Dentoalveolar Trauma: Essentials for Pediatric and Adolescent Treatment

June 12, 2025

CareQuest Institute for Oral Health®

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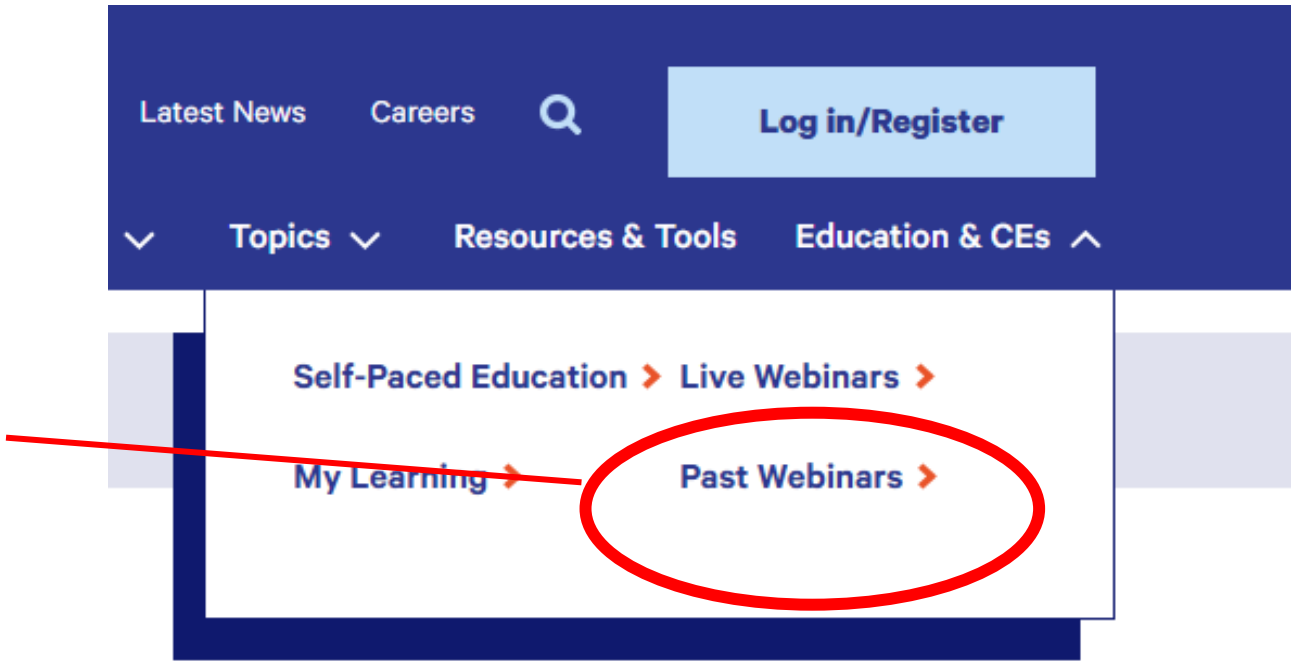

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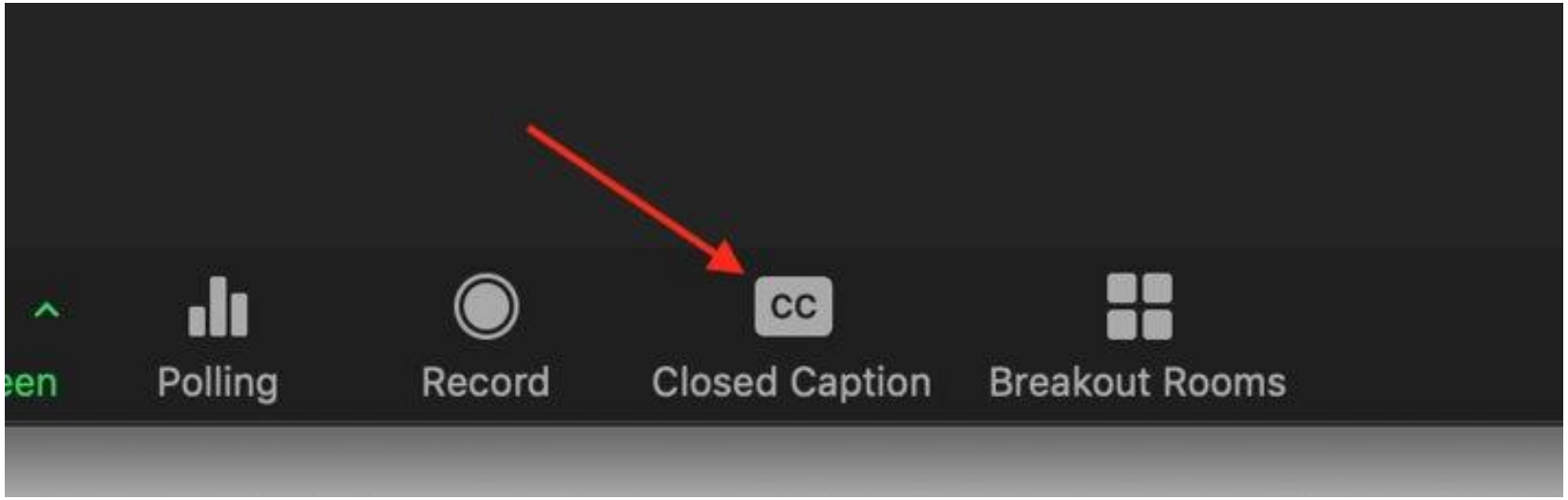

CareQuest Institute for Oral Health

CareQuest Institute for Oral Health®

Webinar

Dentoalveolar Trauma:

Essentials for Pediatric and Adolescent Treatment

Thursday
June 12, 2025

7-8 p.m. ET

1 CE Credit

Moderator & Presenter

Panagiota Sandoval, DDS

Blue Cloud Pediatric Surgery Centers

Presenter

Jennifer Shamsian, DDS

Nicklaus Children's Hospital

Learning Objectives

- **Identify** common causes and types of dentoalveolar trauma in children and teens.
- **Discuss** the importance of timely intervention and comprehensive care to promote optimal health outcomes when patients suffer dentoalveolar trauma.
- **Describe** protocols for evaluation, diagnosis, and treatment planning — including triaging for emergency treatment — for pediatric and adolescent dentoalveolar trauma cases.

Poll Questions

1. **Have you encountered dentoalveolar trauma in your practice?**
    a. Yes, frequently
    b. Yes, occasionally
    c. Rarely
    d. Never

2. **How comfortable do you feel managing dentoalveolar trauma cases?**
    a. Very comfortable
    b. Somewhat comfortable
    c. Not very comfortable
    d. Not comfortable at all

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DENTOALVEOLAR TRAUMA IN THE PEDIATRIC AND ADOLESCENT POPULATIONS

Jennifer Shamsian, DDS

Panagiota Sandoval, DDS

OUTLINE

- Introduction & Epidemiology
- Dental Trauma Sequelae
- Sports and Dental Injuries
- Clinical Examination
- Dental Trauma:
  - Primary vs. Permanent
  - Management of Avulsed Teeth
  - Mandibular/Condylar Fracture
  - Soft Tissue Trauma
- Follow Ups & Referrals
- Summary & Conclusion

DENTOALVEOLAR TRAUMA

- An injury to the teeth, supporting tissues, or jaw
- The prognosis for traumatized teeth depends largely upon both timely and appropriate emergency management
- Delays in treatment often result in a poorer prognosis

DENTOALVEOLAR TRAUMA

EMERGENCY

- Rapidly increasing swelling around the throat, dental arches or eyes
- Traumatic dental injuries

URGENT CARE

- Severe dental and facial pain not controlled by over-the-counter (OTC) medicine
- Dental and soft tissue acute infection

NON-URGENT CARE

- Multiple caries w/out pain
- Pain due to eruption problems
- Lost filling or crown
- Need for permanent restorations
- Non-traumatic problems with orthodontic appliances

DENTAL TRAUMA EPIDEMIOLOGY

- Traumatic dental injuries (TDIs) occur frequently in children and young adults, comprising 5% of all injuries
- 25% of all school children experience dental trauma
- 33% of adults have experienced trauma to the permanent dentition, with most injuries occurring before age 19
- Up to 50% of children sustain dental trauma during childhood
  - Peak incidence during the ages of 2 – 4 years in the primary dentition
  - 8 – 10 years in permanent dentition

DENTAL TRAUMA EPIDEMIOLOGY

- **Which teeth are most commonly affected by trauma?**
  Maxillary central incisors (50-90%)
- **At what age are children most prone to dental trauma?**
  2 to 4 years of age – the most accident-prone developmental stage
- **What type of injury is most common in primary dentition trauma?**
  Luxation injuries – primarily due to falls or secondary trauma
- **What type of injury is most common in permanent dentition trauma?**
  Crown fractures (followed by subluxations and avulsions)

DENTAL TRAUMA EPIDEMIOLOGY

What are the leading causes of dental trauma in children?

- Falls (64%)
- Traffic incidents (22%)
- Sports-related accidents (9%)

Which type of facial injury most often results in dental trauma?

- Mandibular fractures – responsible for 39.3% of dental injuries

DENTAL TRAUMA SEQUELAE

Proper diagnosis, treatment planning, and follow up are important to assure a favorable outcome.

What are the potential consequences of primary tooth trauma on permanent dentition?

- Damage to developing permanent teeth
  - Enamel hypoplasia
  - Crown/root malformation
  - Eruption disturbances
  - Impacted teeth

https://www.dentist-manila.com/glossary-turners-hypoplasia/

DENTAL TRAUMA SEQUELAE

- Symptoms develop
- Discoloration
- Pulp necrosis and infection
- Apical periodontitis
- Lack of further root development of immature permanent teeth
- Ankylosis
- External resorption

https://www.puredentistry.com.au/is-dental-abscess-an-emergency/

SPORTS DENTAL INJURIES

- Which sport causes the ***most*** dental injuries in children under 12?

- Which sport is the leading cause of dental injuries in adolescents (13 – 17)?

SPORTS DENTAL INJURIES

Pain

Psychological Effects

Economic Implications

- Estimated $500 million+ yearly costs of all injuries, including orofacial injuries, sustained by young athletes
- Significant costs accrue over patient's lifetime for restorative, endodontic, prosthodontic, implant, or surgical treatment
- Lifetime cost of avulsed tooth in a teenage athlete ~$20,000
- Children's hours lost from school & parents' hours lost from work
- Consequences that disproportionately burden lower income, minority, and non-insured children

SPORTS DENTAL INJURIES

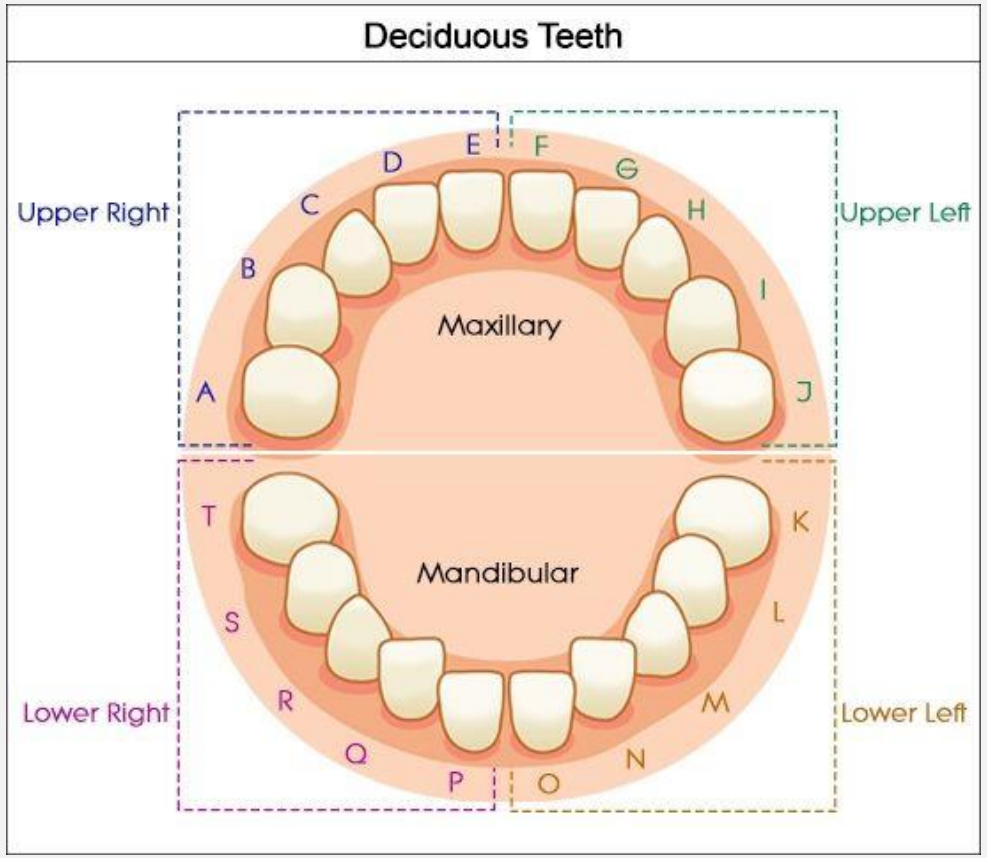
- All sporting activities have an associated risk of orofacial injuries
- Helmets, facemasks, and mouthguards have been shown to reduce both the frequency and severity of dental and orofacial trauma
- AAPD recommends dentists to provide education to parents and patients regarding prevention of orofacial injuries as part of the anticipatory guidance discussed during dental visits, and to prescribe, fabricate, or provide referral for mouthguard protection for patients at increased risk for orofacial trauma

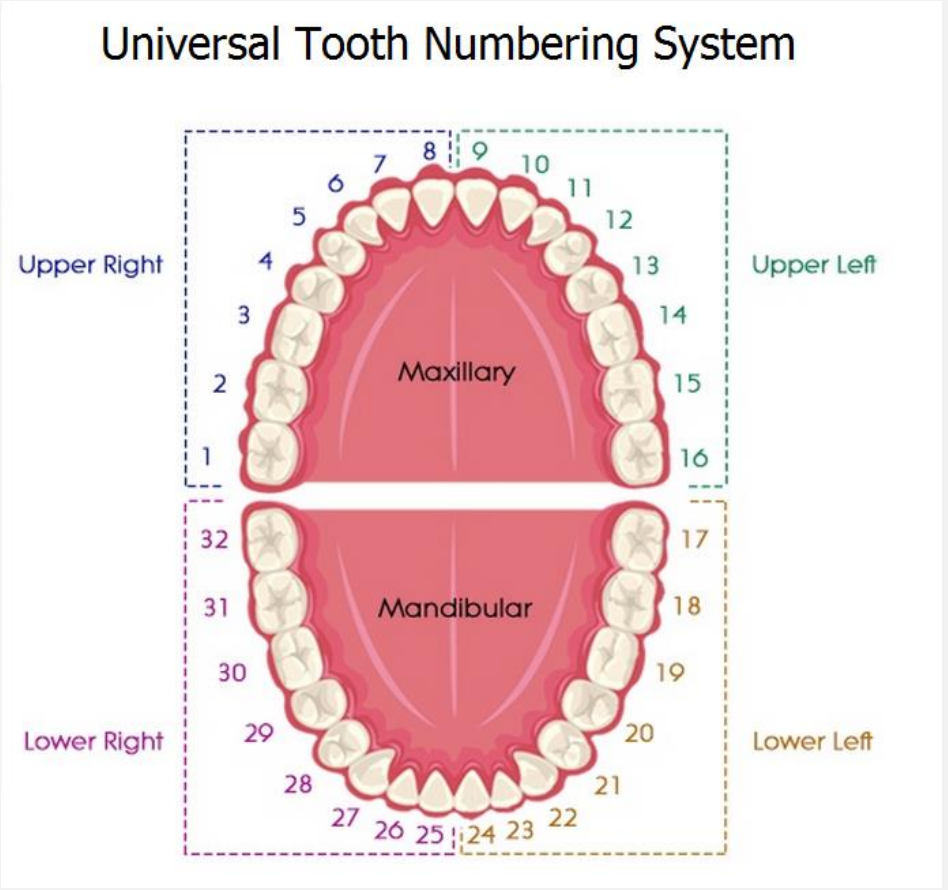
MOUTHGUARDS

American Society for Testing and Materials (ASTM)

1. Type I – Custom-fabricated
2. Type II – Mouth-formed (boil and bite)
    - Most used
3. Type III – Stock
    - Orthodontic brackets, appliances, rapidly changing occlusion during mixed dentition

PRIMARY VS. PERMANENT TEETH

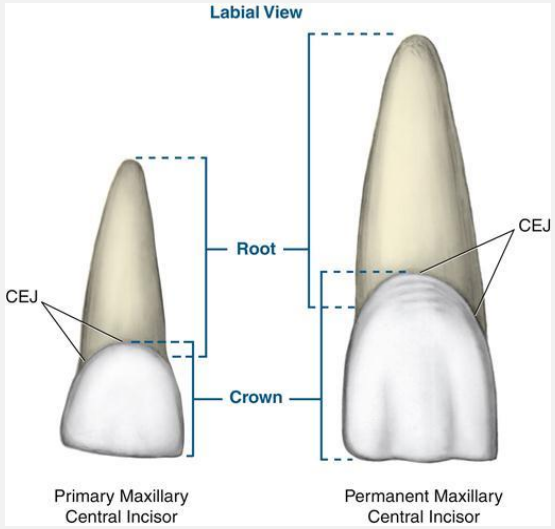




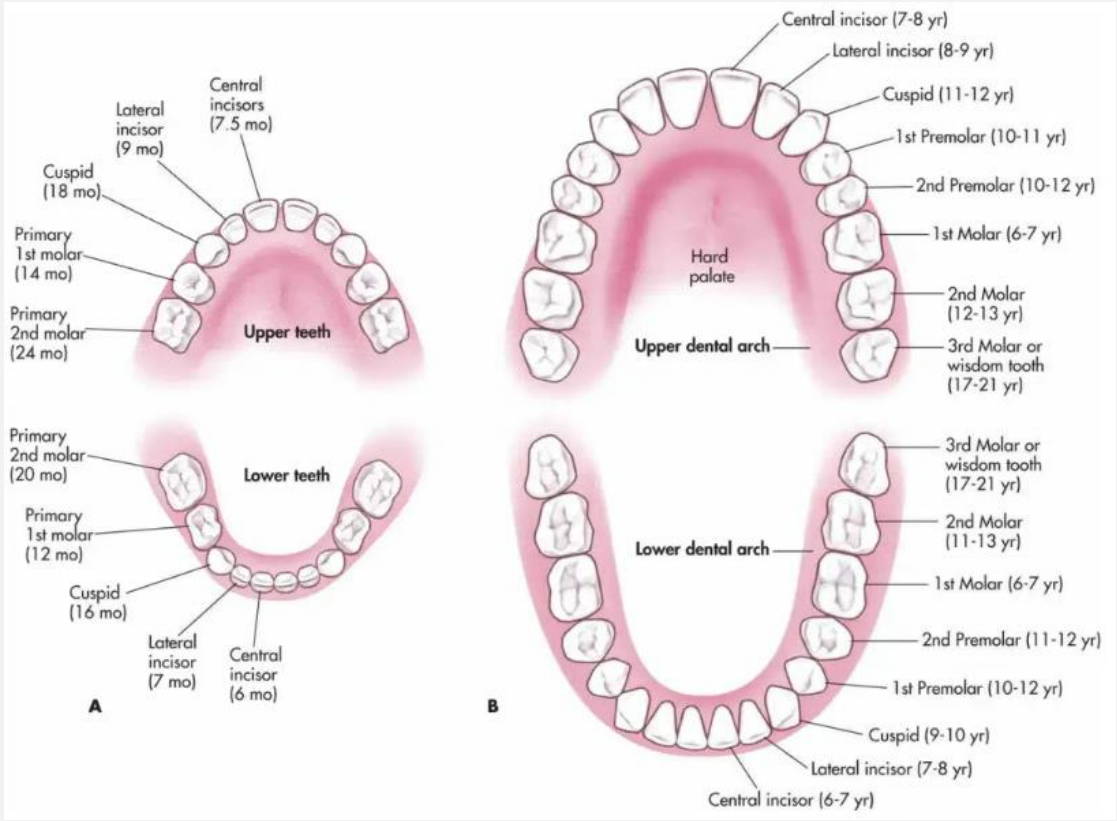
Tooth Numbering System - Focus Dentistry

PRIMARY VS. PERMANENT TEETH

- Smaller in overall size/crown dimensions
- Lighter in color
- Mamelons on permanent dentition



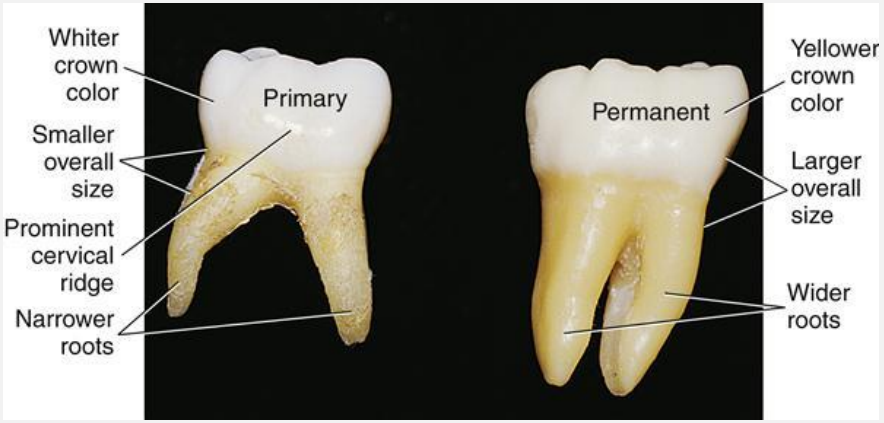
18. Primary Dentition | Pocket Dentistry



Deciduous vs Permanent Teeth | SpaDental Group

PRIMARY VS. PERMANENT TEETH

PRIMARY



Differences between primary and permanent dentition | PPT

MIXED DENTITION

https://www.schooldental.gov.hk/wsmile/tc/ohinfo_ohknowledge

Diagnosis and Treatment Planning of Mandibular Crowding in the Mixed Dentition

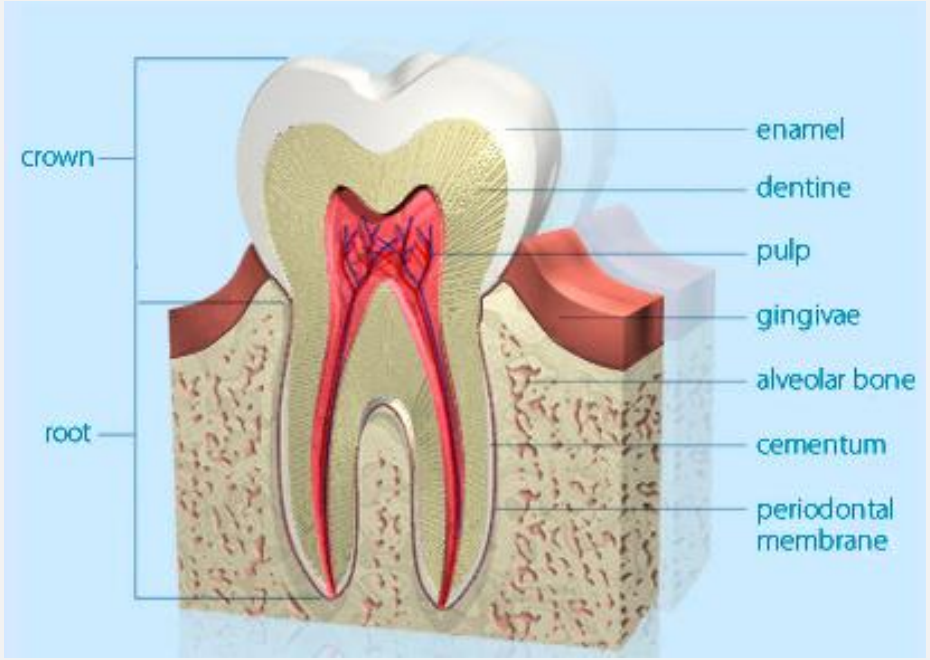
TRAUMA TO PRIMARY TEETH

- A young child is often difficult to examine and treat due to lack of cooperation and because of fear
- Close relationship between root apex of injured primary tooth and underlying permanent tooth germ
- A child's maturity and ability to cope with the emergency, the time for shedding of the injured tooth, and the occlusion are all important factors that influence treatment

https://sweettoothkids.com/PediatricDentalBlog/2017/12/01/dental-radiographs-x-rays-the-whole-tooth/

DENTAL ANATOMY

- **Hard tissue:**
  - Enamel
  - Dentin
  - Cementum
- **Soft tissue:**
  - Pulp
  - Periodontal tissues:
    - Gingiva
    - Periodontal membrane
    - Alveolar bone



Knowing Your Teeth - Oral Health Promotion Division Department

Indirect Pulp Capping in Toronto | Atlas Dental

IMMATURE VS MATURE PERMANENT TEETH

- Every effort should be made to **preserve the pulp** in the immature permanent tooth to ensure continued root development.
- A large majority of TDIs occur in children and teenagers where loss of tooth has lifetime consequences.
- The immature permanent tooth has considerable capacity for healing after traumatic pulp exposure, luxation injury, or root fracture.

DENTOALVEOLAR TRAUMA VISIT

- Assess for loss of consciousness, vomiting, amnesia, or signs of concussion
- Vital signs
- Cranial nerve exam
- Review of all systems
- Accident information
- Head and neck exam
- Radiographs as needed

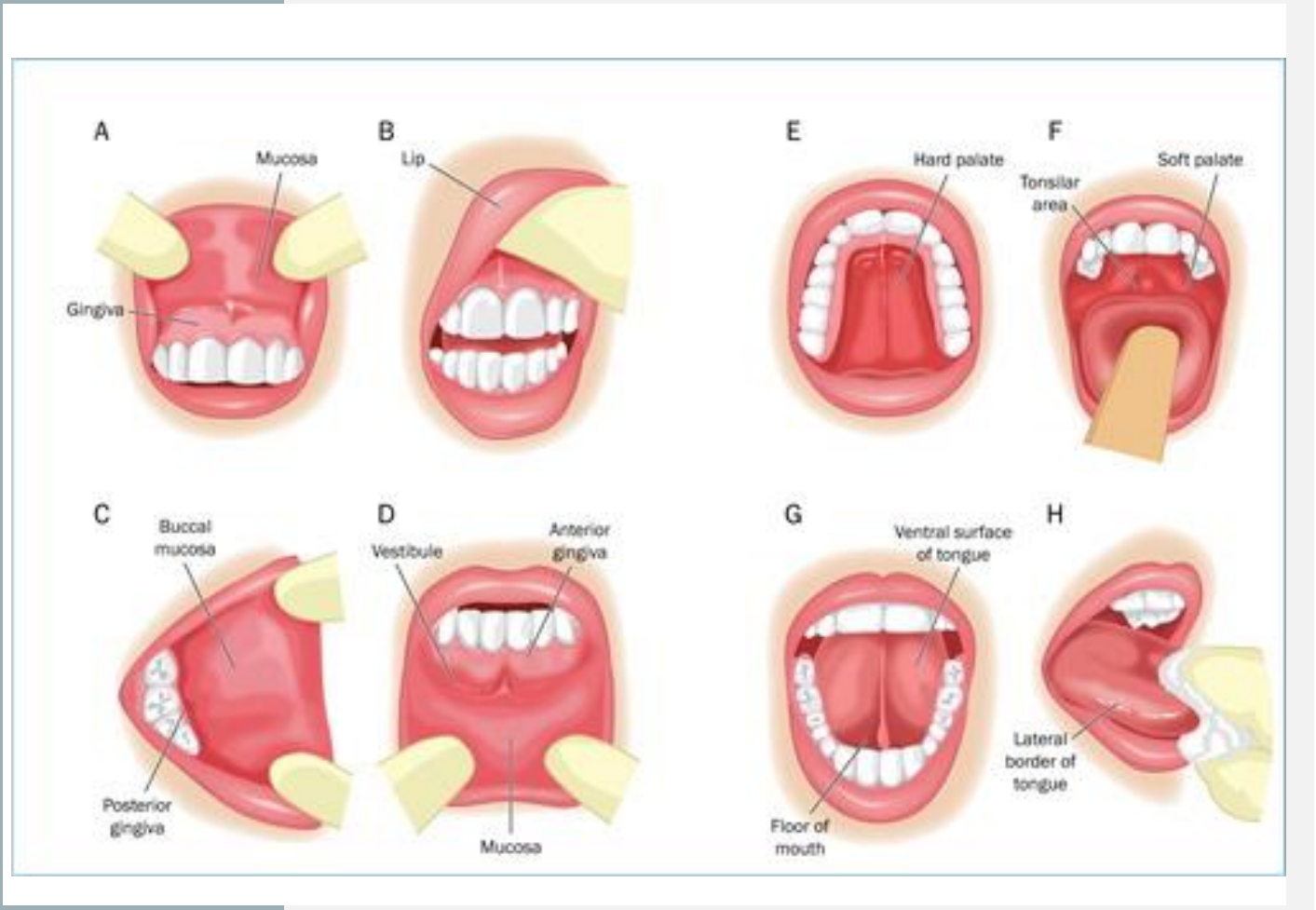
CLINICAL EXAMINATION

- Clean the affected area
- Review medical history and trauma history
- **When?** Time since injury may affect treatment decisions
- **Where?** If the wound is contaminated, confirm tetanus booster within the past 5 years
- **How?** Determine mechanism of injury (e.g., impact to chin, possible non-accidental injury)*
- Check for missing teeth or fragments in soft tissue
- Evaluate for any disturbance in the occlusion (bite)*
- Document any history of previous dental trauma

**Red flags indicating possible serious injury*

CLINICAL EXAMINATION

- Palpate the mandible, zygoma, TMJ, and mastoid region. Ensure that no mandibular or maxillary fractures are present.
- Record any extraoral lacerations, bruises, or swelling. The mandibular condyles and maxilla should be carefully palpated.
- Check whether the history of the accident and the injuries sustained are consistent or match (intentional/ non-accidental injuries).



Oral Biopsy | Avant Dental

CLINICAL EXAMINATION

Extra-oral

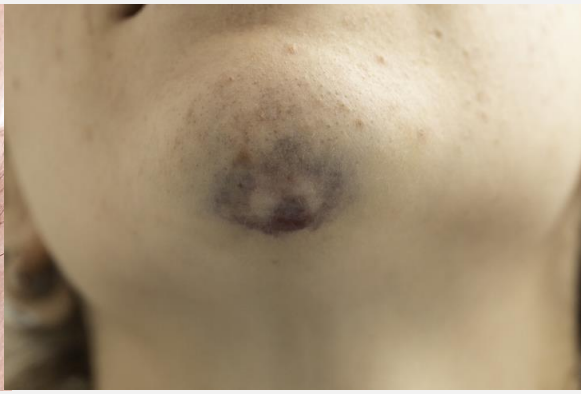
- Facial swelling, bruising (e.g., Battle's sign indicating possible basilar skull fracture)
- Lacerations, TMJ involvement, or restricted movement

Intra-oral

- Evaluate soft and hard tissues
- Check for sublingual hematoma (possible mandibular fracture)

Suspected Foreign Bodies

- Lip swelling from penetrating wounds (e.g., embedded tooth fragments)
- Consider lateral x-ray for localization



Courtesy of National Library of Medicine

Courtesy of National Library of Medicine

CLINICAL EXAMINATION

- Check jaw movements for normal range of movements.
- Chin lacerations require careful evaluation.
- Indications of **condylar fractures** include: an anterior open bite, a malocclusion, or limited mandibular opening.

DENTOALVEOLAR TRAUMA

Teeth

- Crown fracture
- Root fracture
- Luxation
- Avulsion

Supporting Structures

- Alveolar fracture
- Mandibular fracture

Soft Tissues

- Injuries to gingiva, oral mucosa, or skin
- Abrasion
- Contusion
- Laceration

DENTOALVEOLAR TRAUMA

Tooth

Supporting structures

Soft tissues

Guidelines – International Association of Dental Traumatology

Courtesy of National Library of Medicine

CROWN FRACTURE

- **Uncomplicated Fractures** – Immediate treatment may not be necessary
- **Complicated fractures** – Involve pulp exposure
- Always account for **missing fragments**
- Preserve tooth fragments for possible reattachment

Crown Fractures | Smiles for Life Oral Health

CROWN FRACTURE

Emergency Treatment for Complicated Crown Fractures:

- **Primary teeth**: Pulpotomy or extraction (occlusal interference or aspiration risk)
- **Permanent teeth**: Pulpotomy and medicament placement
  - Open Apex: Partial pulpotomy or pulp capping with monitored root development
  - Closed Apex: Partial pulpotomy preferred unless post is required
  - Non-setting calcium hydroxide or non-staining calcium silicate cement on pulp wound
  - Glass
  - Bond back tooth fragment or restore

Joanna Douglass, BDS, DDS

CROWN FRACTURE

Panoramic radiographs of the girl before treatment | Download Scientific Diagram

CROWN FRACTURE

UNCOMPLICATED

COMPLICATED

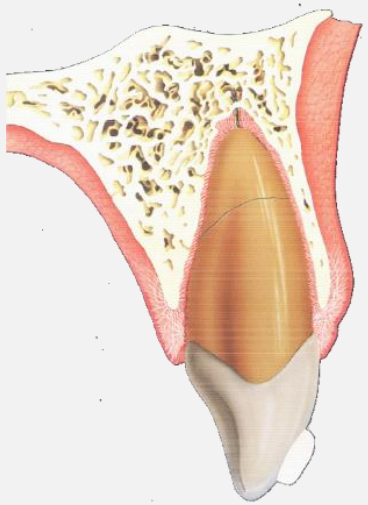
Dental trauma: what it is, symptoms and treatment | Top Doctors

CROWN-ROOT FRACTURE

- Characterized by tooth mobility and bleeding at the gingival margin **without visible crown damage**
- Obtain radiographs from **multiple angles** to assess extent of injury

Emergency Treatment:

- **Primary teeth**: Pulpotomy or extraction
- **Permanent teeth**: Reposition and stabilize



Smiles for Life

https://dentaltraumaguide.org/injury-groups/permanent-teeth/

LUXATION INJURIES

- **Concussion**: Tooth is tender but not displaced or mobile
- **Subluxation**: Tooth is mobile **without displacement**; may present with gingival crevice hemorrhage
- **Luxation**: Tooth is mobile with **lateral displacement**

Emergency Treatment:

- **Primary teeth**: Gentle repositioning (with/without splint) or **extraction if there is aspiration/ingestion risk or occlusal interference**
- **Permanent teeth**: May require repositioning and stabilization (e.g., for Grade III mobility)

INTRUSIVE LUXATION

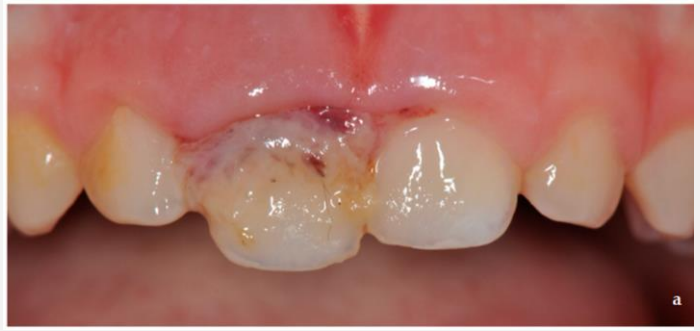
- Tooth is displaced deeper into the socket
- **Emergency Treatment:**
  - **Primary:** No immediate treatment; spontaneous repositioning is common
  - **Permanent:** Allow re-eruption for 4 weeks of all intruded teeth regardless of degree
    - Reposition surgically and stabilize
    - Pending apex, pulpal therapy may be indicated

Smiles for Life

EXTRUSIVE LUXATION

Tooth is partially displaced axially from the socket (partial avulsion)

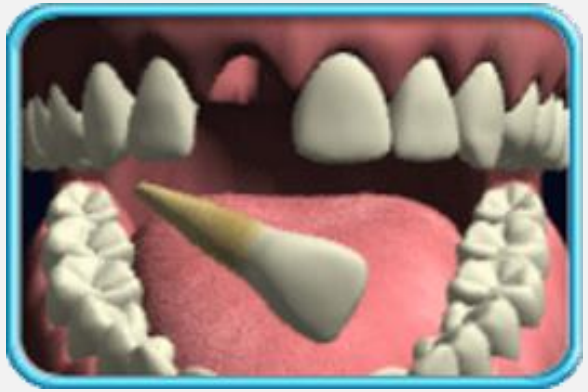
- **Emergency Treatment:**
  - **Primary teeth:** Allow spontaneous repositioning (extraction if there is aspiration risk or occlusal interference)
  - **Permanent teeth:** Gently reposition tooth into socket with local anesthesia, stabilize for 2 weeks (additional 4 weeks if breakdown/fracture of marginal bone), monitor pulp response



Courtesy of MDPI Journal

AVULSION

- **Complete displacement** of the tooth from the socket
- Always **locate the missing tooth** – may be intruded, swallowed, or aspirated
- **Primary Teeth:**
  - **Do not reimplant**
  - **No treatment indicated** to avoid damage to the developing permanent tooth



https://www.dentaldesignskc.com/sports-dentistry/

Smiles for Life

PERMANENT TOOTH AVULSION

- Store tooth in **HBSS**, cold **milk**, **saline**, or **saliva**
- **Optimal prognosis** if reimplanted within **15–20 minutes**
- **Prognosis declines significantly** after **60 minutes of dry time**

Immediate Management:

- Rinse gently with **saline or water** (do not scrub)
- Handle tooth by the **crown** only
- **Reimplant immediately**, have patient bite on gauze to stabilize
- Confirm proper positioning
- Place splint with passive, flexible wire, or nylon fishing line (2 weeks)
- Assess need for **tetanus booster** and prescribe **antibiotics** if indicated
- Provide post op instructions and follow ups

Do not handle root surface

Do not scrape or brush the root

Joanna Douglass, BDS, DDS

AVULSION

- **Remove splint at 2 weeks and assess:**
  - Clinical and radiographic evaluation for pulpal revascularization, infection, necrosis, and/or root resorption

- **Open Apex (>1mm) : Immature**
  - Better prognosis
  - Initiate pulpal revascularization, apexification, or root canal treatment as soon as definitive clinical and/or radiographic pathology presents

- **Closed Apex (<1mm) : Mature**
  - Initiate root canal treatment (e.g. calcium hydroxide) within 2 weeks of re-implantation

AVULSION

- **Initial follow-up at 2 weeks**

- **Frequent, regular follow-up evaluations every 4 weeks indicated initially for Open Apex**

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

https://www.semanticscholar.org/paper/Rigidity-of-commonly-used-dental-trauma-splints.-Berthold-Thaler/3474ad0b3eccfb810af19028095cb63e71eea302/figure/10

AVULSION

- **Antibiotics**: Prescribe systemic antibiotics for 7 days to prevent infection-related reactions and to decrease the occurrence of inflammatory root resorption
  - Amoxicillin/penicillin
  - Doxycycline (over age 12)
- **Tetanus**: Refer to physician if the tooth contacted soil or tetanus status is uncertain
- **Oral hygiene**: Brush with a soft toothbrush after meals
- **Chlorhexidine (0.12%) mouth rinse**: Twice daily for 2 weeks
- **Activity restriction**: Avoid contact sports
- **Diet**: Maintain a soft diet for up to 2 weeks with shearing restrictions
- **Analgesia:** Acetaminophen and/or Ibuprofen alternated as needed

ALVEOLAR FRACTURE

- Fracture of the **alveolar process**, with or without involvement of the tooth sockets
- **Multiple teeth** often move together as a unit on mobility testing
- **Occlusal interference** is commonly present
- Frequently associated with **intrusion** or **luxation** injuries

Emergency Treatment:

- **Reposition** the segment
- **Stabilize** and **splint**

Semantic Scholar

More Dental Emergencies - RCEMLearning

(a) Courtesy of National Library of Medicine (b)

MANDIBULAR FRACTURE

- Pain and swelling
- Occlusal discrepancy
- Limited mandibular movement (trismus)
- Sublingual hematoma
- Facial midline asymmetry
- Chin paresthesia

- **Emergency Treatment:**
  - **Reposition & splint (<u>4 weeks</u>)**

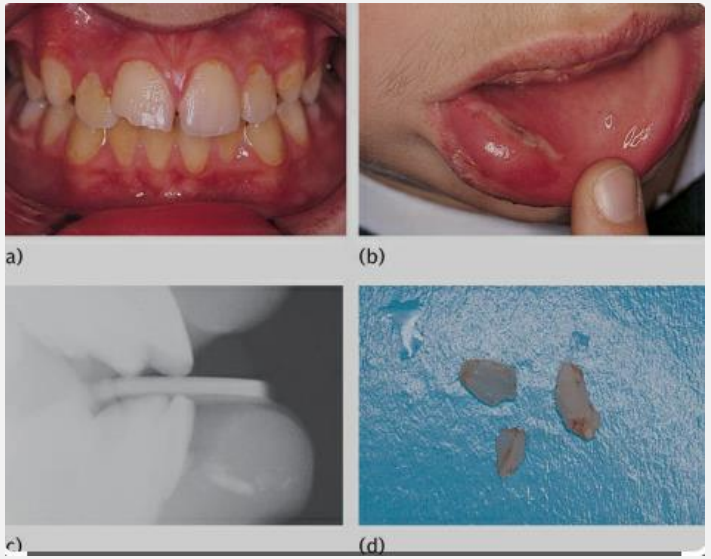
Courtesy of National Library of Medicine

SOFT TISSUE TRAUMA

- Orofacial trauma can result in extraoral and intraoral lacerations, contusions, abrasions, and avulsions
- Traumatic dental injuries almost always involve the periodontal tissues which may undergo ischemia, crushing, or loss
- Cleansing, debridement, hemostasis, closure of wounds
- Splint: optimize PDL reattachment and healing
- Complications: resorption, ankylosis, marginal bone loss, tooth loss
- Tetanus, abx prophylaxis

SOFT TISSUE TRAUMA

- Foreign bodies (gravel, tooth fragment) embedded within injured soft tissues
- Removal of foreign bodies to avoid tissue infection, scarring, tattooing
- Post anesthesia numb lip biting
- Palliative care



12. Traumatic Injuries to the teeth | Pocket Dentistry

How to Protect Yourself from Common Winter Mouth Issues

DENTAL TRAUMA
POST-OP INSTRUCTIONS

- Follow up with dentist
- Soft food diet for 7-14 days
- Brush with a soft toothbrush
- Apply chlorhexidine 0.12 % topically
- Restrict the use of a pacifier & bottle
- Parents should be further advised to watch for trauma sequalae:
  - Tooth discoloration
  - Pain or dental abscess/swelling/erythema
- Inform the parents about possible complications in the development of the permanent teeth.

Why Are My Child's Teeth Turning Yellow? Common Causes of Tooth Discoloration in Kids - Lafayette Pediatric Dentistry

DENTAL TRAUMA FOLLOW UPS & REFERRALS

- Emergency Room
- Oral Surgeon, Endodontics, Periodontics
- Pediatric Dentist
  - A rapid referral to a child-oriented team that has experience and expertise in the management of pediatric dental injuries should be arranged
- Primary Care
- Child Abuse – Child Protective Services (CPS)
- Most **primary tooth injuries** recommend **one week re-evaluation**
- Most **permanent tooth injuries** recommend **two-week re-evaluation**

"When In Doubt: Re-evaluate at One Week Out"

SUMMARY

- Accurately assess and describe dental trauma for optimal triage and referral
- Identify the true dental emergencies:
  - Avulsed **permanent** teeth require immediate reimplantation
- Clinicians should promote the use of mouth guards and other protective equipment to prevent oral injuries

Acute Traumatic Injuries: Assessment and Documentation

Patient name: _____ Date of birth: _____ Date: _____ Time: _____

Accompanied by: _____ Referred by: _____

HISTORY

MEDICAL HISTORY

Allergies: ❑ No ❑ Yes _____
Medications: ❑ No ❑ Yes _____
Last tetanus inoculation: _____
Other significant medical history:

HISTORY OF THE INCIDENT

Date & time of injury: _____
Time elapsed since injury: _____
Who witnessed event: _____
Description (what/where/how occured):

MANAGEMENT PRIOR TO EXAM

By whom? _____
Describe:

COMPLAINTS AND REPORTED CONDITIONS

Altered orientation/mental status	❑ No ❑ Yes	Pain on opening/closing mouth	❑ No ❑ Yes	Missing/avulsed tooth	❑ No ❑ Yes
Headache/nausea/vomiting	❑ No ❑ Yes	Abnormal/painful occlusion	❑ No ❑ Yes	Was missing tooth found?	❑ No ❑ Yes
Hemorrhage from ears/nose	❑ No ❑ Yes	Spontaneous dental pain	❑ No ❑ Yes	Transportation medium _____	
Loss of consciousness	❑ No ❑ Yes	Tooth sensitive to air/thermal change	❑ No ❑ Yes	Other complaints	❑ No ❑ Yes
Neck pain	❑ No ❑ Yes	Displaced or loosened tooth	❑ No ❑ Yes	Previous dental trauma	❑ No ❑ Yes
Wheezing/coughing/gagging	❑ No ❑ Yes	Fractured tooth	❑ No ❑ Yes	Use of oral appliance	❑ No ❑ Yes
Other bodily injuries	❑ No ❑ Yes	Was missing fragment found?	❑ No ❑ Yes	Nonnutritive oral habit	❑ No ❑ Yes

Description of positive findings:

EXTRAORAL EXAM

CRANIOFACIAL ASSESSMENT

Cranial nerve deficit	❑ No ❑ Yes	Hemorrhage/drainage	❑ No ❑ Yes	Laceration	❑ No ❑ Yes	Burns	❑ No ❑ Yes
Suspected facial fracture	❑ No ❑ Yes	Swelling	❑ No ❑ Yes	Abrasion	❑ No ❑ Yes	Foreign body	❑ No ❑ Yes
TMJ deviation/asymmetry	❑ No ❑ Yes	Contusion	❑ No ❑ Yes	Puncture	❑ No ❑ Yes	Other finding	❑ No ❑ Yes

Description of positive findings:

INTRAORAL EXAMINATION

SOFT TISSUES INJURIES

Lips	❑ No ❑ Yes	Buccal mucosa	❑ No ❑ Yes	Palate	❑ No ❑ Yes
Frenum	❑ No ❑ Yes	Tongue	❑ No ❑ Yes	Other	❑ No ❑ Yes
Gingiva	❑ No ❑ Yes	Floor of mouth	❑ No ❑ Yes		

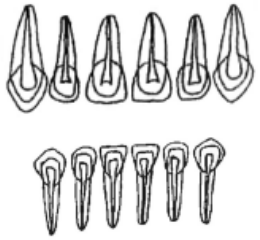
Description of positive findings:

OCCLUSAL ASSESSMENT

Molar classification	R_____ L_____	Crossbite	❑ No ❑ Yes
Canine classification	R_____ L_____	Midline deviation	❑ No ❑ Yes
Overbite (%) _____		Interferences	❑ No ❑ Yes
Overjet (mm) _____		Appliance present	❑ No ❑ Yes

Description of positive findings:

DIAGRAM OF INJURIES



OTHER COMMENTS

DENTAL ASSESSMENT

TOOTH NUMBERS:							
Avulsion:	Dry time Storage medium						
Infraction							
Crown fracture							
Pulp exposure:	Size Appearance						
Mobility (mm)							
Luxation:	Direction Extent						
Percussion							
Color							
Pulp testing:	Electric Thermal						
Caries/ restorations							
Other							

RADIOGRAPHS

Pulp size						
Root development						
Root fracture						
Periodontal ligament space						
Periapical pathology						
Alveolar fracture						
Foreign body						
Other						

✓

All avulsions and fragments located?	❑ No ❑ Yes
Loose, broken, or missing appliance?	❑ No ❑ Yes
Photographs obtained?	❑ No ❑ Yes
Suspected or confirmed abuse?	❑ No ❑ Yes

SUMMARY

TREATMENT

CHECK IF PERFORMED

- ❑ Soft tissue management
- ❑ Anesthesia/medication
- ❑ Repositioning/reimplantation
- ❑ Stabilization
- ❑ Pulp therapy
- ❑ Restoration
- ❑ Extraction
- ❑ Prescription
- ❑ Other: _____

INSTRUCTIONS AND DISPOSITION

CHECK IF DISCUSSED

- ❑ Diet
- ❑ Hygiene
- ❑ Pain/pain control
- ❑ Swelling
- ❑ Infection
- ❑ Prescription
- ❑ Possible complications
  - ❑ Damage to developing teeth
  - ❑ Abnormal position/ankylosis
  - ❑ Tooth loss
  - ❑ Pulp damage to injured or adjacent teeth
  - ❑ Other: _____
- ❑ Need for tetanus booster
- ❑ Injury prevention (e.g., mouthguard)
- ❑ Follow up
- ❑ Referral: _____
- ❑ Other: _____

DENTAL TRAUMA GUIDELINES

- International Association of Dental Traumatology guidelines for the management of traumatic dental injuries
- www.iadt-dentaltrauma.org
- www.dentaltraumaguide.org

PARENT HANDOUTS

Dental Trauma Home Care Instructions

Follow-Up

- Follow up with your child's dentist as recommended. Ongoing monitoring is important to assess healing and long-term effects.
  - FOLLOW-UP APPOINTMENT: _____

Diet & Activity

- Soft food diet for 7–14 days (up to 2 weeks if needed).
- Avoid shearing forces (e.g., crunchy or sticky foods)- DO NOT BITE OR CHEW WITH INJURED TEETH.
- Temperature neutral foods/drinks (nothing too hot or too cold) to protect the injured nerve.
- No contact sports until cleared by your dentist- wear sports guard as indicated.

Oral Hygiene

- Brush gently with a soft toothbrush additionally after meals along with regular morning/night routine.
- Use chlorhexidine 0.12% mouth rinse or gel twice daily for 2 weeks (if prescribed) or warm saltwater rinses.
- Avoid pacifier, straw and bottle use to reduce pressure on the healing area.

Medications

- Antibiotics may be prescribed to prevent infection and reduce the risk of inflammatory root resorption- take as prescribed.
- Pain relief: Alternate Acetaminophen and/or Ibuprofen as needed for comfort.

Tetanus Consideration

- If the tooth injury involved soil contact or tetanus vaccination status is uncertain, consult your child's pediatrician for vaccination records and necessary boosters.

Watch for These Trauma Sequelae

- Tooth discoloration (gray, yellow, or pink).
- Swelling, redness, pus, or signs of infection.
- Persistent pain or new discomfort.
- Signs of a dental abscess.

Contact Us

- Prompt and careful home care plays a vital role in your child's recovery.
- Please don't hesitate to reach out with any questions or concerns.

Comprehensive CDT Codes for Dental Emergencies, Trauma & Restorative Care

Dr. Panagiota Sandoval, DDS

1. Diagnostic and Evaluation

- D0140 - Limited oral evaluation - problem focused
- D0170 - Re-evaluation - limited, problem focused
- D0171 - Re-evaluation - post-operative office visit
- D0220 - Intraoral periapical - first image
- D0230 - Intraoral periapical - each additional image
- D0270 - Bitewing - single image
- D0330 - Panoramic radiograph
- D0470 - Diagnostic casts
- D0350 - Intraoral/extraoral photographic images

2. Emergency & Palliative Treatment

- D9110 - Palliative (emergency) treatment of dental pain - minor procedure
- D9440 - Office visit - after regularly scheduled hours
- D9630 - Dispensed medication
- D9610 - Therapeutic drug injection

3. Endodontic & Pulp Therapy

- D3110 - Pulp cap - direct
- D3120 - Pulp cap - indirect
- D3220 - Therapeutic pulpotomy
- D3221 - Pulpal debridement
- D3222 - Partial pulpotomy for apexogenesis
- D3230 - Pulpal therapy - anterior, primary
- D3240 - Pulpal therapy - posterior, primary
- D3310 - Endodontic therapy - anterior
- D3320 - Endodontic therapy - bicuspid
- D3330 - Endodontic therapy - molar

Comprehensive CDT Codes for Dental Emergencies, Trauma & Restorative Care

Dr. Panagiota Sandoval, DDS

- D3332 - Incomplete endodontic therapy
- D3351-D3353 - Apexification (initial/interim/final)

4. Oral Surgery & Trauma

- D7111 - Extraction - coronal remnants, primary
- D7140 - Extraction - erupted tooth/root
- D7510 - I&D - intraoral
- D7280 - Surgical access of unerupted tooth

5. Splinting & Stabilization

- D4321 - Provisional splinting - extracoronal

6. Desensitizing & Adjunctive Therapies

- D9910 - Application of desensitizing medicament
- D9911 - Application of desensitizing resin

7. Restorative Crowns (Pediatric)

- D2930 - Prefabricated SSC - primary
- D2931 - Prefabricated SSC - permanent
- D2933 - Pre-veneered SSC
- D2929 - Prefabricated ceramic crown - primary
- D2934 - Esthetic coated crown (strip crown equivalent)
- D2950 - Core buildup (including pins)
- D2951 - Pin retention - per tooth

9. Sedation & Behavior Management

- D9230 - Inhalation of nitrous oxide/analgesia, anxiolysis
- D9223 - Deep sedation/general anesthesia - each 15-minute increment
- D9222 - Deep sedation/general anesthesia - first 15 minutes
- D9239 - Intravenous moderate (conscious) sedation - first 15 minutes
- D9243 - Intravenous moderate (conscious) sedation - each additional 15 minutes

Comprehensive CDT Codes for Dental Emergencies, Trauma & Restorative Care

Dr. Panagiota Sandoval, DDS

- D9248 - Non-intravenous conscious sedation
- D9999 - Unspecified adjunctive procedure, by report (use for special documentation)
- D9228 - Behavior management requiring special time and attention
- D9310 - Consultation - diagnostic service provided by dentist or physician
- D9991 - Protective stabilization (used to protect patient during treatment)

8. Anterior Composite Restorations (Post-Trauma)

- D2335 - Resin-based composite - four or more surfaces or involving incisal angle, anterior
  - *Use Case: Class IV fractures, incisal edge trauma, anterior esthetic cases in permanent dentition*
  - *Documentation: Include surface charting, intraoral photos (D0350), and trauma notes*
- D2390 - Resin-based composite crown, anterior
  - *Use Case: Full coronal coverage needed in permanent teeth when age or development limits traditional crown use*
- D2999 - Unspecified restorative procedure, by report
  - *Use Case: Tooth fragment reattachment, biologic restorations, custom trauma repairs requiring narrative*

BILLING AND REIMBURSEMENT

CASE STUDY 1

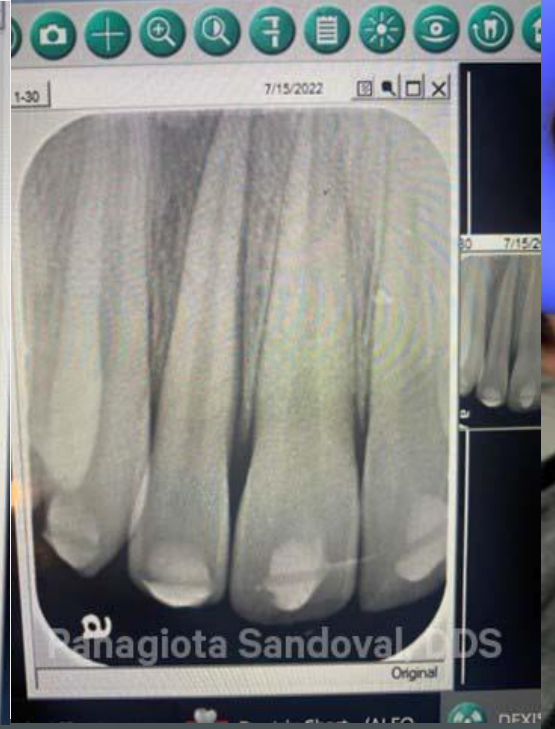
- 8yo male presents ~3 hours post trauma to anterior permanent dentition
- “My friend accidentally swung and hit my face with his water bottle at school”
- Uncomplicated dentin-enamel fracture with mild subluxation – limited mobility of immature permanent teeth 8 and 9
- Tooth fragments were brought in a white milk carton from school cafeteria

CASE STUDY 1

- No pulp exposure and mild grade I mobility
- Local anesthesia and pumiced clean
- Vitrebond (light cured glass ionomer) placed over pulpal wall in thin layer
- Root fragment was prepped with an internal groove to allow for better retention
- Teeth and fragments were selectively etched, bonded, and re-approximated with flowable
- Patient returned 2 weeks later after breaking #9 eating pizza
- Determined to restore #9 with strip crown and remove from all interferences
  - (Bite turbos help, but are not permanent solution)

CASE STUDY 1

- 2-week follow-up per AAPD guidelines
- Patient asymptomatic, vitality testing WNL
- Reinforced post-trauma sequelae
- Patient to return for 12-week, 6-month, and yearly recalls (subluxation recalls are more frequent than crown fracture)



CASE STUDY 2

13yo male presents ~4 hours after avulsion of tooth #7 during soccer injury on turf

Tooth was stored in backpack zipper – tooth was rehydrated in sterile saline and careful cleansing not to disrupt root

Local anesthesia, irrigated and removed coagulum (curette socket), replanted tooth and splint stabilized

Sutures placed to re-approximate gingiva, patient referred to endodontist and periodontist with 2-week f/u to remove splint

CASE STUDY 3

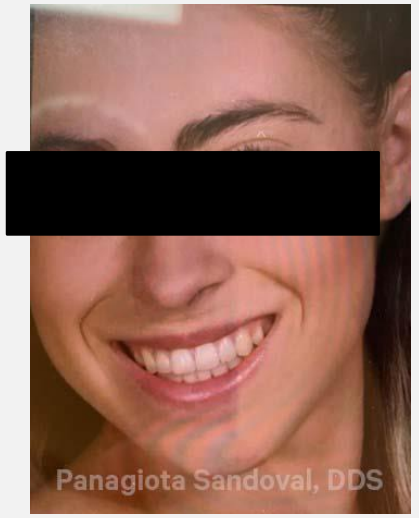
- 15yo male presents to ED ~8 hours after colliding with classmate's head
- Active ortho patient was seen at general dentist of record following extrusive luxation injury and referred to ED for care
- Local anesthetic, gentle finer repositioning with cotton roll to confirm teeth returned to socket
- Patient already in NiTi flexible ortho tx – referred to orthodontist and follow-up closely with endodontist as needed.
- *THIS WAS A ~10 MIN PROCEDURE THAT COULD HAVE SPARED THE PATIENT AND PARENTS A VISIT TO ED*

CASE STUDY 4

- 17yo female fell while carrying gym mat and landed on gym floor at school wrestling practice
- Patient went to ED where sutures were placed on facial and chin lacerations
- Patient returned home and was not able to occlude and continued having dental pain
- Patient called dentist of record and was referred to pediatric dentist after hours call

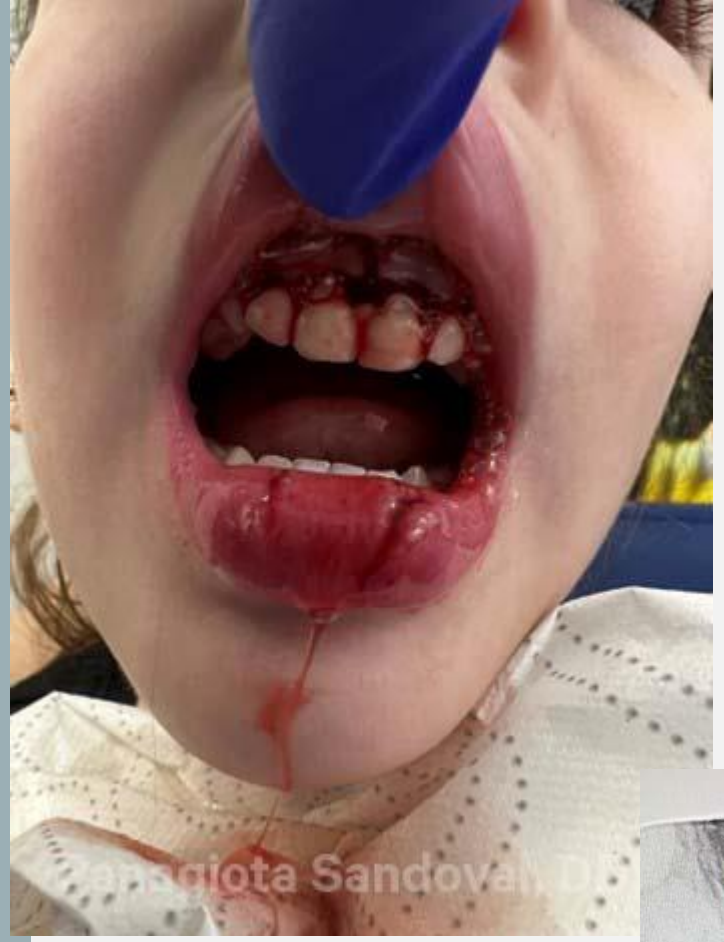
CASE STUDY 4

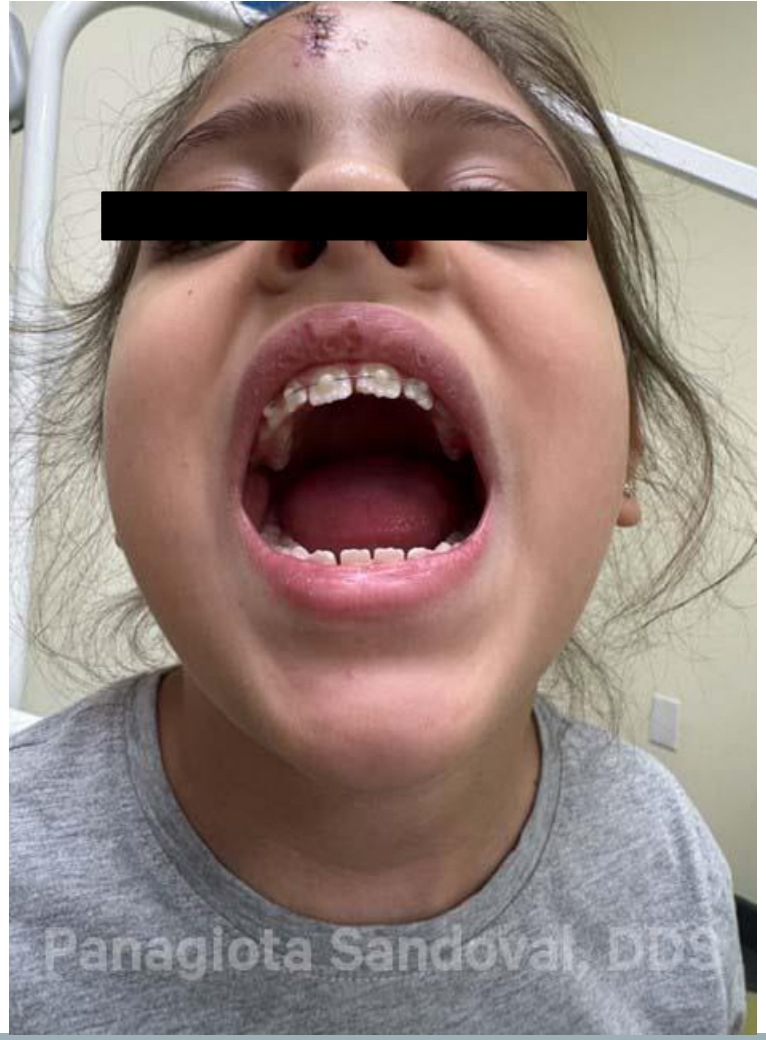
- 17yo female with extrusive luxation injury
- Local anesthesia, reposition, splint
- Bite turbos placed to alleviate occlusion
- Requested photo from parent prior to injury to verify repositioning



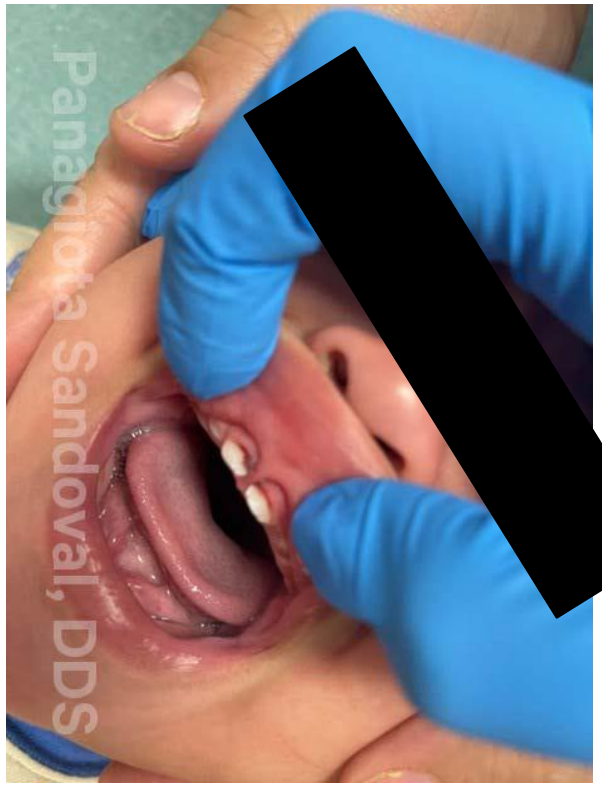
CASE STUDY 5

- 5yo female running inside home slipped on rug and collided with coffee table
- **Alveolar fracture** of anterior primary tooth segment
- Lacerations to gingiva and lower lip
- Due to extent of injuries, patient required IV sedation, extraction of teeth D, E, F, G, and sutures to re-approximate and hold anterior alveolar segment
- Separated root tip of F will be monitored
- Lip laceration was sutured by Plastic Surgery Team



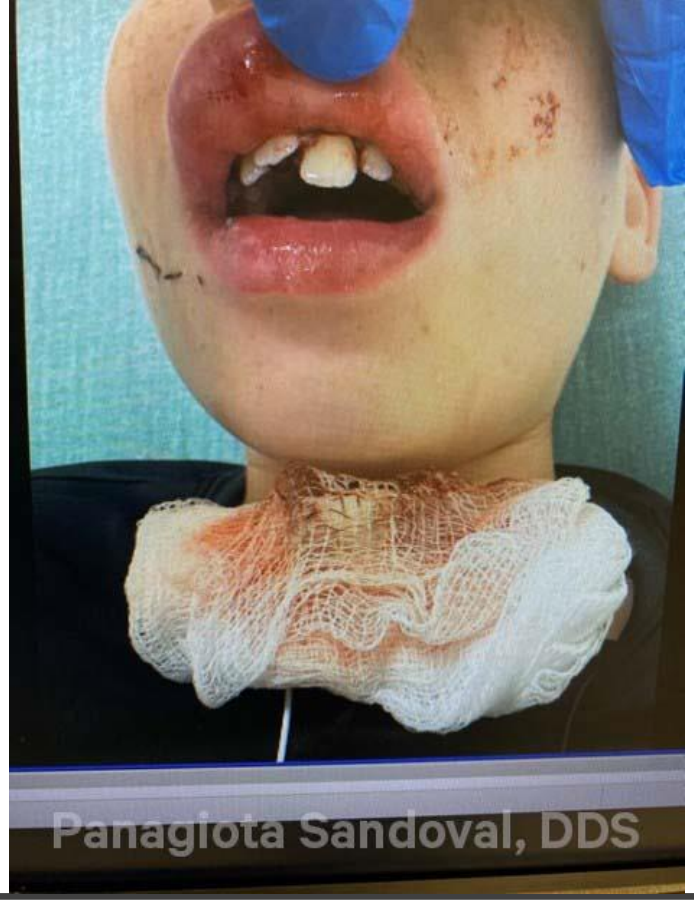


PRIORITIZE INJURIES



CASES WITH NO EMERGENT TREATMENT INDICATED

EMERGENT: PATIENTS CANNOT OCCLUDE/ASPIRATION RISK



IMPORTANCE OF COLLABORATIVE CARE

FOLLOW-UPS AND REFERRALS

- Immediate post-op after difficulty replanting, repositioning, and suturing gingiva and lost buccal alveolar plate

FOLLOW-UPS AND REFERRALS

SURPRISE AT 2-WEEK FOLLOW UP:

IMPORTANCE OF COLLABORATIVE CARE

Patient completed endodontic therapy as indicated by trauma guidelines

Patient is scheduled with Oral Surgery for extraction of 58 and 59, along with apicoectomy of #8

Patient is asymptomatic, pain free, and gingiva and bone health are preserved as well as patient's quality of life

THANK YOU!

Question and Answer

Submit questions for the panelists in the **Q&A box**

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Complete the evaluation by **Friday, June 20** to receive CE credit. You will receive a link to the survey in 24 hours.

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Oral Health for All: Advancing Oral Health Equity for LGBTQ+ Patients on **June 26 at 7 p.m. ET**

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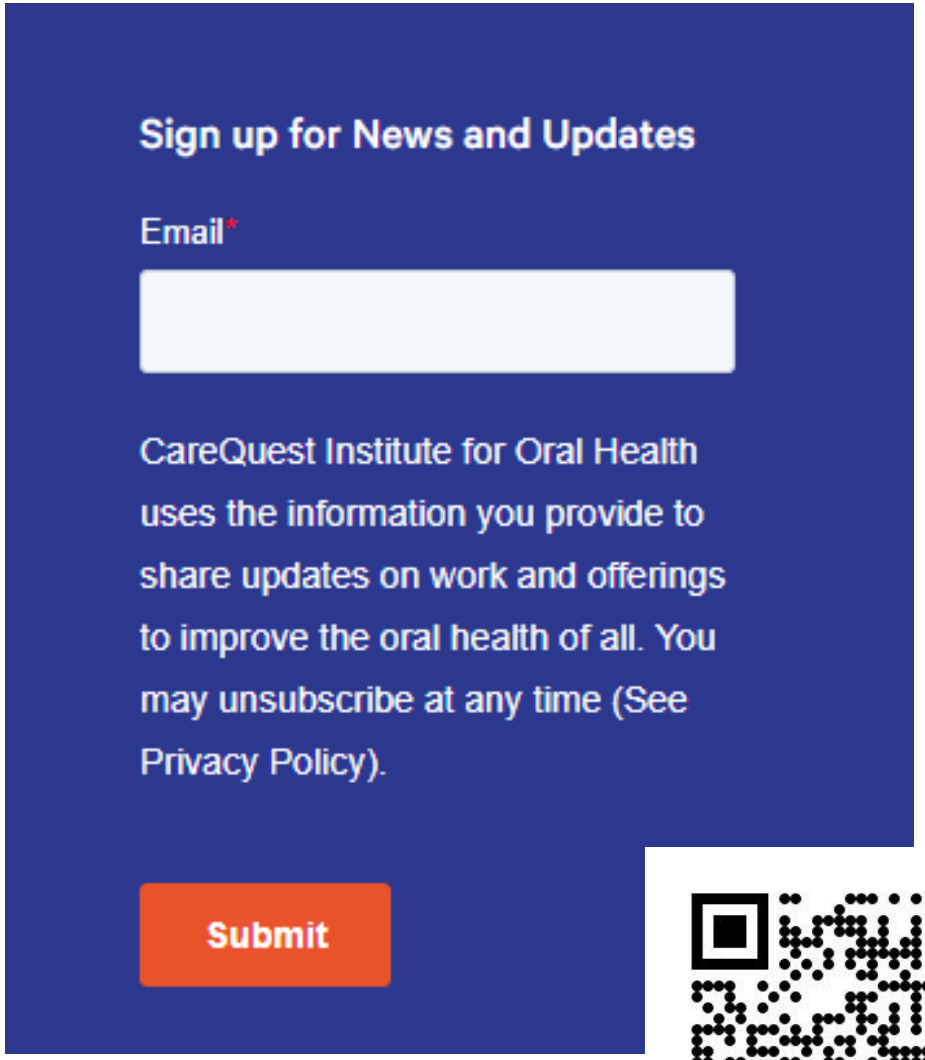

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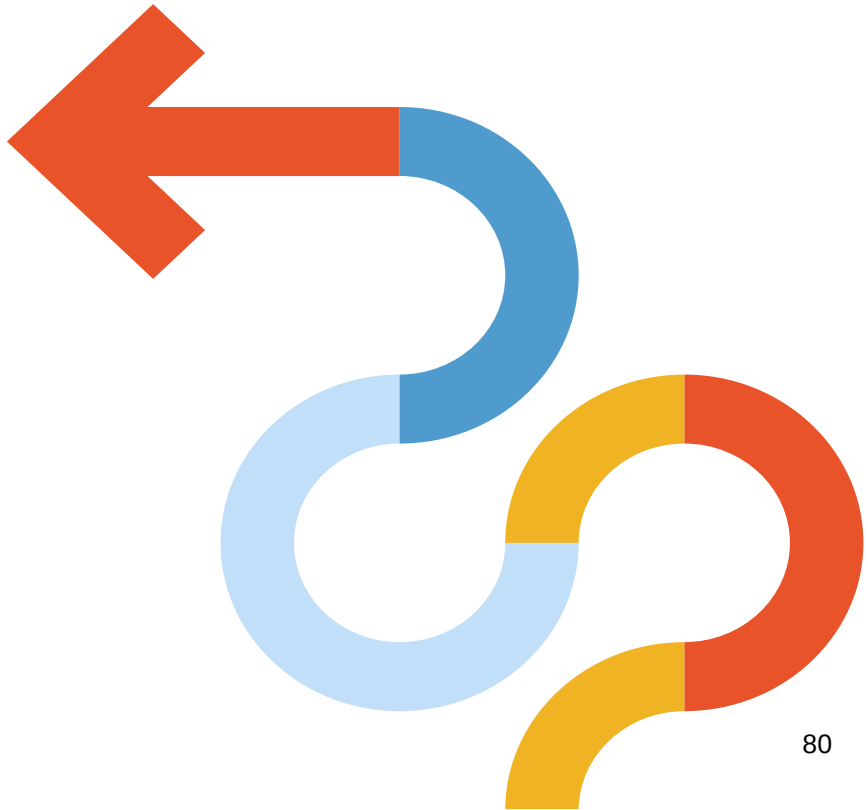

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