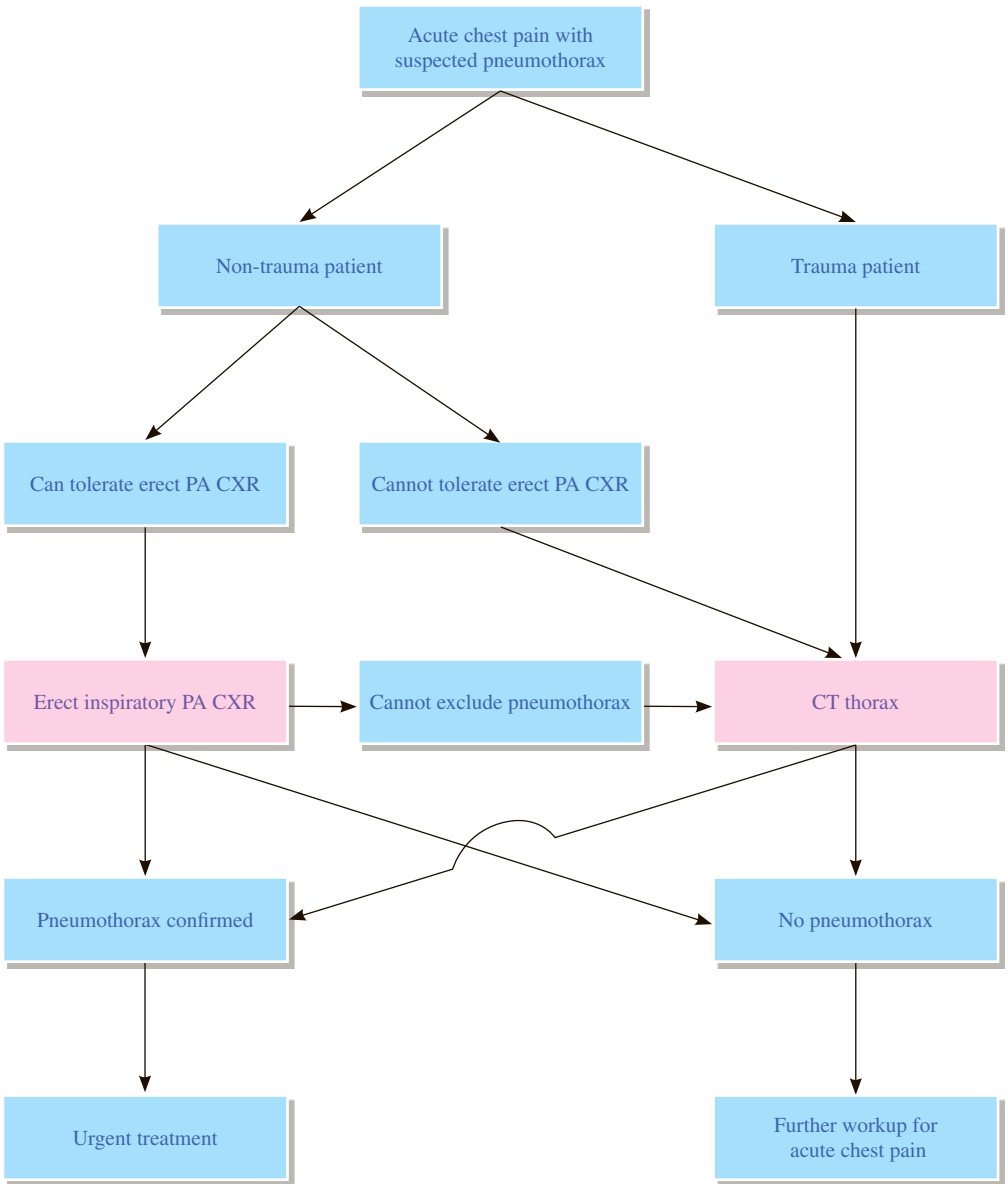


### CH 3 Acute chest pain with suspected pneumothorax



## REMARKS

### 1 Plain radiograph

- 1.1 Posterior-anterior (PA) erect chest X-ray (CXR) in inspiration is recommended for the initial evaluation of suspected pneumothorax. In uncertain cases, such as in the presence of bullous lung disease, CT is preferred.
- 1.2 Lateral chest radiograph may provide additional information when a suspected pneumothorax is not confirmed on PA CXR but this is not routinely performed in everyday clinical practice.
- 1.3 Expiratory CXR is not thought to confer additional benefit in the routine assessment of pneumothorax.
- 1.4 Supine and lateral decubitus chest radiographs are mostly performed for trauma patients who cannot be safely positioned for erect PA view but these have been superseded by CT.

### 2 US

- 2.1 US only plays a subsidiary role in diagnosing pneumothorax and its efficacy highly depends on operator experience. US thus should not be a routine investigation.

### 3 CT

- 3.1 CT is the gold standard for detection of small pneumothoraces and for size estimation, and is recommended for uncertain or complex cases. It is also useful in detecting pneumothorax in the presence of bullous lung disease or surgical emphysema, and can also identify aberrant chest drain placement and other concomitant lung pathology.

## REFERENCES

1. MacDuff A, Arnold A, Harvey J; BTS Pleural Disease Guideline Group. Management of spontaneous pneumothorax: British Thoracic Society Pleural Disease Guideline 2010. *Thorax*. 2010; 65 Suppl 2: ii18-31.
2. Glazer HS, Anderson DJ, Wilson BS, Molina PL, Sagel SS. Pneumothorax: appearances on lateral chest radiographs. *Radiology*. 1989; 173: 707-711.
3. Zhang H, Liu ZH, Yang JX, Gan JX, Xu SW, You XD, et al. Rapid detection of pneumothorax by ultrasonography in patients with multiple trauma. *Crit Care*. 2006; 10: R112.
4. Beres RA, Goodman LR. Pneumothorax: detection with upright versus decubitus radiography. *Radiology*. 1993; 186: 19-26.
5. Kelly AM, Weldon D, Tsang AY, Graham CA. Comparison between two methods for estimating pneumothorax size from chest x-rays. *Respir Med*. 2006; 100: 1356-1359.