Greater Manchester Major Trauma Network

NHS

GM Chest Injury Pathway

Clinical Course

Thorough assessment and aggressive, early management should help to reduce the mortality and morbidity of these patients.

Important Interventions

Administration of timely tranexamic acid (TXA) and reversal of anticoagulants in appropriate cases.

Identification and management of all other injuries using timely and appropriate diagnostics.

Effective early analgesia – both PRN and regular analgesia are optimal. Analgesia requirements should be stratified according to severity of pain. The *'Chest Injury Pathway – Analgesia'* document provides some guidance on this; local policy should be followed. Effect of medications should be regularly measured, and consideration should be given to preventing delirium and constipation in vulnerable groups.

For the purpose of this document:

- *'Non-invasive analgesia'* refers to simple analgesia, various methods of opiate administration (PO/SC/IM/IV) and the utilisation of patient-controlled analgesia (PCA).
- *'Invasive analgesia'* refers to intervention likely to be delivered within a Critical Care setting such as Serratus Anterior (SA) blocks or Paravertebral/Epidural blocks.

P/F (Pa02/Fi02) ratio refers to arterial blood gas measurement and reflects how well the lungs absorb oxygen from expired air. P/F ratio less than 27 (kPa) is a reasonable descriptor of significantly poor oxygenation.

Chest fixation is an urgent, but not emergency procedure following clinical and radiological assessment. Rib fixation candidates will not be for immediate transfer and should be discussed within the agreed operational timeframe. It is anticipated the majority of cases will be referrals from the critical care environment. However operative management may be considered for ward patients.

Manchester Royal Infirmary offer video-assisted thoracoscopic surgery (VATS) for patients with haemothoraces that have not adequately drained with a large bore chest drain. Patients should be discussed during operational hours with the Major Trauma Consultant on **0161 701 4451**

Process

- All Sites have the capability to admit to a critical care setting for enhanced interventions.
- The local acute pain service should be contacted regarding specific management of pain issues.
- MTC Chest Injury services are available for clinical management advice/discussion during the operational hours stated below.
- Consider other injuries, locality, and social issues.
- Chest injury patients (if deemed suitable for rib fixation) are not *'immediate transfer to MTC'* patients.
- All transfers should be planned.
- It is anticipated that in the case of isolated chest injury only those patients who require surgical fixation will be transferred through the pathway as all other interventions should be delivered and escalated locally prior to discussion. There will be exceptions to this, and these should be discussed during operational hours.
- Contact with SRH is via a MT Consultant of the day (MTCOD).
- Contact with MRI is via the Major Trauma Consultant.

Contact Details

SRH – (0161) 206 7138
9am - 4pm Monday – Sunday

MRI - (0161) 701 4451
9am – 4pm Monday – Sunday

A suitable time should be agreed between both the sending and receiving sites and arrangements made for local admission to manage prior to transfer.

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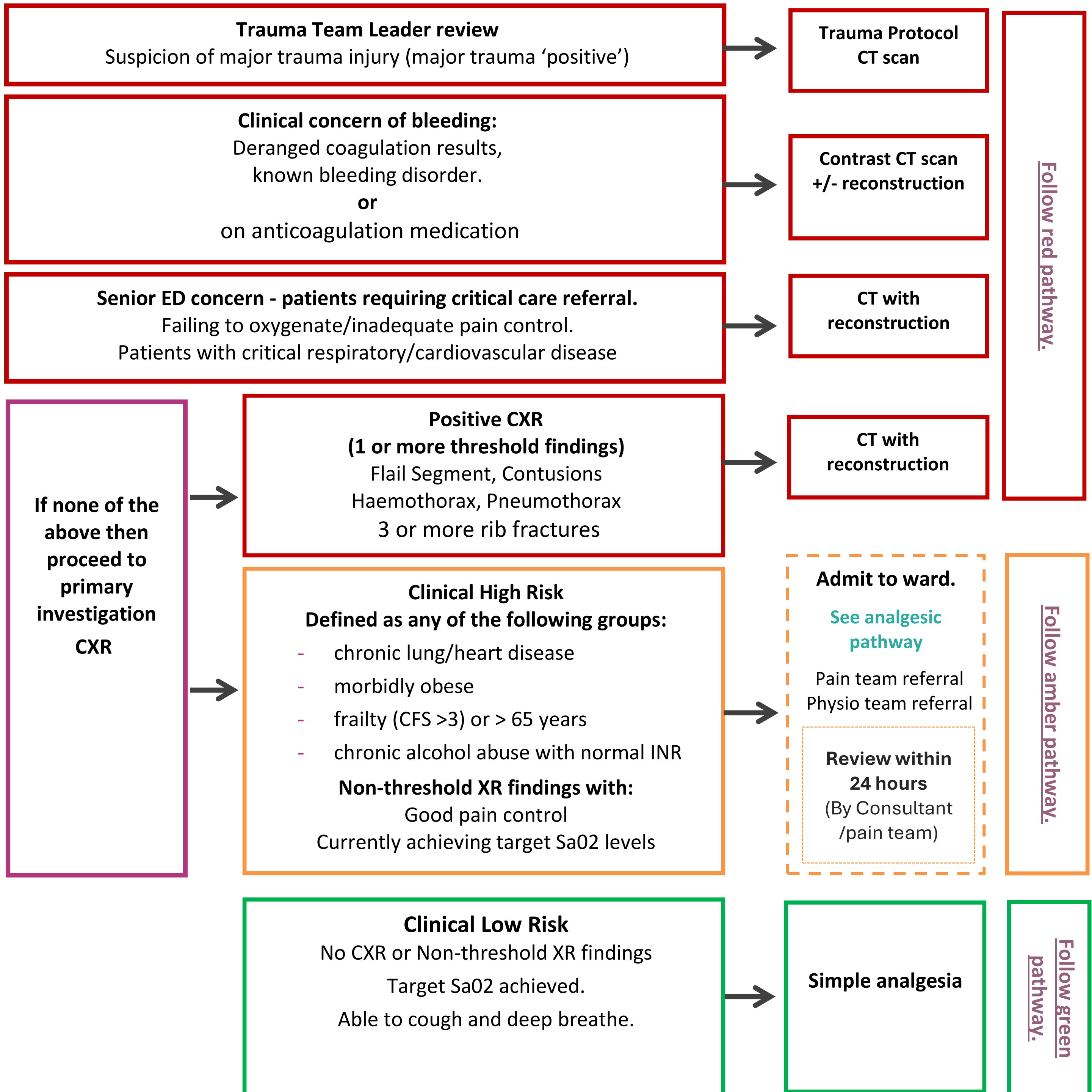
Chest Injury Pathway – Stratification Process



Non-MTC sites: Positive radiological findings for **MAJOR trauma** should be discussed with MTC TTL

MRI: 0161 276 4012 **SRH: 0161 206 2226**

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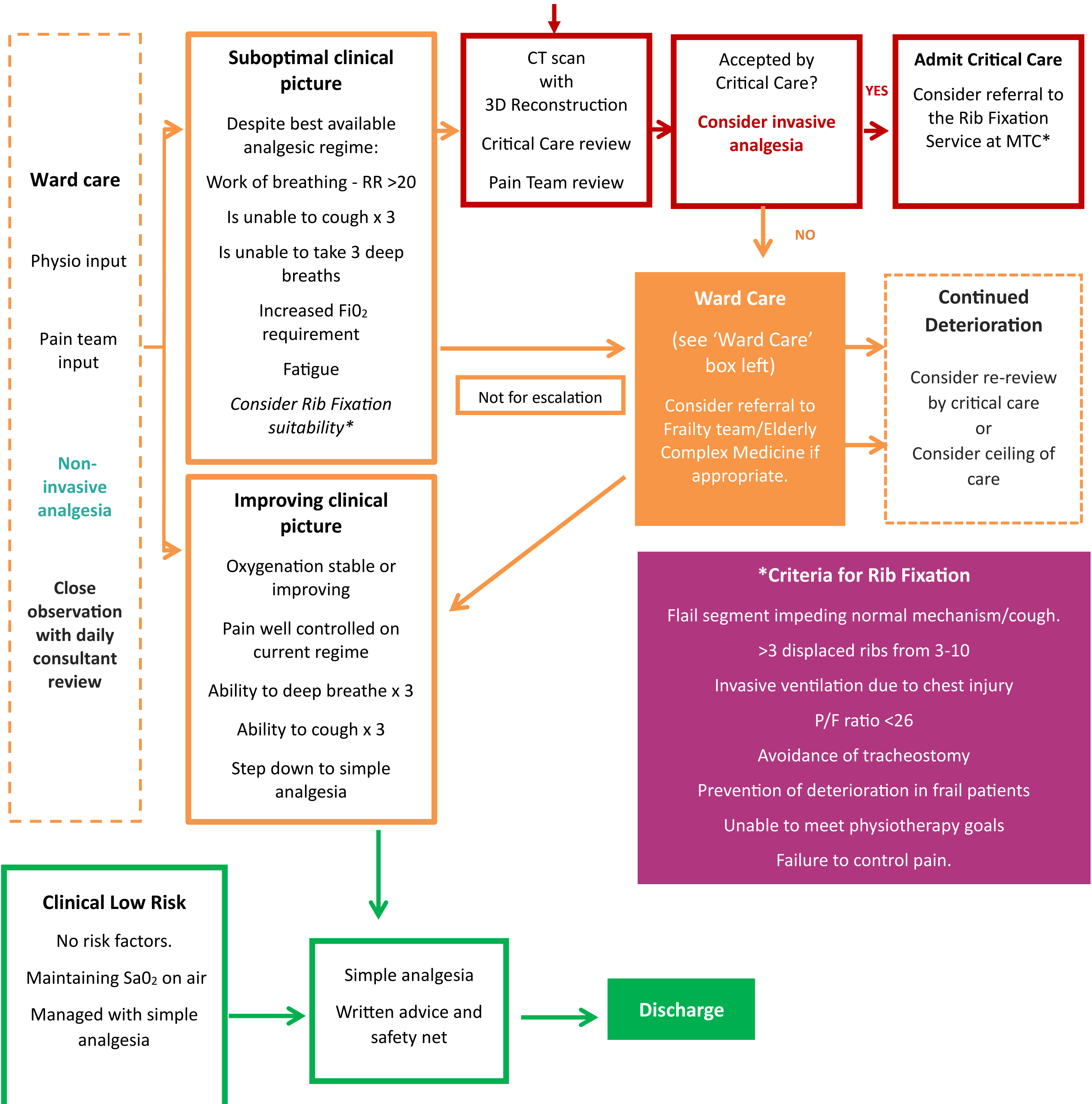
Chest Injury Pathway – Treatment



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Chest Injury Pathway – Analgesia

Non-invasive analgesia

Simple Analgesia

Consider hydration, laxatives, and prevention of delirium in vulnerable groups

Opiates

With regular simple analgesia

PO/IV/IM/SC routes

Consider hydration, laxatives, and prevention of delirium in vulnerable groups.

Patient Controlled Analgesia (PCA)

With regular simple analgesia

Consider hydration, laxatives, and prevention of delirium in vulnerable groups.

Invasive analgesia options

Intercostal/Serratus Anterior blocks*

Consider environment – Critical Care review.

Paravertebral/Epidural blocks*

Consider environment – Critical Care review.

*Refer to local policy