Peninsula Trauma Network	Peninsula Trauma Network
Clinical Guideline	
Title: Chest Wall Injury	
Related documents	None
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1. INTRODUCTION

1.1 The Major Trauma Measures set out by National Peer Review Programme require the peninsula Trauma Network to have a clinical policy that ensures all patients who present to any unit in the network have appropriate management of their chest wall injuries.

1.2 It is the purpose of this policy to ensure that patients with a chest wall injury are rapidly identified, are cared for in an appropriate environment and receive early appropriate analgesia and rehabilitation.

1.3 Each unit within the network will have a unique configuration of the chest wall injury pathway reflecting their organisational and staffing structures.

1.4 The purpose of this policy is to unite the chest wall injury policies from each unit and to ensure each policy addresses all salient aspects of patient care

2. TO WHOM THIS POLICY APPLIES

2.1 This policy will relate to **all** patients within the Peninsula Trauma Network area following a traumatic injury to the chest wall, significant to warrant admission for analgesia, observation, rehabilitation and / or operative or non-operative intervention.

3. PRINCIPLES

3.1 Patients with a chest wall injury should be rapidly identified, regardless of their mode of presentation to the unit. The early and liberal use of CT according to Trauma Imaging protocols will facilitate this.

3.2 Polytrauma patients will be transferred to the MTC according to the secondary transfer policy. Patients who can safely remain in a trauma unit will be admitted to a designated ward where the nursing and rehabilitation staff are trained in the management of epidurals and PCAs.

3.3 A scoring system, or equivalent, should be used to identify what level of care e.g. ITU / HDU / designated ward, each patient requires.

3.4 Patients with a chest wall injury will be assessed by a pain management / anaesthetic team and assessed for their suitability for epidural / paravertebral anaesthesia and/or PCA analgesia.

3.5 Patients with a chest wall injury will be seen by a physiotherapist within 24 hours and a rehabilitation prescription will be initiated within 72 hours of admission.

3.6 The final responsibility for the implementation of this policy lies with the on-call Trauma Consultant who accepts the patient.

4. GOVERNANCE

4.1 Audit - Compliance with the chest wall policy should form part of the audit programme of the unit.

4.2 Example Guideline - See appendix 1 for an example guideline.

Appendix 1

Document Control Report

Title **Adult Chest Wall Injury Admission Pathway**				
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Contents

1 Introduction 5
2 Purpose 5
3 Scope 5
4 Definition ..... **Error! Bookmark not defined.**
5 Aim - pain managent……4
6 Background……5
7 Imaging ……..5
8 Transfer of patients for CT scan……5
9 Discussion with major trauma centre - automatic acceptan……5
10 Transfer of patients to Derriford Hsopital 6
11 Admission of patients 6
12 Trauma Nurse Coordinator 7
13 Tertiary survey 7
14 Observation 7
15 Constipation 8
16 Senior medical review 8
17 Rehabilitation 8
18 Discharge 8
Appendix 1 Admission flow chart 9

1 Introduction

This is a pathway designed to stream line the admission pathway for adult patients who present to North Devon District Hospital with a chest wall injury.

2 Purpose

Clinical Pathways aim to improve the quality, continuity and co-ordination of care for the patient across different disciplines and sectors.

This pathway has been written to:

- To ensure that patients within NDDH sustaining a chest wall injury receive the correct care in the correct timeframe.
- Improve the quality, continuity and coordination of care for the patient by a multidisciplinary team and reduce the risks associated with poor chest wall injury care.

3 Scope

This pathway relates to the following staff who may be involved in the assessment and delivery of chest wall injury care:

- Medical staff
- Registered nurses
- Support workers

4 Definitions

For the purposes of this guideline, chest wall is defined as any trauma to the thorax resulting in multiple fractures serious enough to warrant admission to hospital.

It does not apply to those patients with minor chest wall injury or those with one fracture and minimal pain who can be managed in the community on conventional analgesia

5 Aim – pain management

To minimise morbidity and mortality secondary to chesty wall injury by ensuring that patients within NDDH with a significant chest wall injury are managed pro-actively by the pain team with high quality care in an appropriate time frame.

Conventional analgesia has low utility in the management of serious chest wall injuries. The early liberal use of paravertebral blocks or thoracic epidurals has been shown to significantly reduce morbidity and mortality.

6 Background

Although most patients with chest wall trauma present via the Emergency Department (ED) with a clear history of trauma, many patients with serious chest wall injuries are frequently not diagnosed at the time of initial presentation. These patients are frequently frail elderly who may present via the medical take after an episode of collapse and the diagnosis of chest wall injury can be delayed by which time complications such as hypoxaemia and pneumonia are already established.

Early identification and management with paravertebral block, thoracic epidurals and PCA will provide a better patient journey, reduce morbidity and mortality. Length of stay may not necessarily be reduced but in this patient cohort, early discharge on conventional analgesia is inappropriate.

7 Imaging

All patients with suspected chest wall trauma will have a CXR as a minimum. There should be a low threshold for CT thorax and special attention should be paid to patients with:

- An increased likelihood of bleeding e.g. on anticoagulants, known bleeding tendency, haemopoetic disorder
- Multiple co-morbidities
- Patients in whom clinical examination may have low utility in determining injuries e.g. elderly, low or altered GCS
- Mechanism of injury associated with a high probability of injury

The threshold for Pan CT should be low, or modified Pan CT, should be low if there is any suspicion of other injuries, especially intra-abdominal injury.

8 Transfer of patients for CT scan

The 'Safe Transfer of Patients' policy should be adhered to: MT SOP 7 Transfer to CT (ED guidelines on BOB)

http://ndht.ndevon.swest.nhs.uk/?page_id=8516

Use of the vacuum mattress is recommended for patients with a suspected spinal injury.

9 Discussion with Major Trauma Centre – automatic acceptance

Any patient who has multiple injuries, especially with an injury severity score (ISS) known or suspected to be >16, should be considered for transfer to the Major Trauma Centre (MTC) at Derriford. Contact the Major Trauma Consultant on **01752 245066** for advice. Any patient whose injuries cannot be managed at NDDH will be automatically accepted for transfer to the MTC.

10 Transfer of Patients to Derriford Hospital

The 'Inter- hospital transfer ' policy should be adhered to: MT SOP 8 Inter-hospital transfer (ED guidelines on BOB)

http://ndht.ndevon.swest.nhs.uk/?page_id=8516

Patients requiring time-critical transfer from a ward (except the critical care unit) should be taken to ED. The ED is set-up to facilitate time-critical transfers.

11 Admission of patients

Admit any patient with significant chest wall trauma with one or more of the following features:

- Frailty and /or social isolation
- Significant co-morbidities especially underlying pulmonary disease
- Pain not controlled with conventional analgesia
- Clinical evidence respiratory compromise
- Radiographical evidence of flail chest
- Multiple injuries
- Other condition requiring admission

Patients with isolated chest wall injury or chest wall injury with or without other surgical injuries should be admitted to the general surgical ward, under the care of the general surgeons and cared for by teams (anaesthetists, pain team, doctors and nurses and also physiotherapists, OTs) specifically trained in the care of chest wall injury, pain management and management of epidurals. However, sometimes a patient has another problem which takes precedence and requires their admission to an area without this specific expertise.

All patients admitted following chest wall injury should be referred to a respiratory Physiotherapist for assessment once they have received appropriate analgesia. During normal working hours contact the Physiotherapy team on Bleep 089, after hours the Doctor admitting the patient should record in the notes that physiotherapy assessment is indicated and call in the ON-call Physiotherapist via switchboard.

Medical wards

Chest wall trauma is not a medical problem. However, patients who initially present with significant frailty issues or other cause of collapse are usually admitted to MAU and /or transferred to Alex or other medical ward. The chest wall injury may only be diagnosed after to admission to MAU or Alex.

If appropriate these patients should be then transferred to a general surgical ward, unless other co-morbidities, such as a significant medical cause for the initial collapse, make it more appropriate for them to remain in a medical setting.

Critical Care

More than one type of serious injury (e.g. significant head injury and long bone fracture as well as chest wall injury) indicates the need for Critical Care Unit admission. The physiological instability of these patients places them at high risk of deterioration.

Multiple Injuries

Patients with multiple injuries are best cared for by the team trained to deal with their most severe and urgent problem. Patients with an associated fracture neck of femur will remain on an orthopaedic ward.

The need for transfer to the Major Trauma Centre (MTC) and discussion with the MTC co-ordinator should be considered in all patients with multiple injuries.

Glossop

Whilst most patients with underlying respiratory co-morbidities and chest wall injury will be managed as above, those with severe and/or complicated underlying respiratory disease may need to be transferred to Glossop. This will be on a case by case basis only after discussion with the respiratory consultants.

12 Trauma nurse co-ordinator

The trauma nurse co-ordinator (TNC) must be informed of all patients admitted for with a chest wall injury. The TNC should ensure the pain team and/or anaesthetic team on-call OOH is notified.

If the TBC is not available, then in hours the pain team should be contacted directly. Of hours the bleep 504 ITU SHO should be notified.

13 Tertiary survey

All patients admitted with a chest wall injury must have the need for a tertiary survey determined at the first post admission ward round. The consultant in charge of their care should determine who should perform the tertiary survey and refer accordingly.

14 Observation

Pain scores must be recorded 2-4 hourly.

The frequency of observations should be according to the 'Patient at Risk' policy. For patients on epidurals, paravertebral blocks and PCAs, the observation regime is detailed on the epidural and PCA prescription charts.

- Hourly then four hourly as appropriate
- As according to 'Patient at Risk' policy

15 Constipation

Constipation is a common consequence of chest wall injury. Enquire about bowel habits and ensure appropriate laxatives are prescribed if indicated.

16 Senior medical review

An EWS of 6 or above should mandate senior medical review according to the 'Patient at Risk' policy.

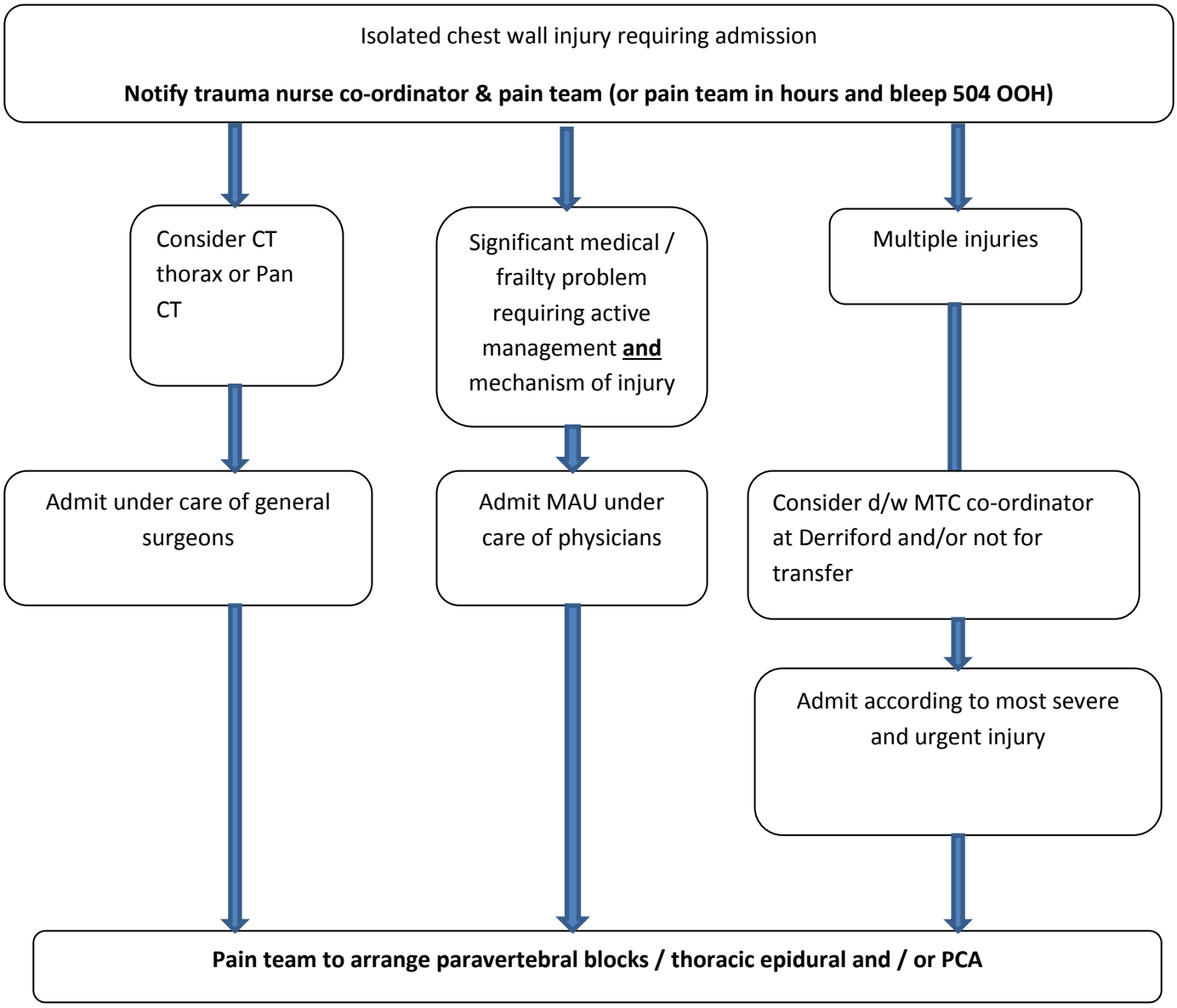
17 Rehabilitation

The in-patient physiotherapists will refer appropriately to Occupational therapy , Out-patient physiotherapy or the appropriate Community team if on-going rehabilitation is required on discharge from hospital.

18 Discharge

Patients need to have been seen to be stable and managing on oral analgesia for 24hrs before discharge. If a patient has been dependent on a nerve block then it must have entirely worn off before they go. It should be expected that a patient will have approximately 10 days in hospital for appropriate management.

Appendix 1. Admission flow chart



- Observations – according to the Trust 'Patient at Risk policy and epidural / PCA prescription charts
- Refer all admitted Patients to Respiratory Physiotherapy-Bleep 089 during normal working hours. Out of hours contact the On-call Physiotherapist through switchboard
- Discharge planning – Pain free on oral analgesia and nerve block completely worn off