BUCKLE FRACTURE

SUMMARY

CLINICAL MANAGEMENT
Prevention of swelling and pain
- Ice
- Elevation
- Oral over-the-counter (OTC) pain medication
- Monitor effectiveness of pain control measures

CLINICAL ASSESSMENT
- Assess for vascular injury and neurological deficit.
- Assessment of pain using strategies appropriate to the age/development level of the patient.
- Obtain true anterior/posterior (A/P) and lateral wrist or forearm radiographs, if not already available.
- Assessment for other injuries.

IMAGING
- Anterior/posterior (A/P) and lateral wrist or forearm radiographs, if not already available
- Evaluate for true buckle versus incomplete fracture
  - Buckling of one cortex with opposite cortex (tension side) intact
  - No measurable angulation present

IMMOBILIZATION
- Placement of short volar or dorsal splint depending on location of fracture buckling for support and protection or placement of sugar tong splint if patient is in significant pain
- Placement of removable Velcro® splint, if available, may be definitive treatment. Splint should be worn during the daytime for 3 to 4 weeks. May wean out of splint at night as tolerated.
- A short-arm cast with semi-rigid casting tape for younger children (with whom compliance in a splint is questionable) is appropriate and avoids use of a cast saw for removal.
- Patients experiencing significant pain may be treated in a short arm cast for 3 to 4 weeks
- If the patient is minimally tender, there is evidence supporting treatment in a soft bandage only
- For questions regarding the best course of treatment, please call Orthopedics (Anschutz campus specific) at 720-777-3153.

FOLLOW-UP
- If patient was not casted and is pain-free with full range of motion after 4 to 5 weeks, the patient should follow-up on an as-needed basis
- If a cast has been placed, the patient should return to the provider that placed the cast in the timeframe recommended by the provider
TARGET POPULATION

Inclusion Criteria

- Patients with a compression fracture of the distal radius and/or ulna with buckling of one cortex (opposite cortex {tension side} intact with no measurable angulation)

Exclusion Criteria

- No compression fracture of the distal radius and/or ulna with buckling of one cortex

CLINICAL MANAGEMENT

Prevention of swelling and pain

- Ice
- Elevation
- Oral over-the-counter (OTC) pain medication
- Monitor effectiveness of pain control measures

TELEPHONE TRIAGE

- Fractures of the distal radius and/or ulna should be seen by the PCP or Orthopedic Clinic within 5 to 7 days to confirm fracture type and provide appropriate management
- Advise parent or caregiver to continue with ice, elevation and oral pain medications
- Provide parent or caregiver education regarding reasons to seek ED treatments, including neurovascular compromise and pain control

CLINICAL ASSESSMENT
• Assess for vascular injury and neurological deficit
• Assessment of pain using strategies appropriate to the age/development level of the patient
• Obtain true anterior/posterior (A/P) and lateral wrist or forearm radiographs, if not already available
• Assessment for other injuries

IMAGING

• Anterior/posterior (A/P) and lateral wrist or forearm radiographs, if not already available
• Evaluate for true buckle versus incomplete fracture
  o Buckling of one cortex with opposite cortex (tension side) intact
  o No measurable angulation present

THERAPEUTICS

• Pain control
  o Use OTC pain medications (ibuprofen or acetaminophen) as recommended by manufacturer’s labeling.

IMMOBILIZATION

• Placement of short volar or dorsal splint depending on location of fracture buckling for support and protection or placement of sugar tong splint if patient is in significant pain
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• For questions regarding the best course of treatment, please call Orthopedics (Anschutz campus specific) at 720-777-3153

PATIENT | CAREGIVER EDUCATION

The Patient/caregiver should be given instruction regarding:

• How to evaluate neurovascular status
• Appropriate pain control measures
• Return precautions
• Splint/cast care

Patient | Caregiver Education Materials

• Buckle Fracture

FOLLOW-UP

• If patient was not casted and is pain-free with full range of motion after 4 to 5 weeks, the patient should follow-up on an as-needed basis
• If a cast has been placed, the patient should return to the provider that placed the cast in the timeframe recommended by the provider
REFERENCES


Clinical pathways are intended for informational purposes only. They are current at the date of publication and are reviewed on a regular basis to align with the best available evidence. Some information and links may not be available to external viewers. External viewers are encouraged to consult other available sources if needed to confirm and supplement the content presented in the clinical pathways. Clinical pathways are not intended to take the place of a physician’s or other health care provider’s advice, and is not intended to diagnose, treat, cure or prevent any disease or other medical condition. The information should not be used in place of a visit, call, consultation or advice of a physician or other health care provider. Furthermore, the information is provided for use solely at your own risk. CHCO accepts no liability for the content, or for the consequences of any actions taken on the basis of the information provided. The information provided to you and the actions taken thereof are provided on an “as is” basis without any warranty of any kind, express or implied, from CHCO. CHCO declares no affiliation, sponsorship, nor any partnerships with any listed organization, or its respective directors, officers, employees, agents, contractors, affiliates, and representatives.

### CLINICAL IMPROVEMENT TEAM MEMBERS

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### APPROVED BY

Clinical Care Guideline and Measures Review Committee – Not formulated at time of approval
Medication Safety Committee – Not applicable
Antimicrobial Stewardship Committee – Not applicable
Pharmacy & Therapeutics Committee – Not applicable

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<tr>
<td>LAST DATE OF REVIEW OR REVISION</td>
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<td>COLORADO SPRINGS REVIEW BY</td>
<td>[Signature] Michael DiStefano, MD</td>
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<td>Chief Medical Officer, Colorado Springs</td>
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<td>APPROVED BY</td>
<td>[Signature] Daniel Hyman, MD, MMM, Chief Quality Officer, Children’s Hospital Colorado</td>
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### REVIEW/REVISION SCHEDULE

Scheduled for full review on February 8, 2020
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