and radiographic exam (post-obturation)					
1 Year	Clinical and radiographic exam (follow-up for 5 years)					

For additional guidelines, definitions of clinical and radiographic success/failure and references, visit the American Association of Endodontists' Web site at ***www.aae.org.***

Emergency and Follow-Up Management of Other Dental Alveolar Injuries

	Concussion	Subluxation	Extrusion	Lateral Luxation	Intrusion
Diagnosis/Clinical Findings	Tooth tender to touch; no displacement; no mobility	Tooth tender to touch and mobile; bleeding from gums	Tooth partially protruding from bone/jaw	Tooth displaced axially from normal position; often tender to touch or mobile—possibly locked into bone (high metallic sound upon percussion)	Tooth is displaced deeper into the bone/jaw; high metallic sound upon percussion
Radiographic/Clinical Assessment and Findings	Radiographs; evaluate pulp chamber size and root development; sensitivity testing				
Treatment	Palliative; flexible splint (7-10 days) for comfort if needed		Reposition; flexible splint	Reposition into normal position; the tooth often must be extruded occlusally past the bony lock prior to repositioning; evaluate position with radiographs; flexible splint	Slightly luxate with forceps; with *incomplete root formation,* allow for spontaneous re-eruption; teeth with *complete root formation,* orthodontic or surgical repositioning
Patient Instruction	*1.* Soft diet; *2.* Brush with soft toothbrush after each meal; *3.* Rinse with 0.12% chlorhexidine every 12 hours for 1 week				
Up to 3 Weeks	Splint removal; clinical/radiographic exam; sensitivity testing			Splint removal; in case of radiographic marginal bone breakdown, add 3-4 weeks to splint time; clinical and radiographic exam	Initiate root canal treatment in 1-3 weeks; splint removal except in teeth with open apices that erupt spontaneously

	Crown Fracture		Crown-Root Fracture	Root Fracture	Alveolar Fracture
	Uncomplicated	***Complicated***			
Diagnosis/Clinical Finding	Enamel or enamel-dentin fracture	Enamel-dentin fracture; pulp exposed	Crown attached to gingiva and mobile; pulp may or may not be exposed	Crown usually mobile and sometimes displaced	Teeth and bone mobile
Radiographic/Clinical Assessment and Findings	Radiographs; evaluate pulp chamber size and root development; sensitivity testing				
Treatment	Cover dentin; *a.* glass ionomer (temporary); *b.* composite resin; *c.* bond fragment; consider $Ca(OH)_2$ if close to the pulp	*Immature tooth: a.* pulp capping; *b.* partial pulpotomy with $Ca(OH)_2$; *c.* bacteria-tight coronal seal *Mature tooth: a.* pulp capping; *b.* partial pulpotomy with $Ca(OH)_2$; *c.* bacteria-tight coronal seal; *d.* root canal treatment	Emergency—stabilize coronal fragment with acid etch/resin splint; definitive treatment—expose subgingival fracture site by: *a.* gingivectomy; *b.* orthodontic or surgical extrusion; *Immature tooth:* vital pulp therapy; *Mature tooth:* root canal treatment	Reposition coronal fragment; flexible splint, 3-4 weeks	Reposition fragment; splint, 3-4 weeks
Patient Instruction	*1.* Soft diet; *2.* Brush with soft toothbrush after each meal; *3.* Rinse with 0.12% chlorhexidine every 12 hours for 1 week				
3-4 Weeks				Splint removal; clinical and radiographic exam; sensitivity testing	
6-8 Weeks	Clinical and radiographic exam, including sensitivity testing; further follow-up at 6 months, 1 year, and annually for 5 years				