Guideline: Rib Fracture Guideline, Adult, Inpatient/Outpatient

Updated: September 30, 2021

Clinical algorithm:

- Any patient with acute rib fractures < 24 hours old or injury > 24 hours old and symptomatic
  - ≥ 65y with > 2 rib fractures or any patients with one or more of the following:
    - IS < 1000mL or <15ml/kg
    - ≥ 3 on FRAIL Screen
    - O2 requirement ≥ 4L per NC
    - Flail segment (≥3 ribs in >2 places)
    - Lung parenchymal injury
    - O2 dependent COPD, restrictive lung disease
  - < 65y with > 3 rib fractures or any patient with one or more of the following:
    - IS > 1000 - 1500mL or >15ml/kg
    - Other injuries limiting mobilization

- ≥ 65y with > 2 rib fractures or any patients with one or more of the following:
  - IS > 1500mL
  - No new O2 requirements
  - ≤ 2 stable rib fractures

- ICU Admit
  - Respiratory: Incentive Spirometry q1hr
    - RT intervention q4hr: EZPap, Acapella, or IPV as appropriate
    - PRN PVC & NIF
    - Nebulizer PRN
    - Early mobilization, PT/OT consults
    - CXR daily and PRN

- GMB Admit
  - Respiratory: Incentive Spirometry q1hr
    - RT intervention q4hr: EZPap, Acapella, or IPV as appropriate
    - PRN PVC & NIF
    - Nebulizer PRN
    - Early mobilization, PT/OT consults
    - CXR at 24hrs, PRN, & prior to discharge

- Respiratory: IS q1hr
  - Nebulizers PRN
  - CXR 24hr after admission and PRN

- Pain Control-Low Risk Regimen
  - Scheduled acetaminophen
  - Scheduled NSAIDS unless contraindicated
  - Scheduled Gabapentin
  - PRN narcotics
  - PRN antispasmodic (Preference of Geriatric Service)

- Pain Control-Moderate Risk Regimen
  - Low Risk Regimen (make antispasmodic scheduled)
    - IV Narcotics/PCA
    - APS consult

- Pain Control-High Risk Regimen
  - Moderate Risk Regimen
    - Consider Ketamine drip

- Discharge Criteria
  - Clinically stable for > 24 hours
  - No new oxygen requirement

- Discharge
  - Clinical stability for > 24 hours
  - No new oxygen requirement

- Observation
  - Clinical stability for > 24 hours
  - No new oxygen requirement

Follow up within 7-14 days for the following:
- Three or more rib fractures months, six months
- All rib plating patients
- Pneumothorax/Hemothorax

Follow Up Requirements
- Must have CXR ordered for follow up.
- Rib plating patients to follow at two weeks, three

"FRAIL" Questionnaire Screening Tool
- Fatigue: Are you fatigued?
- Resistance: Cannot walk up 1 flight of stairs?
- Aerobic: Cannot walk 1 block?
- Illnesses: Do you have more than 5 illnesses?
- Loss of weight: Have you unintentionally lost >5% your weight in last 6 months?
- Scoring: Frail ≥ 3 / Pre-Frail: 1 or 2

Plating (Need 3D CT reconstruction with and without scapula)
- Flail chest
- Multiple, severe (bicortical) displaced fractures
- Early failure of no-op management (inadequate pain relief, unable to wean from vent)
- IS <750

*Review BEERS criteria for patients ≥ 65 years
Hold anticoagulation if supratherapeutic or anticipating potential anesthesia intervention or surgical fixation

See Treatment and Management for further follow-up requirements.
Clinical guideline summary

CLINICAL GUIDELINE NAME: Rib Fracture Adult Inpatient/Outpatient

PATIENT POPULATION AND DIAGNOSIS: Patients >18 years old with acute rib fractures <24 hours old or injury >24 hours old and symptomatic

APPLICABLE TO: All Spectrum Health Sites

BRIEF DESCRIPTION: The guideline is intended to summarize the approach to treatment for adult patients with rib fractures. Based on the guideline the patient will be admitted to the optimal location, will be provided multi modal pain control, and aggressive pulmonary hygiene in order to help prevent pneumonia, decrease ICU as well as hospital days.

OVERSIGHT TEAM LEADER(S): Patricia Pentiak

OWNING EXPERT IMPROVEMENT TEAM (EIT): Trauma

MANAGING CLINICAL PRACTICE COUNCIL (CPC): Acute Health CPC

CPC APPROVAL DATE: July 2021

OTHER TEAM(S) IMPACTED: Pharmacy, Radiology, Respiratory

IMPLEMENTATION DATE: n/a

LAST REVISED: September 30, 2021

FOR MORE INFORMATION, CONTACT: Patricia Pentiak
Clinical pathways clinical approach

Treatment and Management

Traumatic Rib Fracture
Clinic Follow-Up Algorithm

Where was the patient cared for?

Inpatient

=> 3 Rib Fractures
Hemothorax
Pneumothorax
Chest tube
Rib Fixation*

Urgent Care

Urgent care provider unclear if patient should be seen in ED or if follow-up needed

Urgent Care provider to PerfectServe**
Trauma surgeon for phone consultation, review of imaging,
& recommendation

**Include MRN, Name in PS

F/U 10 - 14 d after discharge with CXR in office

Pain resolved?
No respiratory issues?
NO further follow-up needed

Does the patient continue to have chronic pain?

221 Office support to provide referral to appropriate expert.

Rib plating trauma expert will review case & determine if additional imaging needed

Clinic evaluation if non-union present. Otherwise can be managed by PCP and/or pain physician

*ORIF F/U 2 weeks, 3 & 6 months

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References:


Letters to the Editors. (n.d.). https://doi.org/10.1016/j.surg.2017.03.007


