

## RESPIRATORY

### EMERGENT NEEDLE THORACOSTOMY

- Needle thoracostomy is an emergent procedure in the management of a tension pneumothorax.
- While it can arrest progression it is **not a definitive** treatment
- Tension pneumothorax is caused by injured tissues creating a one- way valve into the pleural spaces
- Gas accumulates under pressure
- If untreated it causes respiratory insufficiency and prevents venous return, to the extent that the patient has a cardiovascular collapse and will die if it is untreated
- Needle thoracostomy provides an escape route for the trapped gas, reducing pressure and allowing greater venous return



#### Tension pneumothorax (clinical) signs

Early:

- Chest pain
- SOB
- Tachypnoea
- Tachycardia
- Reduced breath sounds on affected side
- Hyper- resonance on affected side

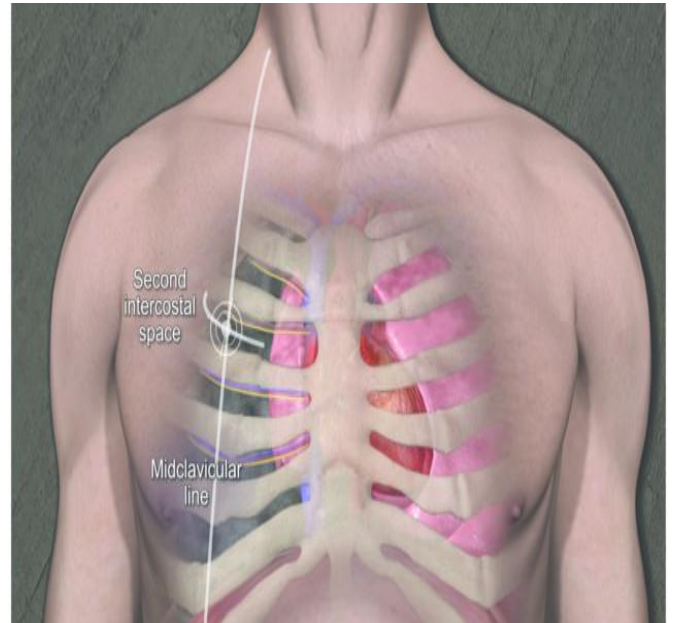
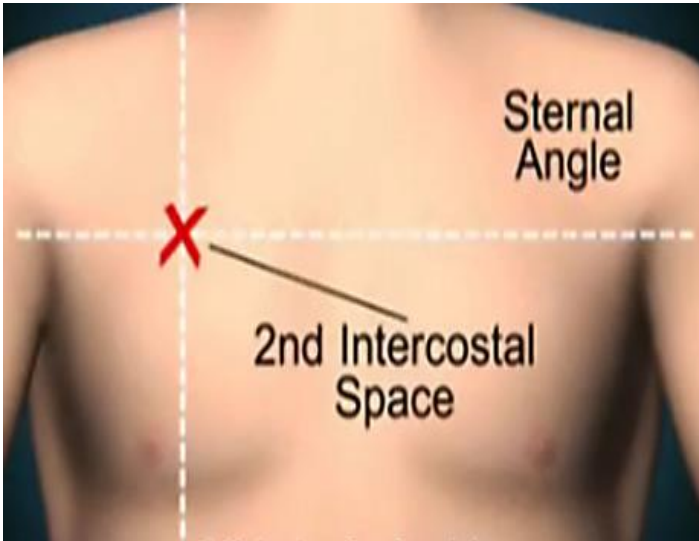
Late:

- Distended neck veins
- Cyanosis/ Hypoxia
- Tracheal deviation
- Hypotension
- Decreased consciousness

- Must have a high index of suspicion
- **Don't** do it just because a patient has reduced air entry on one side

### Procedure:

- Give high flow O2 +/- BVM
- Locate anatomical landmarks: **Second intercostal space in mid- clavicular line**



- Clean area with chloraprep
- Insert a large bore (14G; Orange or 16G; Grey) cannula just above third rib in MCV
- May have to go <6cm into chest
- Perpendicular to chest wall
- 'Hissing' noise will indicate cannula in pleural space
- Remove the needle, leave plastic catheter in place
- Leave open to air
- Secure in place
- Prepare patient for chest drain

