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 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
  - Buckling of one cortex with opposite cortex (tension side) intact
  - No measurable angulation present

**THERAPEUTICS**

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

**IMMOBILIZATION**

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**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

**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


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