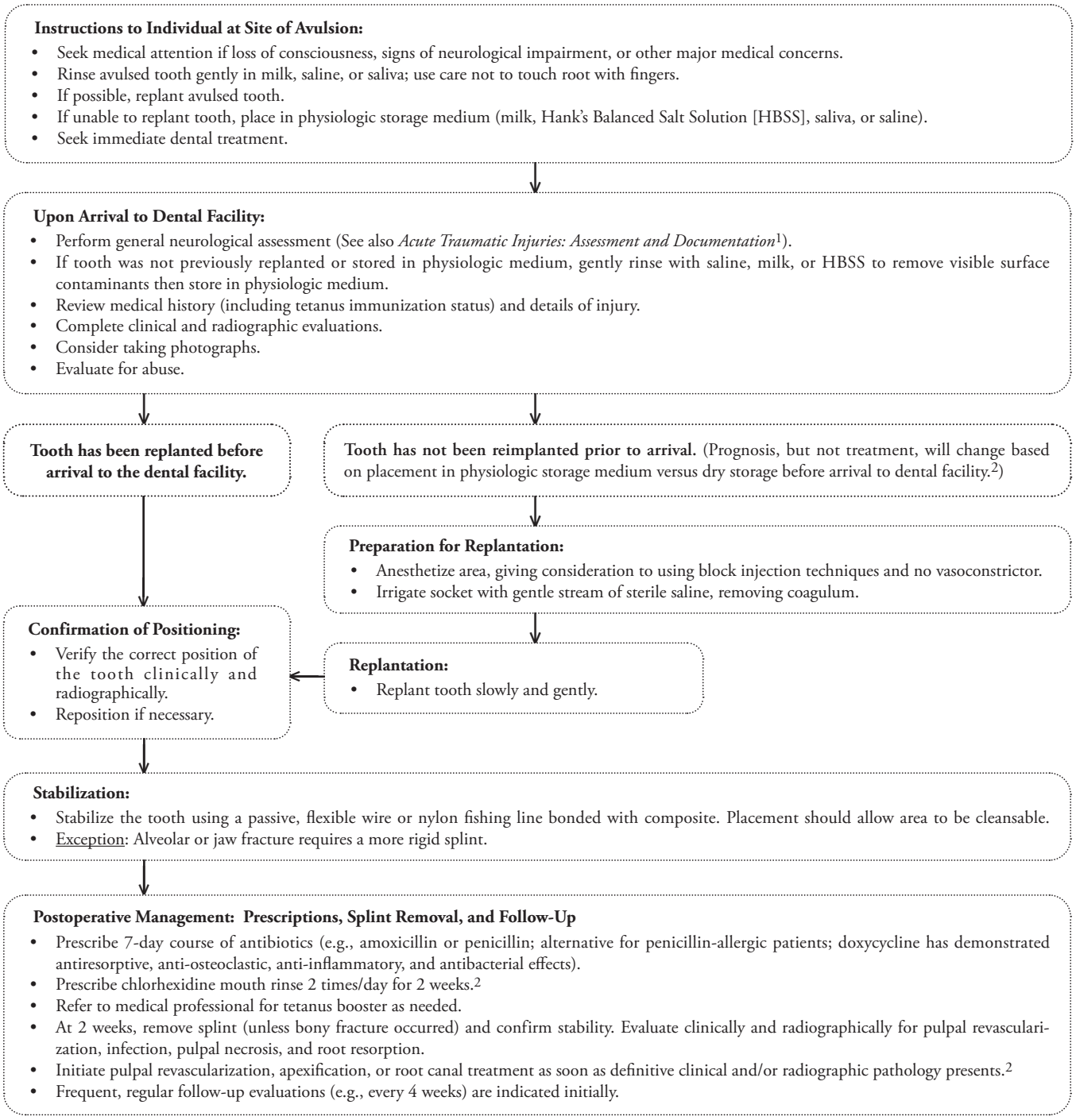
Acute Management of an Avulsed Permanent Tooth with an Open (>1 millimeter) Apex



Adapted with permission: 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.

References

1. American Academy of Pediatric Dentistry. Acute traumatic injuries: Assessment and documentation. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2023:668-9.
2. Fouad AF, Abbott PV, Tsilingaridis G, et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 2. Avulsion of permanent teeth. Dent Traumatol 2020;36:331-342. Available at: "https://doi.org/10.1111/edt.12573".

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Instructions to Individual at Site of Avulsion:

- Seek medical attention if loss of consciousness, signs of neurological impairment, or other major medical concerns.
- Rinse avulsed tooth gently in milk, saline, or saliva; use care not to touch root with fingers.
- If possible, replant avulsed tooth.
- If unable to replant tooth, place in physiologic storage medium (milk, Hank's Balanced Salt Solution [HBSS], saliva, or saline).
- Seek immediate dental treatment.

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Upon Arrival to Dental Facility:

- Perform general neurological assessment (See also *Acute Traumatic Injuries: Assessment and Documentation*[1]).
- If tooth was not previously replanted or stored in physiologic medium, gently rinse with saline, milk, or HBSS to remove visible surface contaminants then store in physiologic medium.
- Review medical history (including tetanus immunization status) and details of injury.
- Complete clinical and radiographic evaluations.
- Consider taking photographs.
- Evaluate for abuse.

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Tooth has been replanted before arrival to the dental facility.

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Confirmation of Positioning:

- Verify the correct position of the tooth clinically and radiographically.
- Reposition if necessary.

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Tooth has not been reimplanted prior to arrival. (Prognosis, but not treatment, will change based on placement in physiologic storage medium versus dry storage before arrival to dental facility.[2])

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Preparation for Replantation:

- Anesthetize area, giving consideration to using block injection techniques and no vasoconstrictor.
- Irrigate socket with gentle stream of sterile saline, removing coagulum.

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Replantation:

- Replant tooth slowly and gently.

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Stabilization:

- Stabilize the tooth using a passive, flexible wire or nylon fishing line bonded with composite. Placement should allow area to be cleansable.
- Exception: Alveolar or jaw fracture requires a more rigid splint.

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Postoperative Management: Prescriptions, Root Canal Treatment, Splint Removal, and Follow-Up

- Prescribe 7-day course of antibiotics (e.g., amoxicillin or penicillin; alternative for penicillin-allergic patients; doxycycline has demonstrated antiresorptive, anti-osteoclastic, anti-inflammatory, and antibacterial effects).
- Prescribe chlorhexidine mouth rinse 2 times/day for 2 weeks.[2]
- Refer to medical professional for tetanus booster as needed.
- Initiate root canal treatment (e.g. calcium hydroxide) within 2 weeks of replantation.[2]
- At 2 weeks, remove splint (unless bony fracture occurred) and confirm stability; rigid splint placed for bony fracture should remain for 4 weeks.
- Follow-up evaluations: 1 month, 3 months, 6 months, 12 months, and annually for 5 years.

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