

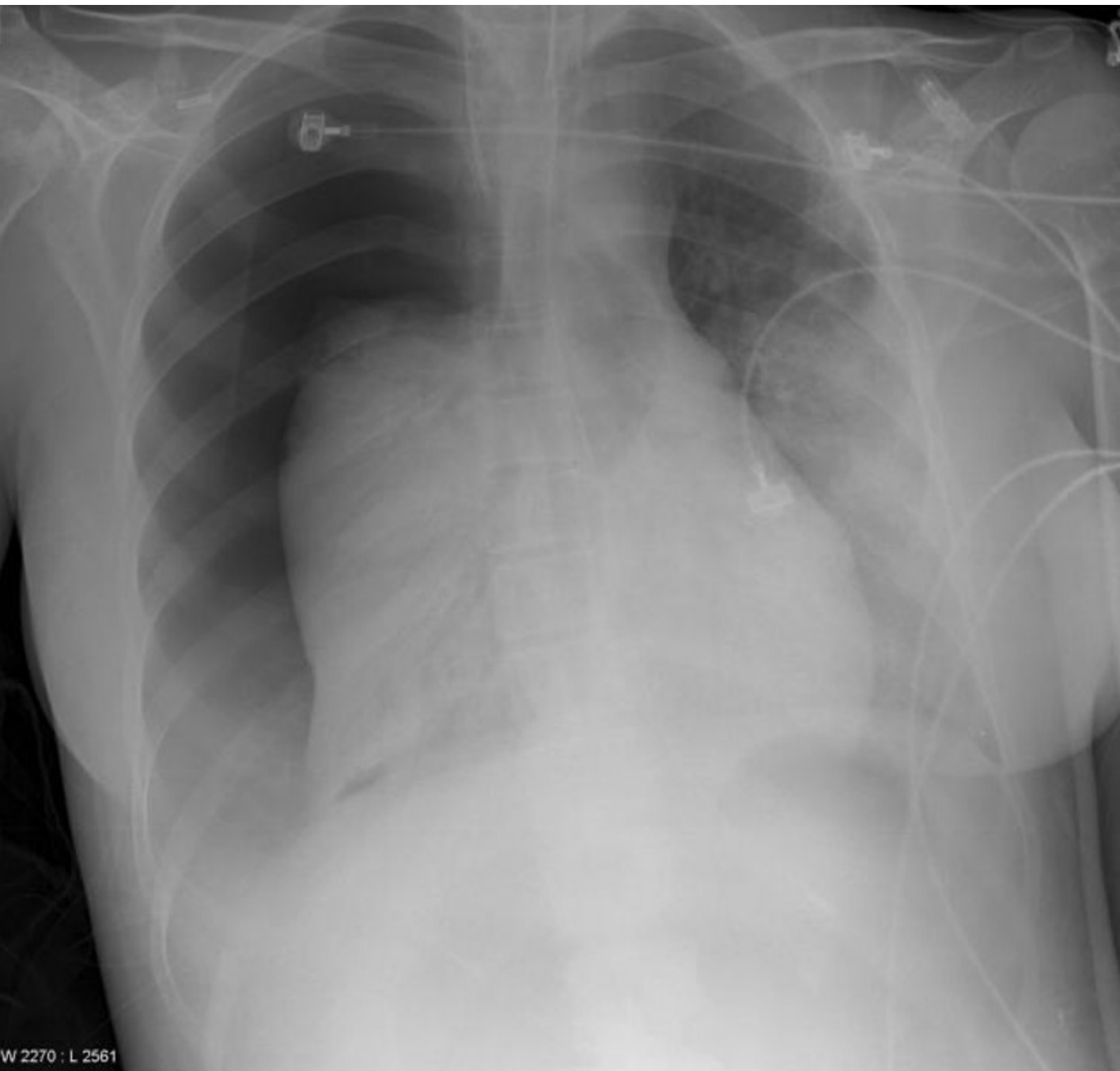
You are a junior medical officer working at Royal Perth Hospital ED, when Mr T, a 40M P1 trauma is BIBA following a high speed MVA. The ambulance officers state that during transfer to the hospital, Mr T was hemodynamically stable but required increasing supplemental oxygen.

His observations on arrival to ED: GCS 13 (E4V4M5), RR 35, Sats 89% (15L 100% O₂ via Hudson non-rebreather), BP 92/50 mmHg, pulse 110bpm, BSLs 5.1, Temp 36.6 °C.

While undertaking the primary survey, the Breathing Nurse, notes reduced breath sounds on the right-side. At the same time, the radiographer takes a mobile supine CXR.

Tasks:

1. Using a systematic approach, describe and interpret Mr T's chest x-ray.
2. Briefly, how would you manage this patient?



Details & demographics	Bedside anterior-posterior (AP) supine chest X-ray of a 40yo male P1 trauma taken today at 0X00 hrs.
RIPE/Quality	Rotation: no obvious rotation
	Inspiration: difficult to assess
	Projection: AP
	Exposure: underexposed ("too white")
Airways & lung fields	Trachea: left-sided deviation
	Lung fields: <ul style="list-style-type: none"> - No lung markings on R-side - Expansion of the right hemithorax - Mediastinal shift to the left - Widening of the rib spacing
Bones & soft tissues	Difficult to assess with underexposure, but not primary concern
Cardio-mediastinum	Mediastinal shift to the left
Diaphragm	Downward displacement of the diaphragm
Everything else obvious	Cardiac monitoring leads present.
Interpretation	Right-sided tension pneumothorax.

Management:

1. Recognise that this is an **EMERGENCY** (In this trauma setting, senior medical assistance will already be with the patient).
2. Ensure patient is on **high flow 100% supplemental oxygen**.
3. **Urgent needle decompression** is required to prevent respiratory arrest. Needle decompression (in short) is placing a **14g IV cannula in the 2nd intercostal space in the mid-clavicular line above the rib** (of side of pneumothorax) to compress tension in thoracic cavity.
4. While this is occurring, ask either the breathing nurse or another nurse/doctor available to **set up for chest tube** placement (more definitive management).
5. Following chest tube placement by senior doctor, a CXR will be ordered to check for correct placement.