Clinical Guideline

Great Western Hospitals NHS
NHS Foundation Trust

Clinical guideline for Management of Spontaneous Pneumothorax

Document Number:	
Sponsor:	Respiratory/AAU Consultants
Date Created:	
Version:	2.0
Status:	
Date Approved:	12/11/13
Next Review Date:	01/11/15
Approved By:	

Department of Respiratory Medicine **ED / LAMU**

Standard operating procedure for the acute management of spontaneous pneumothorax (PTX)

Section A: Determine if evidence of tension pneumothorax

Is the patient hypotensive with clear clinical and / or radiological shift of mediastinum away from the side of the PTX?

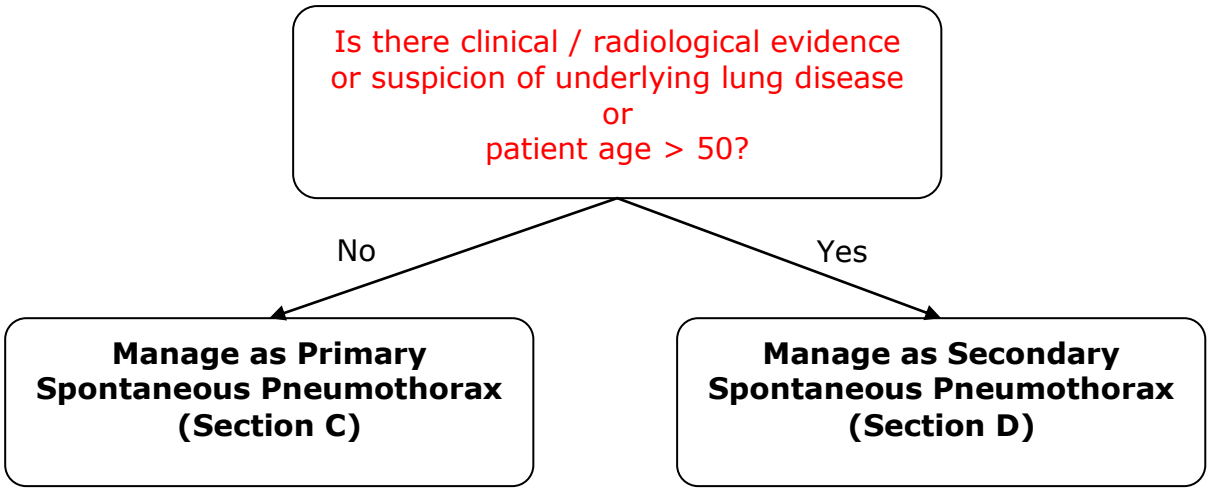
Yes.

1. Initiate standard cardiopulmonary resuscitation if needed, manage ABC.
2. Perform immediate aspiration of air with needle thoracostomy / decompression.
3. Insert chest tube (12F Seldinger will suffice) and connect to chest drain bottle via underwater seal.
4. Admit to Saturn ward via AAU assuming ITU not required

No.

1. Proceed to Section B.

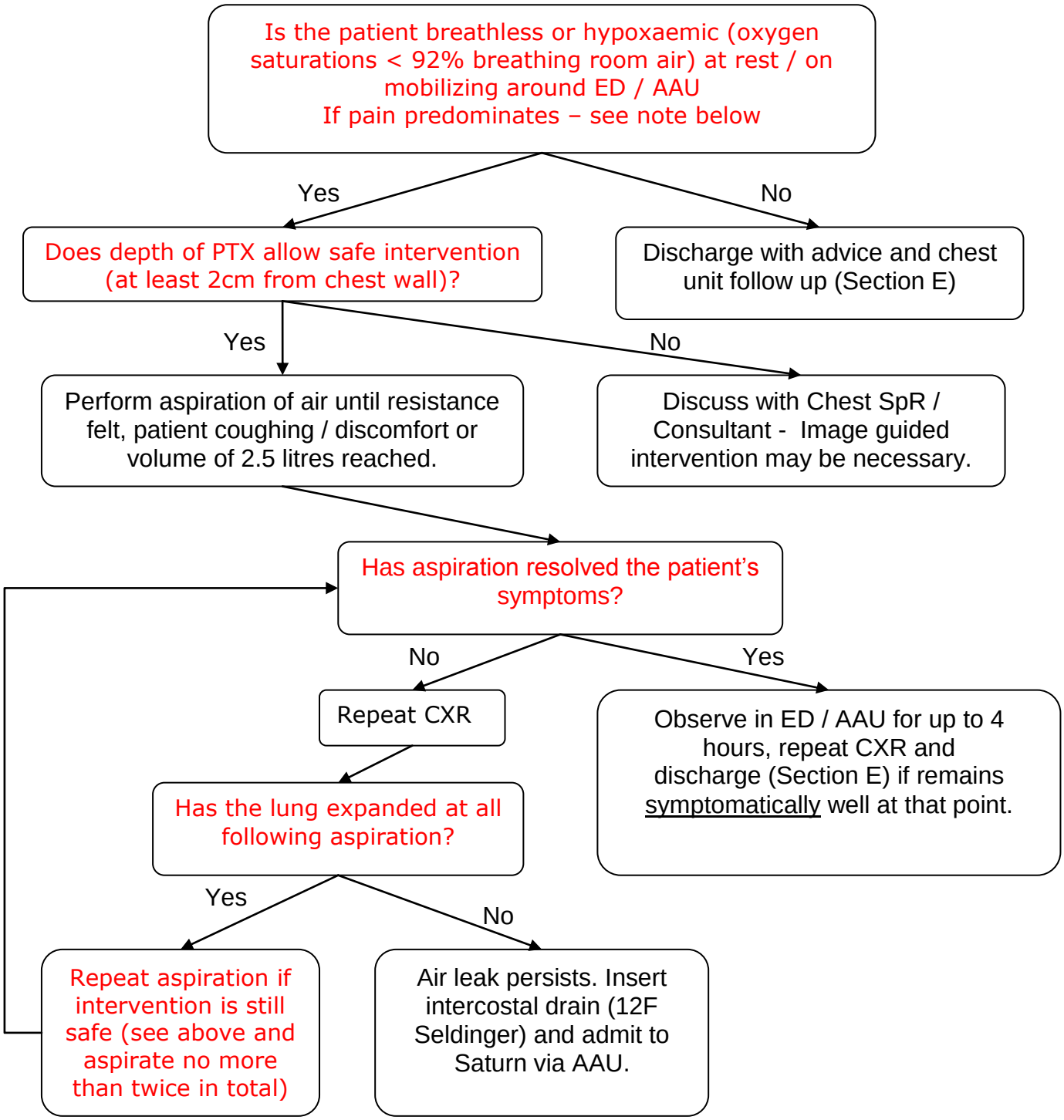
Section B: Determine if Primary PTX or Secondary PTX



Important point to note

The majority of patients who have sustained an iatrogenic pneumothorax (e.g. post lung biopsy / CVP line) should be managed as per Primary PTX guideline, except in some circumstances where there is significant underlying lung disease. In such cases please contact one of the respiratory consultants or contact the pleural bleep (1876).

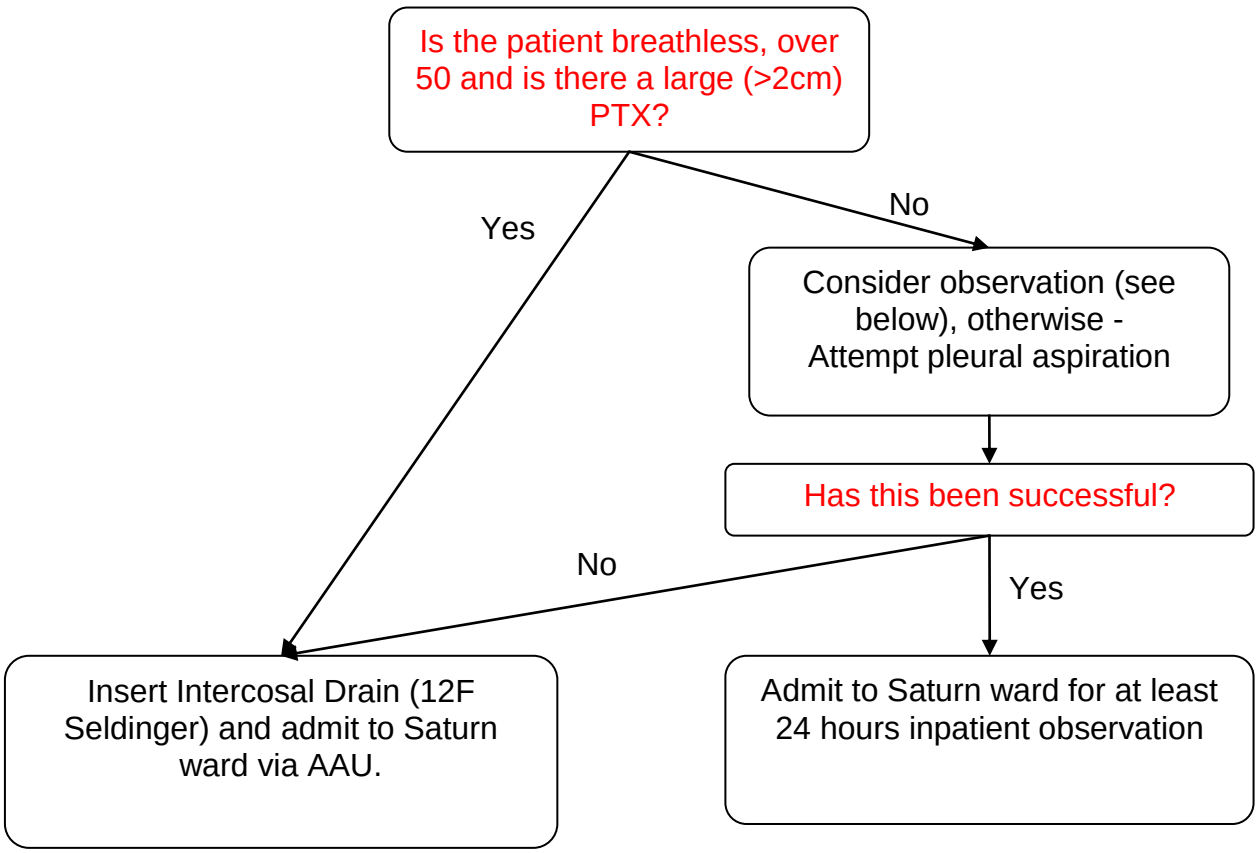
Section C: Management of Primary Spontaneous Pneumothorax



Important points to note

1. A decision to intervene should generally be made on the basis of SYMPTOMS and degree of hypoxia, not on the basis of SIZE of pneumothorax – in cases of doubt discuss with chest consultant.
2. It is reasonable to perform aspiration if pain is the predominant symptom but further intervention if unsuccessful is not imperative. Seek advice from Chest SpR or Consultant.
3. If intercostal drainage is required (see flowchart) a 12F Seldinger drain should be used. There is no evidence that larger drains are of any additional benefit (except for ventilated patients). Chest drains facilitate removal of air/fluid from the pleural space – they do not speed up resolution of any air leak.
4. All patients requiring admission for Primary PTX should be admitted to Saturn via AAU

Section D: Management of Secondary Spontaneous Pneumothorax



Important points to note

1. Tension pneumothorax can occur with very small pneumothoraces in this group in the context of air trapping in the lung from obstructive lung disease.
2. Observation alone is only recommended with small PTX's of < 1cm depth / isolated apical PTX in patients with no or minimal symptoms.
3. Emphysematous bullae can look like pneumothoraces – if in doubt check if any old CXR's and get radiology report.
4. Secondary PTX is associated with an approximate 10% mortality.
5. These patients MUST be referred to the Chest team for admission and ongoing management.
6. If there is doubt as to the safety of intervention, discuss with Chest SpR or Consultant as image guided intervention may be necessary.
7. Simple aspiration is less likely to succeed but is recommended in small (<2cm) PTX in mimimally symptomatic patients under 50 years of age
8. A 12F Seldinger drain is again the drain size of choice.
9. Pleurodesis is often considered in these patients, even with first episode, hence involvement of chest unit is mandatory.

Section E: Discharge of patients with Primary Spontaneous Pneumothorax

1. Advise the patient

    - Not to fly until a CXR has confirmed resolution of the PTX. If holiday or flight planned advise patient to check with their airline. Commercial airlines advise not to fly within varying number weeks of confirmed resolution of PTX (usually 1-2 weeks).
    - That scuba diving must never be undertaken at any point in the future and some jobs such as a military pilot may be impossible. These activities are only possible (eg if needed for livelihood) following pleurectomy.
    - To return to A&E in event of any recurrence of symptoms.
    - Give the patient discharge advice sheet.

2. Fax copy of EDS with cover note asking for O/P follow up to 4762 FAO any respiratory consultant and advise the patient they will be seen in approximately 3-4 weeks.

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DISCHARGE ADVICE FOR PATIENTS WITH PRIMARY SPONTANEOUS PNEUMOTHORAX.

You have been diagnosed with a pneumothorax. This is air inside your chest, but outside your lung, caused by a small hole in your lung. This air has made the lung collapse a little way but not totally.

The doctors have decided that it is safe for you to go home and come back to clinic for a repeat X-ray to see if the problem has resolved. The lung usually takes about two weeks or so to re-expand and you should be sent an appointment to come back to hospital in the next 3 to 4 weeks. If you have not heard about an appointment after two weeks please telephone the Chest Clinic secretary on 01793 646146 to ask for one.

Sometimes the lung does not re-expand and collapses a little more. If this happens to you – you may feel more breathless and may have some pain in your chest.

IF YOU DO GET MORE BREATHLESS THEN IT IS IMPORTANT THAT YOU COME BACK TO HOSPITAL FOR ANOTHER CHEST XRAY AS SOON AS POSSIBLE.

When you have a Pneumothorax it can be dangerous for you to fly. Most airlines allow flying if resolution of the pneumothorax has been confirmed on X-ray but precise rules vary between airlines. If you are flying soon please check with your airline.

Deep sea or SCUBA diving is very dangerous if you have ever had a pneumothorax and you should NEVER do this. If you are a regular SCUBA diver then please mention this to your doctor in the clinic.