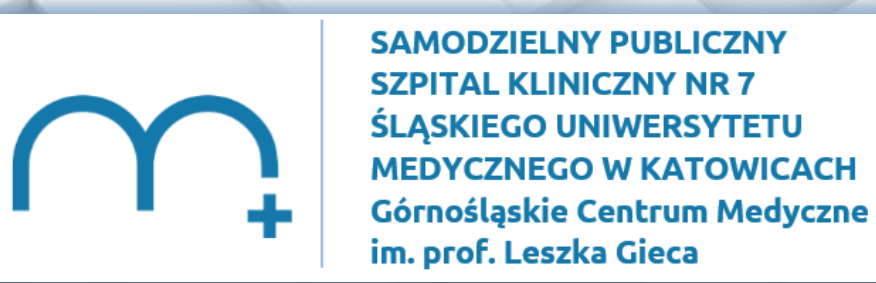


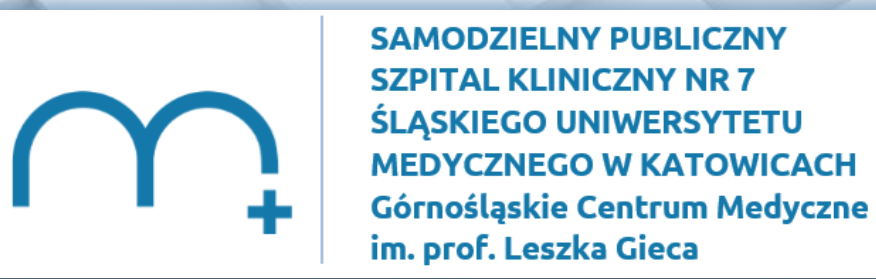
Złamania trzonu kości ramiennej – kiedy nie operować?

Jakub Kamiński, Damian Kusz



Humeral shaft fractures – when not to operate?

Jakub Kamiński, Damian Kusz



Humeral shaft fx – general considerations

- Incidence 3-5%

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- Bimodal age distribution
- Good soft tissue envelope

Humeral shaft fx – conservative treatment

- 33-90% of humeral shaft fractures are reported to be treated conservatively

Humeral shaft fx – conservative treatment

- 33-90% of humeral shaft fractures are reported to be treated conservatively
- Union rate 90%

Humeral shaft fx – why not to operate?

- Patient not fit for surgery

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- Extreme osteoporosis

Humeral shaft fx – why not to operate?

- Patient not fit for surgery
- Extreme osteoporosis
- Consider possible complications (nonunion, iatrogenic radial nerve palsy, shoulder pain and limited shoulder ROM, decreased elbow ROM, complications related to anaesthesia)

Humeral shaft fx – alignment criteria for conservative treatment

- $<30^\circ$ varus/valgus angulation

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- $<30^\circ$ varus/valgus angulation
- $<20^\circ$ anterior angulation

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- $< 3\text{cm}$ shortening

Humeral shaft fx – alignment criteria for conservative treatment

- $<30^\circ$ varus/valgus angulation
- $<20^\circ$ anterior angulation
- $< 3\text{cm}$ shortening
- Radial nerve palsy is NOT a contraindication for conservative treatment

Humeral shaft fx –conservative treatment

- Coaptation splint (U-cast) and functional bracing

Humeral shaft fx – absolute indications for operative treatment

- Open fracture

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- Vascular injury requiring repair

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- Brachial plexus injury

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- Ipsilateral forearm fracture (floating elbow)

Humeral shaft fx – absolute indications for operative treatment

- Open fracture
- Vascular injury requiring repair
- Brachial plexus injury
- Ipsilateral forearm fracture (floating elbow)
- Compartment syndrome

Humeral shaft fx – relative indications for operative treatment

- Bilateral humerus fracture

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- Polytrauma or associated lower extremity fx (early weight bearing)

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- Pathologic fractures

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- Burns or soft tissue injury that precludes bracing

Humeral shaft fx – relative indications for operative treatment

- Bilateral humerus fracture
- Polytrauma or associated lower extremity fx (early weight bearing)
- Pathologic fractures
- Burns or soft tissue injury that precludes bracing
- Fracture characteristics:
 - distraction at fracture site
 - short oblique or transverse fracture pattern
 - segmental fracture

Humeral shaft fx –operative treatment

- ORIF with plating (compression plate, bridge plating, neutralization plating)

Humeral shaft fx –operative treatment

- ORIF with plating (compression plate, bridge plating, neutralization plating)
- Intramedullary nailing (antegrade IMN, retrograde IMN)

Humeral shaft fx –operative treatment

- ORIF with plating (compression plate, bridge plating, neutralization plating)
- Intramedullary nailing (antegrade IMN, retrograde IMN)
- External Fixator

Humeral shaft fx – the take-home message

- Conservative treatment of humeral shaft fx is recommended for majority of patients
- Only some fx will require surgical treatment
- Radial nerve palsy is NOT a contraindication for conservative treatment



Thank you.