ORTHOPAEDICS

FOR PRIMARY HEALTH CARE

LION
LEARNING INNOVATION VIA ORTHOPAEDIC NETWORKS

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Distal radius fractures

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Learning objectives

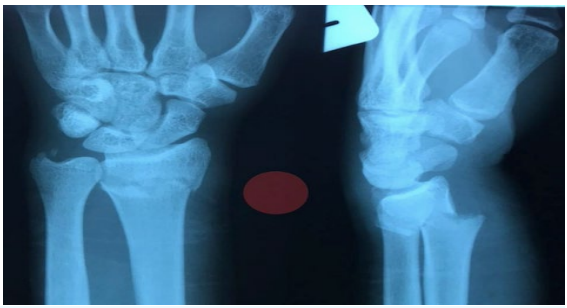
1. Understand radiologic measurements to describe a distal radius fracture.
2. Know the indications for surgical intervention.
3. Know the conservative treatment.

Introduction

Distal radius fractures follow a bimodal distribution. The low energy distal radius fracture affects older, often female, patients living with osteoporosis. The high energy distal radius fracture affects young individuals.

The clinical assessment follows the same principles of advanced musculoskeletal injury assessment.

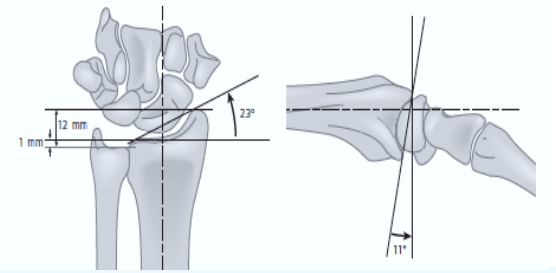
Low energy distal radius fracture



Colle's type fracture

Often an extra-articular fracture, displaying a consistent displacement pattern, including dorsal angulation, shortening, radial deviation, and radial tilt. This is the so-called Colle's fracture, and patients typically present with a 'dinner fork' deformity of the wrist. When the angulation is volar, it is called Smith's fracture.

The treatment is initially conservative. A closed reduction to reverse the deformity must be conducted, and a well moulded below-elbow plaster applied.



Normal anatomical measurements used to judge whether or not a reduction is acceptable

The radiographic criteria for an acceptable reduction of a distal radius fracture are:

- Radial length of more than 5mm.
- Radial inclination angle of more than 15o.
- Sagittal articular tilt of less than 7o dorsal tilt.

Patients are reviewed fortnightly for a fracture position check. The cast should be removed after six weeks and followed by physiotherapy.

High energy distal radius fracture

These fractures are often intra-articular and comminuted. They may present with soft tissue compromises such as open wounds or blisters.

After an initial assessment, a closed reduction should be attempted to alleviate soft tissue pressure from displaced fragments. Fractures that fail conservative treatment as per the criteria above and open fractures must be referred for surgery.

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ABOUT THE BOOK

Informed by experts: Most patients with orthopaedic pathology in low to middle-income countries are treated by non-specialists. This book was based on a modified Delphi consensus study* with experts from Africa, Europe, and North America to provide guidance to these health care workers. Knowledge topics, skills, and cases concerning orthopaedic trauma and infection were prioritised. Acute primary care for fractures and dislocations ranked high.

Furthermore, the diagnosis and the treatment of conditions not requiring specialist referral were prioritised.

* Held et al. Topics, Skills, and Cases for an Undergraduate Musculoskeletal Curriculum in Southern Africa: A Consensus from Local and International Experts. JBJS. 2020 Feb 5;102(3):e10.

THE LION

The Learning Innovation via Orthopaedic Network (LION) aims to improve learning and teaching in orthopaedics in Southern Africa and around the world. These authors have contributed the individual chapters and are mostly orthopaedic surgeons and trainees in Southern Africa who have experience with local orthopaedic pathology and treatment modalities but also in medical education of undergraduate students and primary care physicians. To centre this book around our students, iterative rounds of revising and updating the individual chapters are ongoing, to eliminate expert blind spots and create transformation of knowledge.

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The information in this book is meant to supplement, not replace, Orthopaedic primary care training. The authors, editor and publisher advise readers to take full responsibility for their safety and know their limits. Before practicing the skills described in this book, be sure that your equipment is well maintained, and do not take risks beyond your level of experience, aptitude, training, and comfort level.

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