Rib Fracture Guidelines

Barts Health NHS
NHS Trust
Emergency Department RLH

Emergency Department guidance on how to manage traumatic adult rib fractures
Demographics:10-55% of blunt thoracic trauma, increased incidence of multiple #s and complications with age1
Complications: Pneumothorax (14-37%), haemothorax (20-27%), pulmonary contusions (17%) and flail chest (6%)1

[1] Assessment, Resuscitation and Analgesia

A-E assessment
Titrated oxygen
Calculate and document pain score (1-10)
- at rest and deep breathing

Prescribe analgesia:
- Paracetamol 1g IV
- Morphine 1-10mg IV (titrated), repeat until pain score <4
- Ondansetron 4mg IV

Score <10 Discharge with TTA Analgesia
Give advice sheet

If pain not controlled consider admission to CDU

[2] Calculate and document STUMBL Risk Score2 – add for total risk score

	Predictor Points
Chronic Lung Disease (COPD/productive chest disease)	Yes – 5 No – 0
Anticoagulation pre-injury	Yes – 4 No – 0
Number of ribs fractured	3 points per rib 6 points per flail
Oxygen saturations on Room Air at initial assessment	<94% = 2 <89% = 4 <85% = 6 <80% = 8 <75% = 10
Age	1 point per complete decade

Consider Critical Care review if any of:

High frailty index + for active management

Multiple other injuries

STUMBL >10 with evidence of lung contusion/flail chest/poorly controlled pain

SpO2 <92% or pO2 <10kPa on FiO2 >0.4

Escalation according to local policy if NEWS2>5 or deteriorating

Target SpO2
>94 %
or 88-92% in COPD

Consider ventilation needs

Increasing STUMBL score may require support

Score 11-15	Score 16-20	Score 21-25	Score 26-30	Score 31+

Score 11-25: Admit locally to a ward with appropriately trained nursing staff. Maintain a low threshold for Critical Care review and/or MTC referral via *referapatient* if polytrauma.

Score 26-31+: Complete a *referapatient* referral to the MTC for advice and possible transfer if deemed appropriate.

Serratus Anterior Block

Consider in all rib fractures being admitted, particular anterolateral fractures

Monitor post block every 15 minutes for first 30 minutes

Contact anaesthetics even if no block administered in ED for ALL patients on : ______________________________

Suggested Admission Drug Chart (substitute drugs according to local policy)

Regular
Paracetamol 1g QDS
Ibuprofen 400mg TDS (if not contraindicated)
Lansoprazole 30mg OD
Senna 15mg ON
Movicol 1 – 2 sachets BD

PRN
Ondansetron 4mg IV QDS
Cyclizine 50mg IV TDS

Inhixa 40mg OD (unless contraindicated) / TED Stockings
If STUMBL score >10

Patient Controlled Analgesia

PCA Morphine initially 1mg/5mins

OR

PCA Fentanyl
10-30mcg/3mins if morphine contraindicated
(e.g. renal impairment)

If not on PCA

+ normal renal function
+ age <65:
Tramadol 50-100mg QDS +
Oramorph 5-20mg 2-4 hourly

OR

+ renal impairment
+/- age >65:
Dihydrocodeine/codeine 30-60mg QDS +
Oxynorm 2.5-5mg 2-4 hourly

Adapted with kind permission from The Royal London Emergency Department Rib Fracture Guidance

References
1. BMJ Best Practice Rib Fractures 2019 https://bestpractice.bmj.com/topics/en-gb/1009/management-approach
2. Battle et al, Predicting outcomes after blunt chest wall trauma: development and external validation of a new prognostic model. Critical Care 2014