

# Chest wall injuries

(Rib fractures, sternum fractures  
and chest wall bruising)

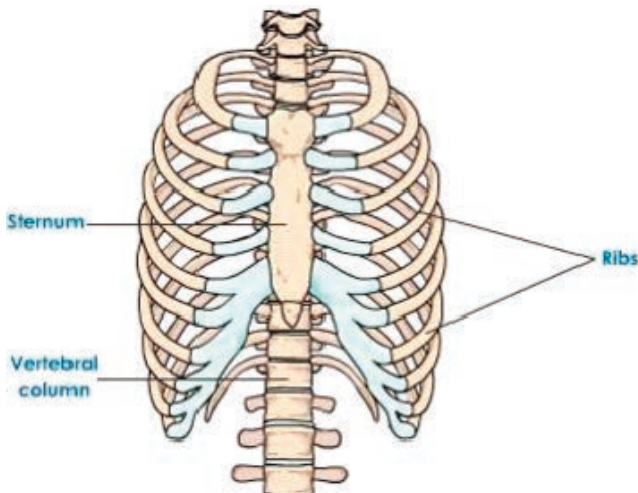


## Who is this leaflet for?

This leaflet is for adults who have been admitted to hospital with an injury to your chest wall. It explains what to expect during your stay in hospital and provides information about the importance of good pain relief and deep breathing exercises to aid your recovery. It also describes the different ways that your chest wall can be injured and the possible side effects associated with this (and what we can do to treat this if appropriate).

Please do speak with the doctor or nurse caring for you if you have any questions that are not covered within this leaflet. Chest wall injuries include:

- fractured ribs (break in one or more of your ribs)
- fractured sternum (break in your breast bone which connects your ribs to form a protective rib cage)
- chest wall contusions (bruising to your chest wall which may involve the skin, muscle or ribs of your chest wall)
- pulmonary contusions (bruising or bleeding of your lung tissue)
- flail chest (multiple ribs broken in more than two places)



Injuries to the chest can be very painful. Unlike other parts of the body, it is difficult to rest your chest as you use it when you breathe. It also supports you when you sit up, lie down and move around.

## How long will it take to heal?

Fractured ribs and/or sternum take around 4 – 6 weeks to heal, but you may still feel some discomfort after this time. This is perfectly normal and should improve over time. Bruising can take 2 – 4 weeks to heal, but can be sore for longer.

## Who will I see?

During your admission you will usually be seen by different nurses and specialities of doctors, with support and specialist advice from respiratory physiotherapists and members of the Critical Care Outreach and Acute Pain Teams. All of the teams involved in your care will be working together to make sure you are receiving the best management of your injuries.

## Pain

Pain is one of the main problems experienced following chest wall injuries. The amount of pain you feel and how long it lasts will depend on the type of injury that you have. As your ribs start to heal and any bruising becomes less, pain should reduce. This does depend on your injury and the individual patient.

## Why is pain relief important?

It is very important to have good pain relief to enable you to sit in the chair and do your breathing exercises. This will help reduce complications such as pneumonia that may occur if you cannot breathe or move around properly because your pain relief is not enough. Whilst you are in hospital you may be given one or more different types of pain relief. This will depend on the individual patient and the severity of your injury. During your stay you will be seen regularly by the Acute Pain Team who specialise in the management of pain and offer support and advice to all areas of the hospital. The Acute Pain Team is made up of Consultant Anaesthetists and experienced Pain Specialist Nurses. Your pain relief will be regularly reviewed to check its effectiveness and for possible side effects. The type of pain relief can be changed according to your pain. Types of pain relief commonly used in chest wall injuries include:

- **Tablets** – there are many different types and strengths of pain relieving tablets/liquids that can be given by mouth. Your doctors or the Acute Pain Team will prescribe the most appropriate medication for you.

- **Injections** – these are usually given in your muscle or vein. You may have an injection when you are first admitted to control severe pain or if you are unable to take tablets by mouth.
- **Patient-controlled analgesia (PCA)** – pain relief is given through a dedicated pump connected to a drip inserted into a vein in your arm. You will be taught how to control your pain by pressing a button on the handset to deliver a measured dose of a strong pain relieving medication, usually morphine or fentanyl. A safe level is programmed into the pump so you can't give yourself too much.
- **Thoracic epidural** – a small flexible plastic tube inserted by an experienced anaesthetist between two of your backbones (vertebrae). The tube is secured in place by a special type of plaster. Pain relieving medication is delivered to the nerve roots in your spine that carry the pain signals to the painful area. These are usually placed in more severely injured patients or if pain control is a problem. If you need this, it is likely that you will remain under the direct supervision of the anaesthetist or transferred to the Critical Care Unit for observation. Thoracic epidurals are usually left in place for approximately 2-3 days and then removed, although they may remain for longer if they have been tunnelled under the skin.
- **Nerve block** – this may be given for immediate 'short-term' pain relief. Local anaesthetic is injected around the nerves supplying sensation to the site of injury. This area will feel numb for a few hours afterwards, although some nerve blocks can last for 18-24 hours.
- **Local anaesthetic catheter** – similar to a nerve block but where a small flexible tube is placed close to the nerves supplying sensation to the site of pain. This may be attached to a local anaesthetic infusion pump or local anaesthetic given as a regular injection 3-4 times a day.

## How will my pain be assessed?

You will be asked to score your pain when you are resting and moving using the following system:

0 = No pain

1 = Mild pain

2 = Moderate pain

3 = Severe pain

It is really important that we manage your pain as effectively as we can to ensure your comfort and help you improve. If your pain relief is not enough, please tell a member of staff before the pain becomes too bad. It is easier to control pain when it is mild, rather than when it has become severe. Pain should not prevent you moving.

## **Are there any risks or complications?**

Chest infections are one of the most common complications after suffering a chest injury. Taking deep breaths and coughing are important normal actions that our bodies do every day – they help us to avoid developing chest infections. You are more likely to develop a chest infection if pain limits your ability to cough and take a deep breath. You are also likely to not be as mobile as normal.

Other less common complications include:

- **Pneumothorax** (air in the space surrounding the lung) – this may cause shortness of breath and increasing pain. In some cases, a chest drain may be required.
- **Haemothorax** (blood in the space surrounding the lung) – this may cause shortness of breath and pain in the lower chest. In some cases, a chest drain may be required.
- **Surgical emphysema** – air trapped under the skin can cause a bubbly swollen area on the chest wall and may be linked to a pneumothorax.
- **Pulmonary contusions** (bruising or bleeding of your lung tissue) – this may cause one or more symptoms of chest pain, changes or difficulty in breathing or coughing up blood or watery sputum (spit). A bruised lung does not absorb oxygen properly and may reduce levels of oxygen in your blood stream. You may need additional oxygen until the bruising/bleeding improves.

## **Will I need a chest drain?**

A chest drain may be inserted to drain air or blood from the space surrounding your lungs. This area is called the pleural space. Air or blood in the pleural space stops your lungs inflating completely when you breathe in, causing breathing difficulties.

To relieve this pressure, a tube is inserted between your ribs in to the pleural space to allow your lungs to fully expand and remove air or blood from around the lung. Removing the air allows your lung to re-expand and seal the leak. The tube will remain in your chest until all, or most of the air or blood has drained out. This is usually a few days.

## **Will I need further treatment?**

If lots of ribs are fractured, or are unstable, you may need surgery to stabilise the fractures. In this case you would need to be transferred to Derriford Hospital in Plymouth – this would be discussed with you by your surgical team upon admission if appropriate.

For most rib or sternal fractures, there are no specific treatments. Good pain relief and the ability to breathe effectively is the most important part of the recovery process. The most important thing is to avoid developing a chest infection whilst your injury heals. To help yourself recover as quickly as possible and minimise your chances of developing a chest infection:

- take regular pain relief so that you can take deep breaths and cough
- sit out in your chair and mobilise as soon as you are able
- cough when you need to.

You will see a respiratory physiotherapist during your admission who will teach you breathing exercises and how to minimise pain when you need to cough. If you have not seen a respiratory physiotherapist, please ask your nurse to refer you.

## **Deep breathing exercises**

1. Breathe in slowly and deeply through your nose, expanding your lower rib cage.
2. Hold for a count of three (if you are able).
3. Breathe out slowly.
4. Repeat steps 1 – 3 a total of 5 times (don't do more as you may get dizzy).
5. Repeat every 1 – 2 hours during the day.

If you are unable to take a deep breath or cough due to pain, please speak to your nurse or doctor who will review your pain relief. They can contact either the Pain Team or anaesthetists to review as needed.

## **Supported cough**

When you need to cough, use a pillow or towel to support the area of your chest wall that is uncomfortable to help reduce the pain.

It is very important that you sit out in your chair and start walking around on the ward as soon as you are able to – the nurses and physiotherapists will guide you with this.

## **Remember**

- Do breathing exercises hourly.
- Sit out in your chair as much as possible.
- Walk around as soon as you are able to – the nurses and physiotherapists will advise you regarding this.
- Take enough pain relief to enable you to do the above.
- Speak with the nursing staff if you feel that your pain control is not enough.

## **What happens when I go home?**

- Gradually increase your mobility daily.
- Make sure you do not just sit in bed or on the sofa all day.
- Avoid heavy lifting for 6 – 8 weeks.
- If your pain does not improve or if you start coughing up blood or green phlegm, please seek advice from your GP.

If you would like this leaflet in large print, braille, audio version or in another language, please contact the General Office on 01872 252690

