



Thoracic Trauma

Airway obstruction:

- ✓ Swelling
- ✓ Bleeding
- ✓ Aspiration of stomach contents

Cause: Penetrating trauma chest/neck

Blunt trauma direct to neck



Tracheal injury:

- ✓ High mortality rate
- ✓ Subcutaneous emphysema
- ✓ Tension pneumothorax
- ✓ Cyanosis
- ✓ Difficult intubation

Tension pneumothorax:

- ✓ Air forced into pleural space through 'one-way valve' air leak in the lung
- ✓ Mediastinum displaced – opposite side of T. Pneumothorax
- ✓ Venous return compromised
- ✓ Opposite lung compressed
- ✓ Intervention: needle or finger decompression
- ✓ ICD after decompression

Presentation:

- ✓ Chest pain
- ✓ Tachypnoea
- ✓ Respiratory distress
- ✓ Tachycardia
- ✓ Hypotension
- ✓ Tracheal deviation
- ✓ Unilateral absence of breath sounds
- ✓ Elevated hemithorax on the affected side



Massive haemothorax:

- ✓ Accumulation >1500ml (or >1/3 patient's blood volume) on one side of chest/chest cavity
- ✓ Common causes: penetrating wound; blunt chest trauma
- ✓ Compromises respiratory effort
- ✓ ICD to drain haemothorax – replace blood volume
- ✓ Thoracotomy may be required if IMMEDIATE blood loss >1500ml or ongoing bleeding



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Traumatic circulatory arrest:

- ✓ PEA, VF, Asystole due to trauma
- ✓ Causes: severe hypoxia, tension pneumothorax, severe hypovolaemia, cardiac tamponade, cardiac herniation and myocardial contusion

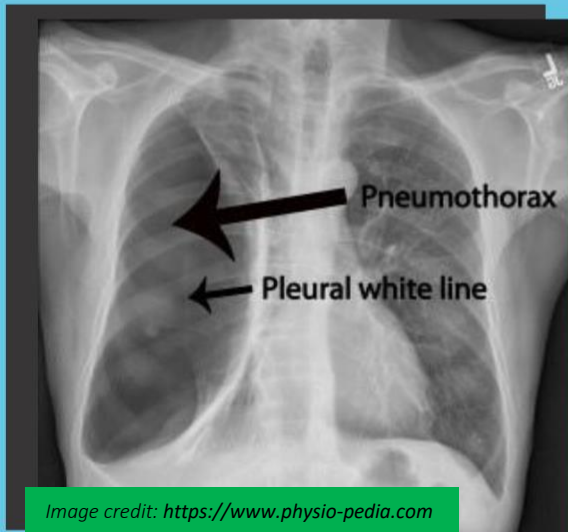


Image credit: <https://www.physio-pedia.com>

Simple pneumothorax:

- ✓ Air in pleural space causes lung to collapse
- ✓ Cause: penetrating and blunt trauma
- ✓ Diagnosed by performing a chest exam and x-ray
- ✓ ICD placed

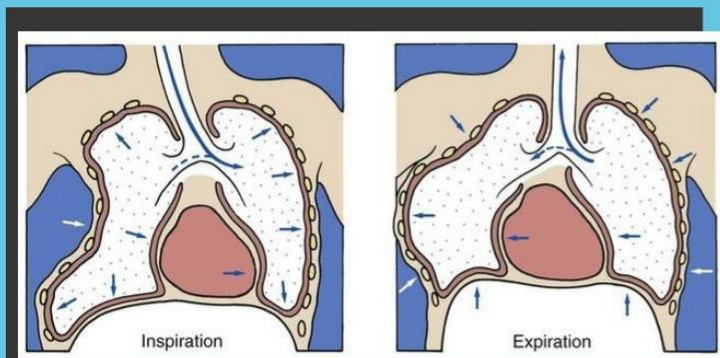


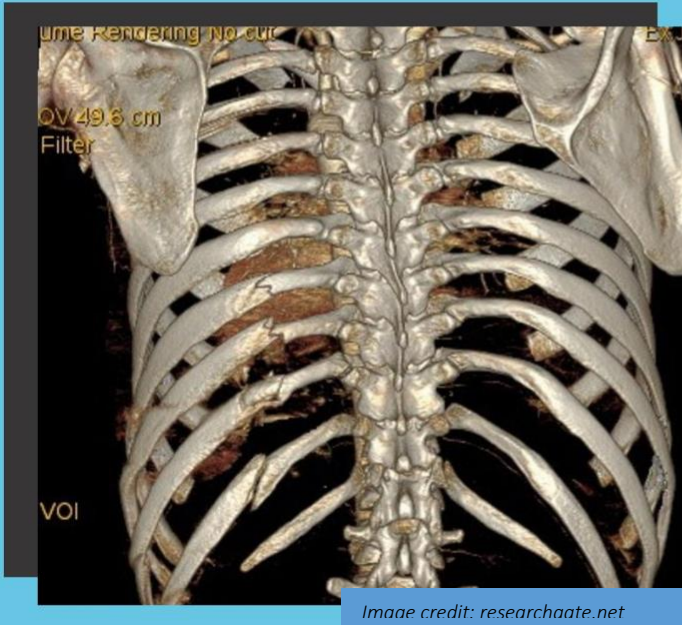
Image credit: thoracickey.com/flail-chest

Flail chest:

- ✓ Segment of chest wall becomes detached from ribcage
- ✓ Associated with multiple rib fractures
- ✓ Restricted respiratory effort – pain; if lung contusion present – respiratory failure
- ✓ Abnormal chest wall movement – palpate crepitus
- ✓ Chest x-ray and treat with appropriate analgesia



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Rib fractures:

- ✓ Impairs ventilation, gas exchange and secretion retention (pain)
- ✓ Elderly – minor trauma, associated with > increased incidence of pneumonia and mortality
- ✓ Fractured ribs in young people is an indicator of greater transfer force (the ribcage more flexible, therefore it is less prone to fractures)
- ✓ Early pain relief is IMPORTANT

Blunt cardiac injury:

- ✓ Often results from RTC, pedestrian vs vehicle collisions, falls from heights > 6m
- ✓ Can result:
 - Myocardial contusion
 - Cardiac chamber rupture
 - Coronary artery dissection
 - Cardiac valvular disruption



Traumatic aortic disruption:

- ✓ Fatal if not treated quickly
- ✓ Results following RTC or fall from a great height
- ✓ Surviving patients usually only suffer incomplete laceration of the aorta

Traumatic diaphragmatic Injury:

- ✓ Large diaphragmatic tears caused by blunt trauma
- ✓ Abdominal contents displaced into thoracic cavity
- ✓ Treatment: surgical repair