Distal Radius Buckle (Torus) Fracture
Emergency Department & Urgent Care

Center for Clinical Excellence

Inclusion Criteria:
Patients presenting to a UC or ED with radiology impression identifying isolated distal radius "buckle fracture"

Exclusion Criteria:
- Open fractures
- Concerns for neurovascular compromise

Diagnosis & Definition:
Incomplete fracture of the distal radius with the following criteria:
- Unicortical buckle deformity
- Incomplete cortical disruption
- No fracture lucency extending into the physis
- 2 inflection points
- > 1 cm from the physis
- < 10 degrees angulation

Patient presents to ED or Urgent Care with wrist pain

Obtain X-ray of Forearm

Radiology impression: *isolated* distal radius "buckle fracture" ?

No → **Off Pathway**
Follow NCH Ortho Card for general fracture management guidelines

Consider Non-accidental trauma (NAT) work-up and / or Child Assessment Team consult:
- Patients < 2 years of age with history not consistent with injury
- Other injuries concerning for NAT

Please see Non-Accidental Trauma pathway and order set

Yes

Well-fitting removable brace available?

Yes

Place in removable wrist brace

No routine orthopedic or primary care physician follow-up needed.

If pain persists 1 month after treatment, family to schedule orthopedic clinic appointment.

Use ED/UC Buckle Fracture Discharge Smart Set to provide family with appropriate discharge instructions and helping hand.

Families with questions can call Orthopedic Clinic.

Casting is not recommended for isolated distal radius buckle fractures

No

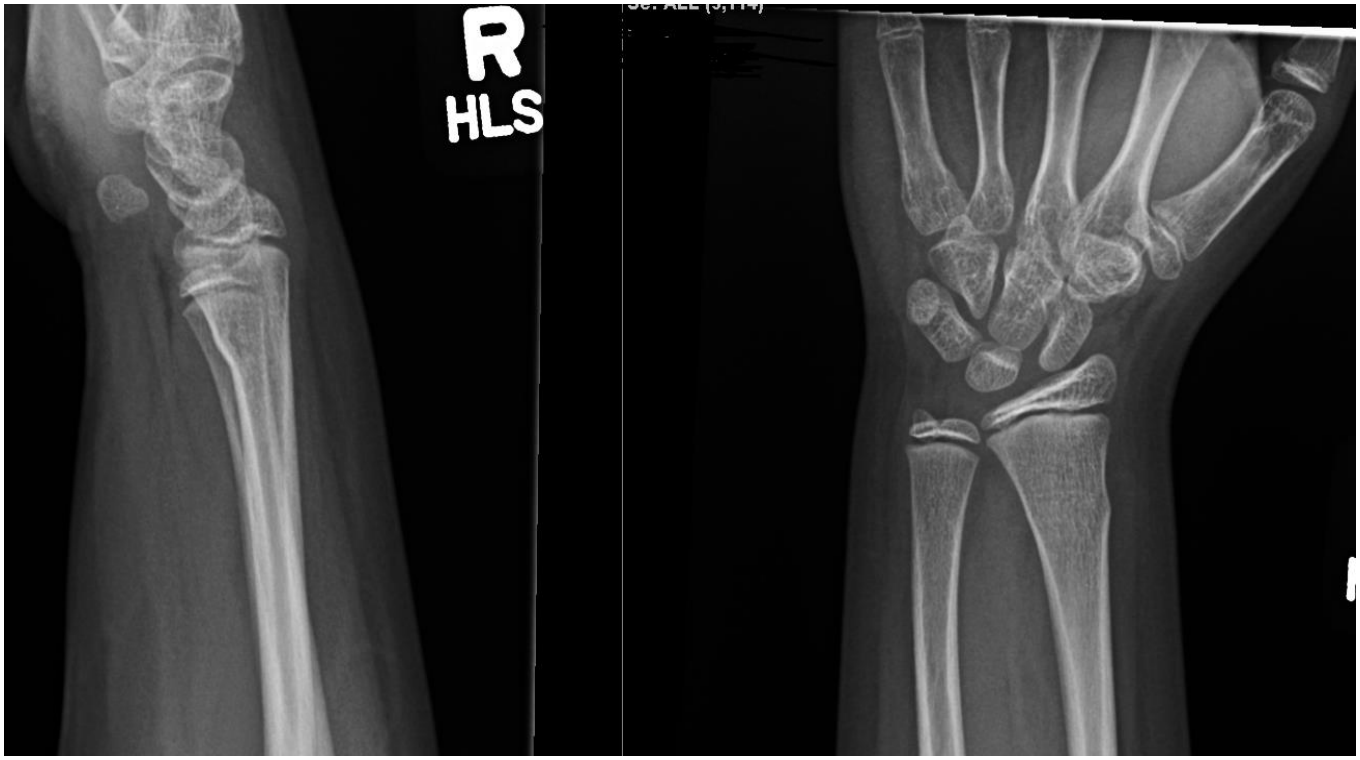
Place in volar short arm splint

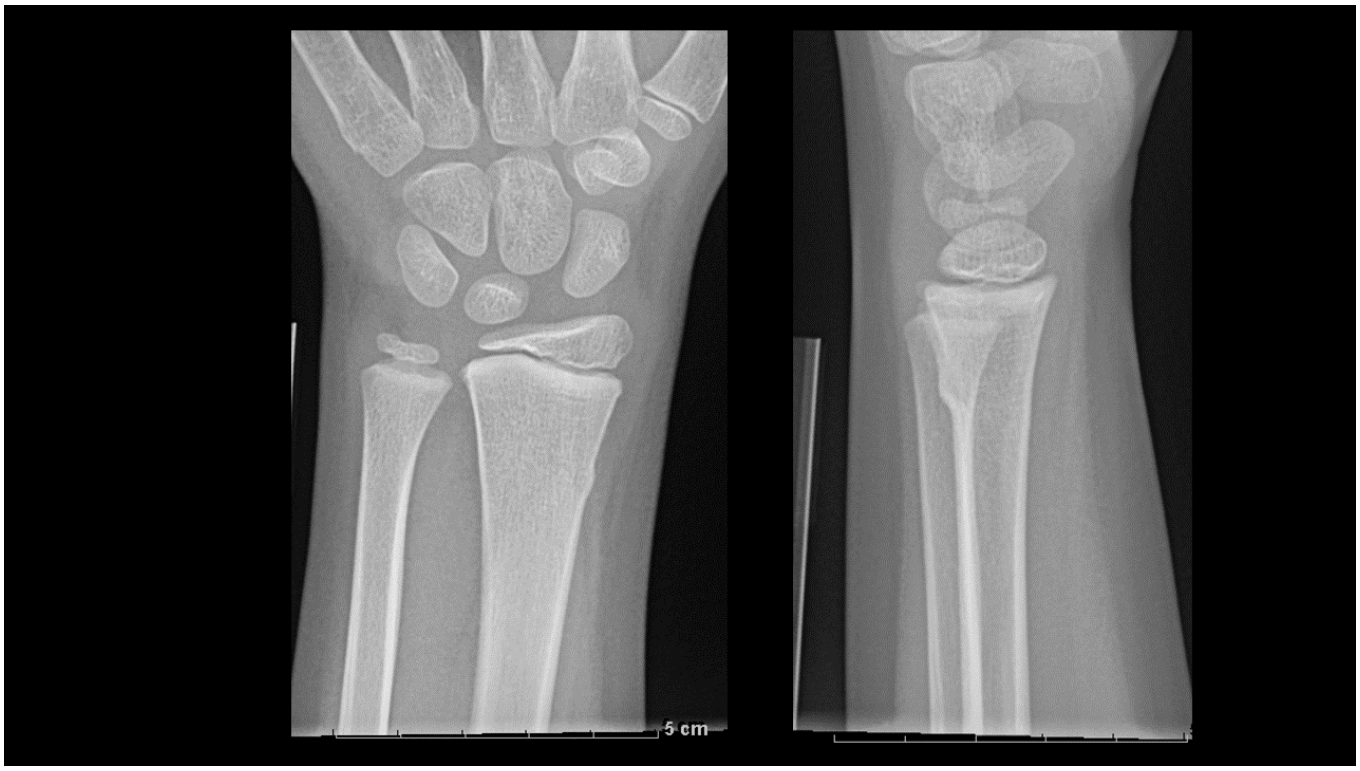
Patient/caregiver to call Orthopedic clinic to schedule follow-up for 7-10 days from splint placement to obtain removable wrist brace or cast *(if no appropriately sized brace)*

Use ED/UC Buckle Fracture Discharge Smart Set to provide family with appropriate discharge instructions and helping hand.

Families with questions can call Orthopedic Clinic.

Unicortical Buckle Deformity Examples





Return to Algorithm

Quality Measures

Goals:

- Reduce unnecessary routine orthopedic or primary care physician follow-up for isolated closed distal radius buckle fractures managed with a removable splint.
- Improve patient and family satisfaction with injury management by encouraging use of removable splints compared to volar arm splints

Process Measure:
ED/UC Smart Set utilization

Outcome Measure:
Percent of patients with an isolated closed distal radius buckle fracture managed with a removable splint and, of those, percent with recommended orthopedic or primary care physician clinic follow-up at time of initial injury

Balancing measure:
Percent of patients managed with a removable splint who required cast application within 3-6 weeks

Return to Algorithm

Pathway Team & Development

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Advisory Committee Date: *September, 2022*

Origination Date: *September, 2022*

Last Revision Date: *June, 2025*

Clinical Pathway Development

This clinical pathway was developed using the process described in the NCH Clinical Pathway Development Manual Version 6, 2022. Clinical Pathways at Nationwide Children's Hospital (NCH) are standards which provide general guidance to clinicians. Patient choice, clinician judgment, and other relevant factors in diagnosing and treating patients remain central to the selection of diagnostic tests and therapy. The ordering provider assumes all risks associates with care decisions. NCH assumes no responsibility for any adverse consequences, errors, or omissions that may arise from the use or reliance on these guidelines. NCH's clinical pathways are reviewed periodically for consistency with new evidence; however, new developments may not be represented, and NCH makes no guarantees, representations, or warranties with respect to the information provided in this clinical pathway.

For more information about our pathways and program please contact:
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Return to Algorithm

Key References

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Return to Algorithm