# THE NEW IN SURGICAL PLEURAL DISEASES

Issam Al-Khayer

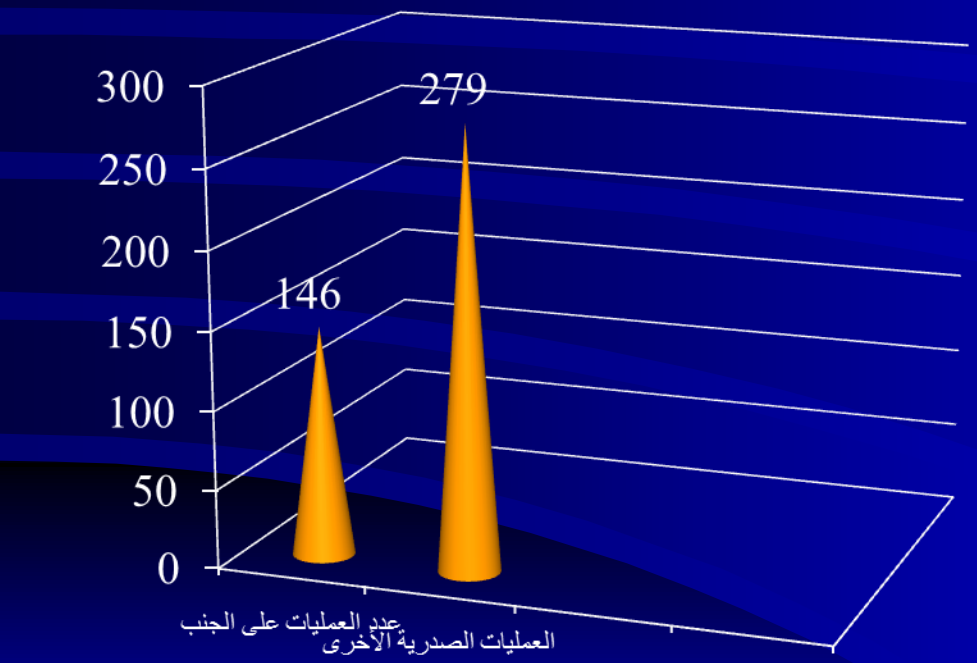
**Assistant professor**

Faculty of Medicine

**Damascus University**

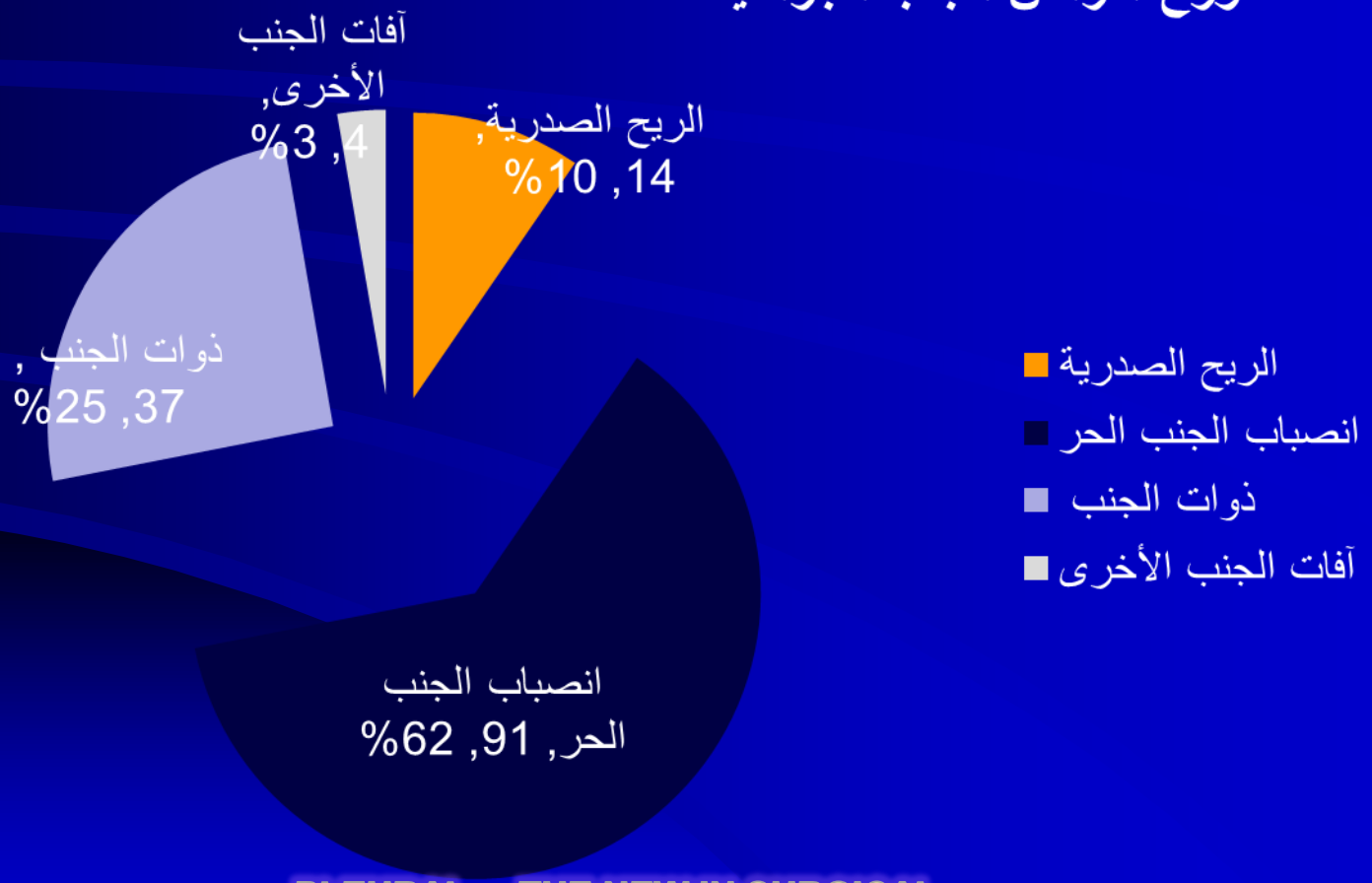
**Damascus Syria**

# أهمية أمراض الجنب
# دراسة إحصائية في مستشفى الأسد الجامعي بدمشق للعام الحالي 2024:

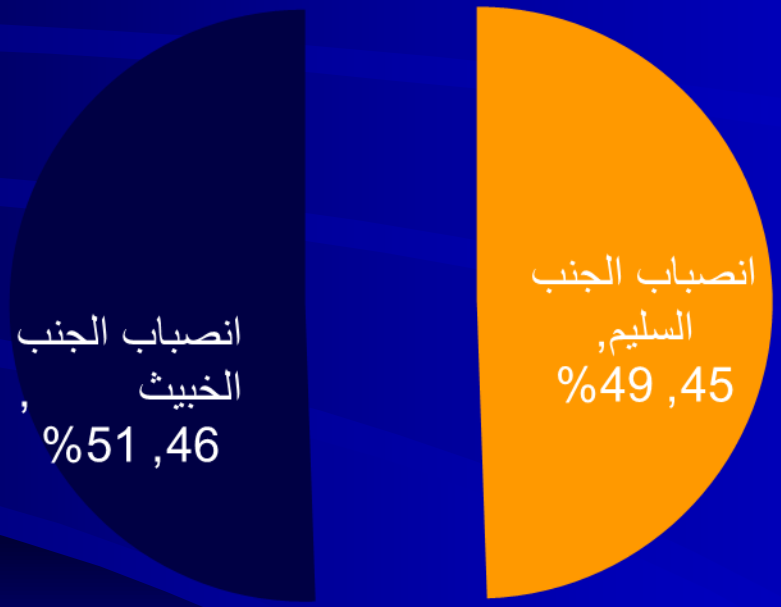



- العمليات الكلي 425
- عمليات الجنب 34%
- العمليات الاخرى 66%

# توزع أمراض الجنب الجراحية



# توزعت انصبابات الجنب:



BTS Guideline ;Thorax- 11 July 2023

# British Thoracic Society Guideline for pleural disease : (2023)

Mark E Roberts,1 Najib M Rahman ,2,3,4 Nick A Maskell,5 Anna C Bibby,5 Kevin G Blyth,6,7 John P Corcoran ,8 Anthony Edey,9 Matthew Evison ,10 Duneesha de Fonseka ,11 Rob Hallifax,12 Susan Harden ,13 Iain Lawrie,14 Eric Lim,15 David J McCracken,16 Rachel Mercer,17 Eleanor K Mishra ,18 Andrew G Nicholson,19 Farinaz Noorzad,20 Kirstie Opstad,21 Maria Parsonage,22
Andrew E Stanton ,23 Steven Walker,5 On behalf of the BTS Pleural Guideline
Development Group


Eur J Cardiothorac Surg 2019;55:116–32.

# ERS/EACTS statement on the management of malignant pleural effusions

Anna C. Bibbya,b,*, PatrickDornc, Ioannis Psallidasd, JoseM. Porcele, Julius Janssenf,Marios Froudarakisg, Dragan Subotich, Phillippe Astouli, Peter Lichtj, Ralph Schmidc, Arnaud Scherpereelk, Najib M. Rahmand,l, Nick A. Maskella,b,m and Giuseppe Cardillom

- a Academic Respiratory Unit, University of Bristol Medical School Translational Health Sciences, Bristol, UK
- b North Bristol Lung Centre, North Bristol NHS Trust, Bristol, UK
- c Division of Thoracic Surgery, University Hospital Bern, Bern, Switzerland
- d Oxford Respiratory Trials Unit, University of Oxford, Oxford, UK
- e Pleural Medicine Unit, Arnau de Vilanova University Hospital, IRB Lleida, Lleida, Spain
- f Department of Pulmonary Diseases, Canisius Wilhelmina Hospital, Nijmegen, The Netherlands
- g Department of Respiratory Medicine, Medical School of Alexandroupolis, Democritus University of Thrace, Alexandroupolis, Greece
- h Clinic for Thoracic Surgery, Clinical Center of Serbia, Belgrade, Serbia
- i Department of Thoracic Oncology, Pleural Diseases and Interventional Pulmonology, Hospital North Aix-Marseille University, Marseille, France
- j Department of Cardiothoracic Surgery, Odense University Hospital, Odense, Denmark
- k Pulmonary and Thoracic Oncology Department, Hospital of the University (CHU) of Lille, Lille, France
- l Oxford Centre for Respiratory Medicine, University Hospitals, NHS Foundation Trust, Oxford, UK
- m Task force chairperson
- n Department of Thoracic Surgery, Carlo Forlanini Hospital, Azienda Ospedaliera San Camillo Forlanini, Rome, Italy

**AMERICAN THORACIC SOCIETY**

**DOCUMENTS**

# Management of Malignant Pleural Effusions

# An Official ATS/STS/STR Clinical Practice Guideline

**David J. Feller-Kopman*, Chakravarthy B. Reddy*, Malcolm M. DeCamp, Rebecca L. Diekemper, Michael K. Gould,**

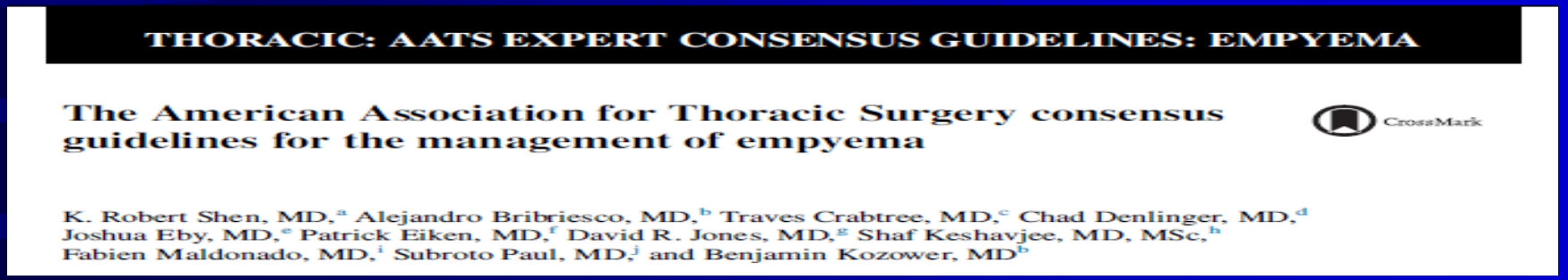
**Travis Henry, Narayan P. Iyer, Y. C. Gary Lee, Sandra Z. Lewis, Nick A. Maskell, Najib M. Rahman, Daniel H. Sterman,**

**Momen M. Wahidi, and Alex A. Balekian; on behalf of the American Thoracic Society, Society of Thoracic Surgeons,**

**and Society of Thoracic Radiolog**

**THIS OFFICIAL CLINICAL PRACTICE GUIDELINE WAS APPROVED BY THE AMERICAN THORACIC SOCIETY OCTOBER 2018, THE SOCIETY OF THORACIC SURGEONS JUNE**

**2018, AND THE SOCIETY OF THORACIC RADIOLOGY JULY 2018**




- Management and prognosis of parapneumonic pleural effusion?? UpToDate 2022
- **Management and prognosis of parapneumonic pleural effusion and empyema in adults**
  **Author:**
- updated: Jun 15, 2022

**BTS Guideline ;Thorax- 11 July 2023**

# British Thoracic Society Guideline for pleural disease : (2023)

THE NEW IN SURGICAL
PLEURAL DISEASE LATAKIA
2024

**This guideline aims to provide evidence-based guidance on the investigation and management of:**

- Spontaneous pneumothorax (SP).
- Undiagnosed unilateral pleural effusion.
- Pleural infection.
- Pleural malignancy **(MPE).**

# Clinical pathways/decision trees

# Pneumothorax Pathway

# Spontaneous pneumothorax

## Acute management for spontaneous pneumothorax:

- Conservative management can be considered for the treatment of minimally symptomatic or asymptomatic primary spontaneous pneumothorax in adults **regardless of size.**
- In patients not deemed suitable for conservative ambulatory management, needle aspiration or tube drainage should be considered for the initial treatment of primary spontaneous pneumothorax in adults.
- Chemical pleurodesis can be considered for the prevention of recurrent of secondary spontaneous pneumothorax in adults even during/after ( the first episode).
- Thoracic surgery can be considered for the treatment of pneumothorax in adults at initial presentation if recurrence prevention is deemed important.

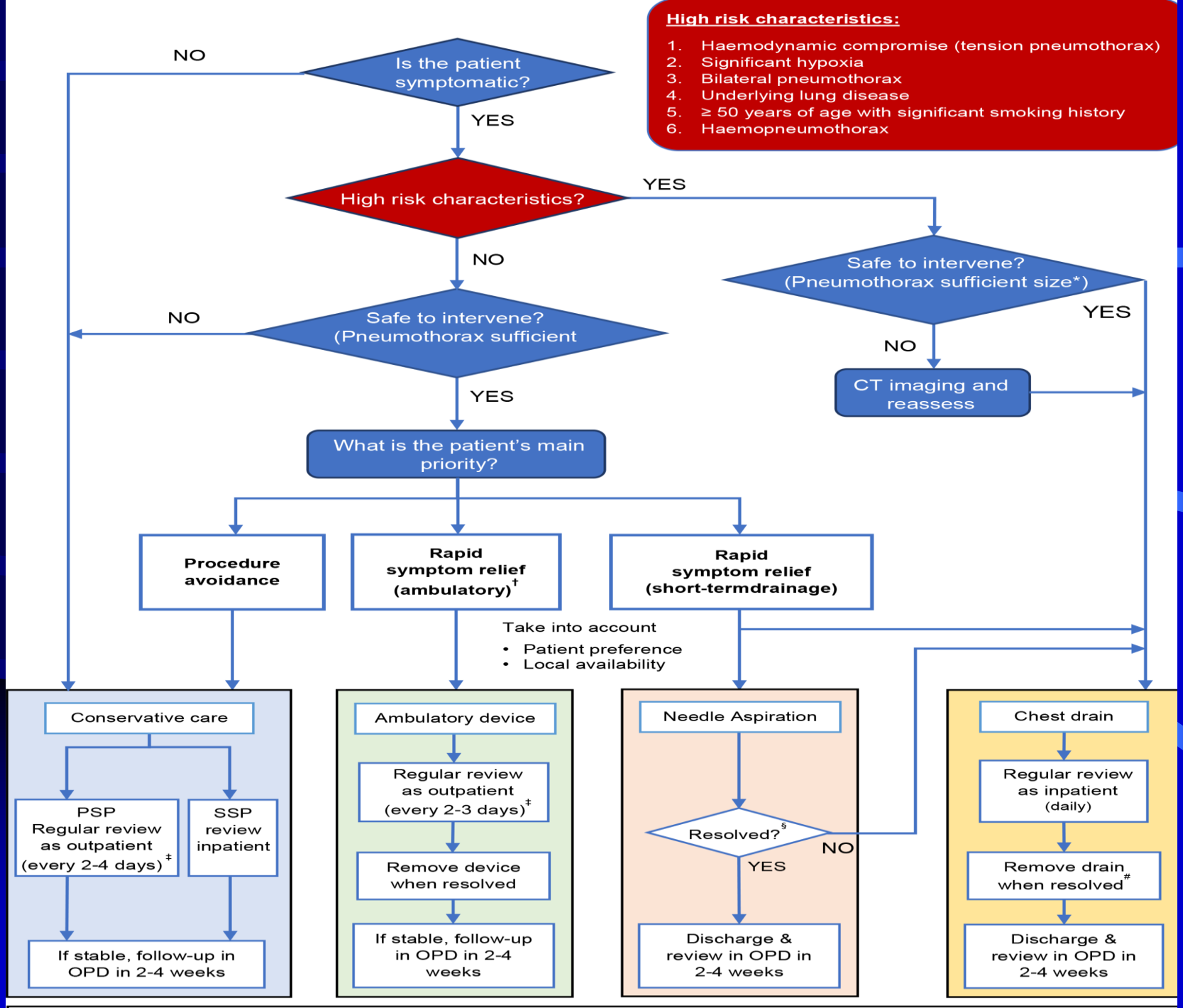
## Accepted indications for surgical advice are as follows:

- Tension Pneumothorax.
- first **secondary pneumothorax** associated with significant physiological compromise.
- Second ipsilateral pneumothorax, First contralateral pneumothorax.
- Synchronous bilateral.
- Persistent air leak (**despite 5–7** days of chest tube drainage) or failure of lung re-expansion.
- Spontaneous haemothorax.
- Professions at risk (eg, pilots, divers, military personnel), even after a single episode of pneumothorax;
- Pregnancy.

# Optimal surgical approach and surgical operation :

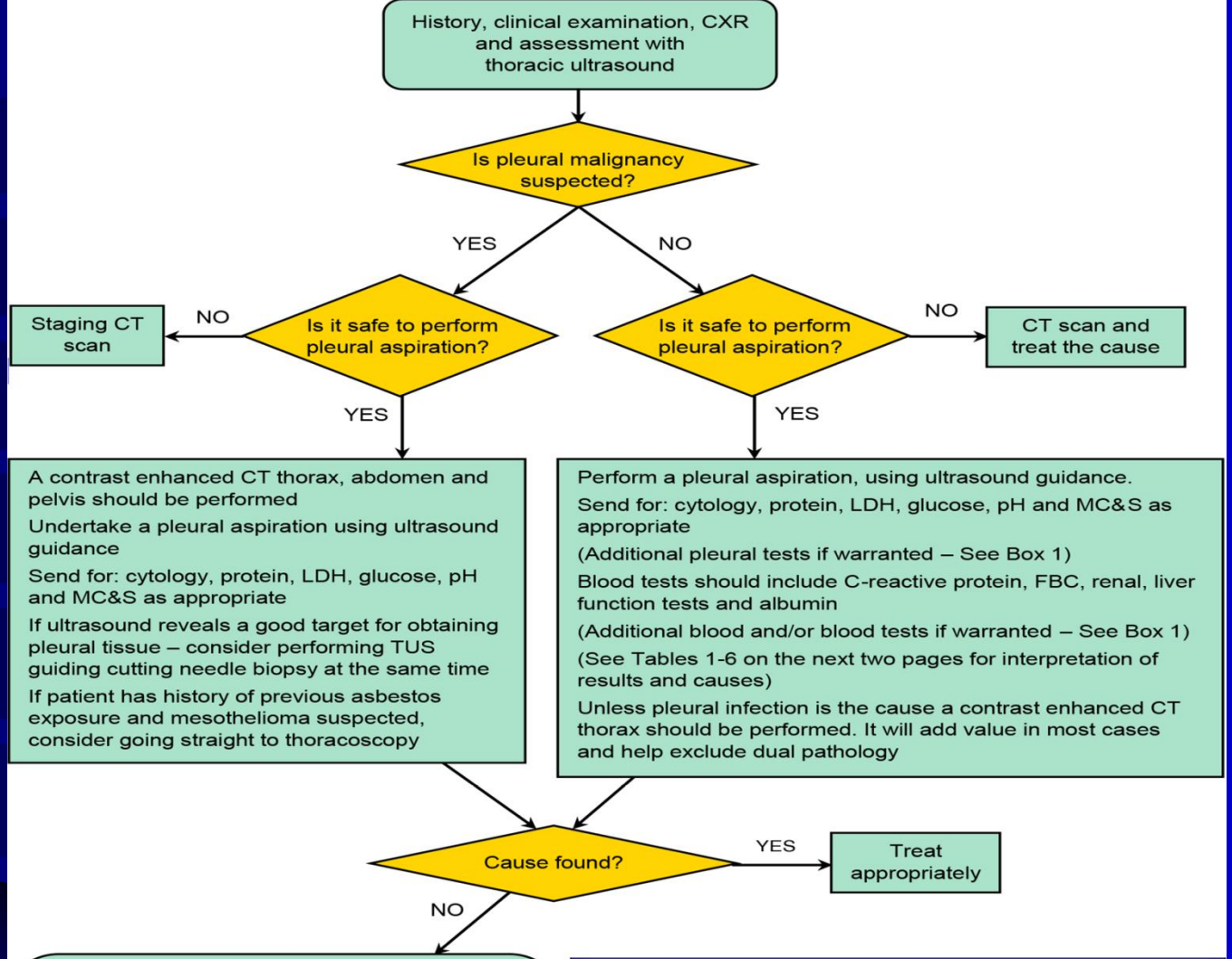
**Recommendations:**

- Video-assisted thoracoscopy access can be considered for surgical pleurodesis in the general management of pneumothorax in adults.
- **Thoracotomy** access and surgical pleurodesis **should be** considered for the **lowest level of recurrence risk** required for specific (eg, high-risk) occupations.
- Surgical **pleurodesis and/or bullectomy** should be considered for the treatment of spontaneous pneumothorax in adults.




* Pneumothorax of sufficient size to intervene depends on clinical context but, in general, usually ≥ 2cm laterally or apically on CXR, or any size on CT

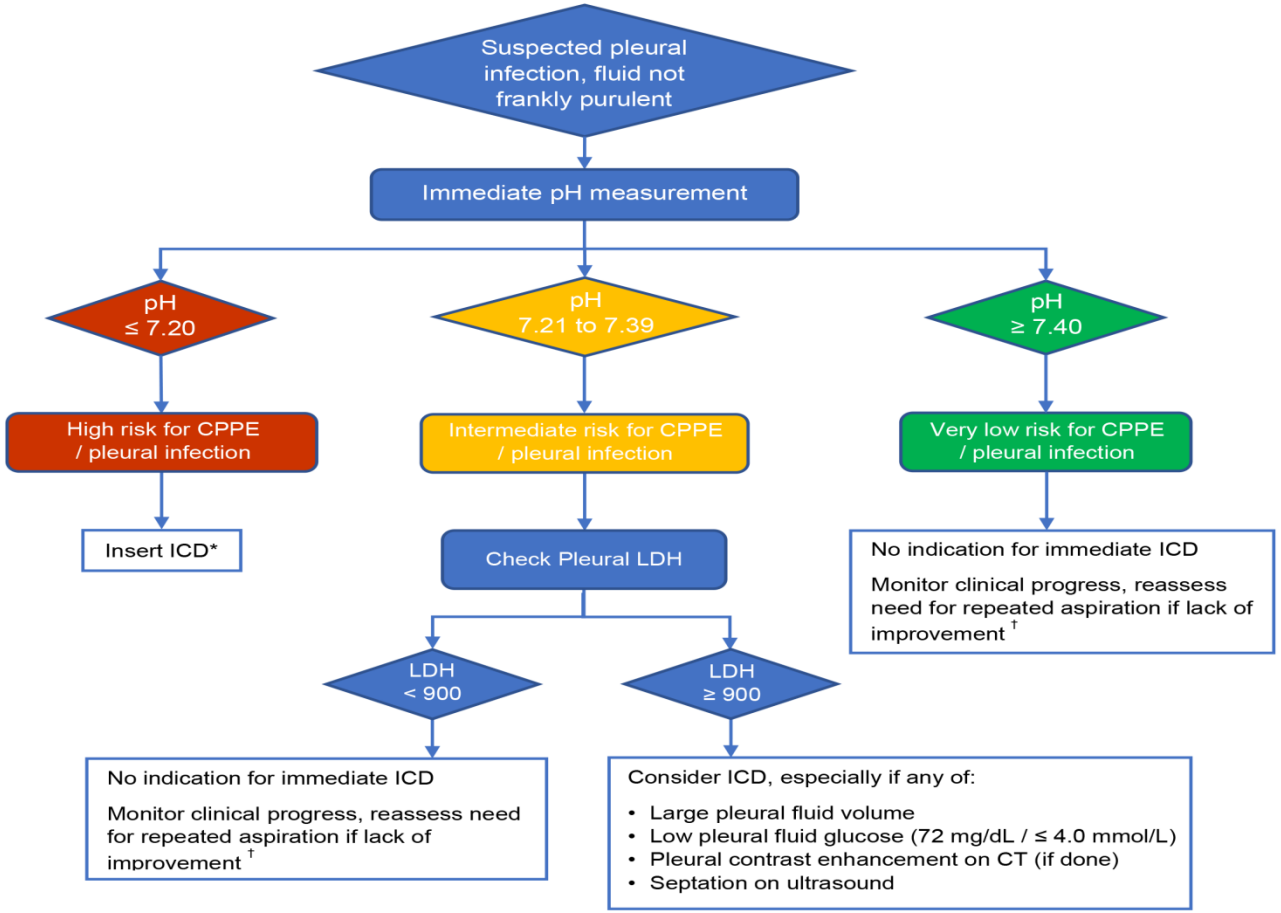
# Unilateral pleural effusion diagnostic pathway




**Box 1: Additional pleural fluid tests and blood tests**

| SUSPECTED DISEASE | TESTS |
|---|---|
| Chylothorax | - pf cholesterol and triglyceride |
| Haemothorax | - pf haematocrit |
| Empyema | - pf centrifuge |
| Rheumatoid disease | - pf glucose and pH |
| Pancreatitis | - serum lipase |
| Cardiac failure | - serum NT-ProBNP |
| Lymphoma | - pf lymphocyte subsets |
| Autoimmune disease | - serum autoimmune screen |
| IgG4 disease | - pleural biopsy and serum IgG4 |
| Amyloid | - Congo red staining |

# Suspected pleural infection, non-purulent fluid – initial decision tree




* Assuming ultrasound demonstrates safe volume of accessible pleural fluid.
† As evidenced by ongoing temperature, persisting elevation of inflammatory markers. Those with septations and pleural pH >7.4 should also be considered for drainage.

| Initial pH | Level of risk for CPPE / pleural infection | Initial action regarding drainage |
|---|---|---|
| ≤ 7.2 | High risk | Insert ICD, assuming ultrasound demonstrates safe volume of accessible pleural fluid |
| > 7.2 to < 7.4 | Intermediate risk | Check LDH and review other parameters which may support CPPE / pleural infection. Consider ICD insertion if LDH > 900, especially if any of the following:<br>• Large pleural fluid volume<br>• Low pleural fluid glucose (72 mg/dL / ≤ 4.0 mmol/L)<br>• Pleural contrast enhancement on CT<br>• Septation on ultrasound |
| ≥ 7.4 | Very low risk | No indication for immediate ICD |

# Indications for pleural fluid drainage in pleural infection:

- Patients with frankly purulent or turbid/cloudy pleural fluid.(B)
- The presence of organisms identified by Gram stain and/or culture from a non-purulent pleural fluid sample. (B)
- Pleural fluid pH <7.2 in patients with suspected pleural infection (B).
- Patients with a loculated pleural collection . (C)

# Indications for pleural fluid drainage in pleural infection:

- A pleural fluid LDH >1000 IU/L, glucose <40 mg/dL.AATS (2017).

- Large non-purulent effusions (ie, ≥0.5 hemithorax)

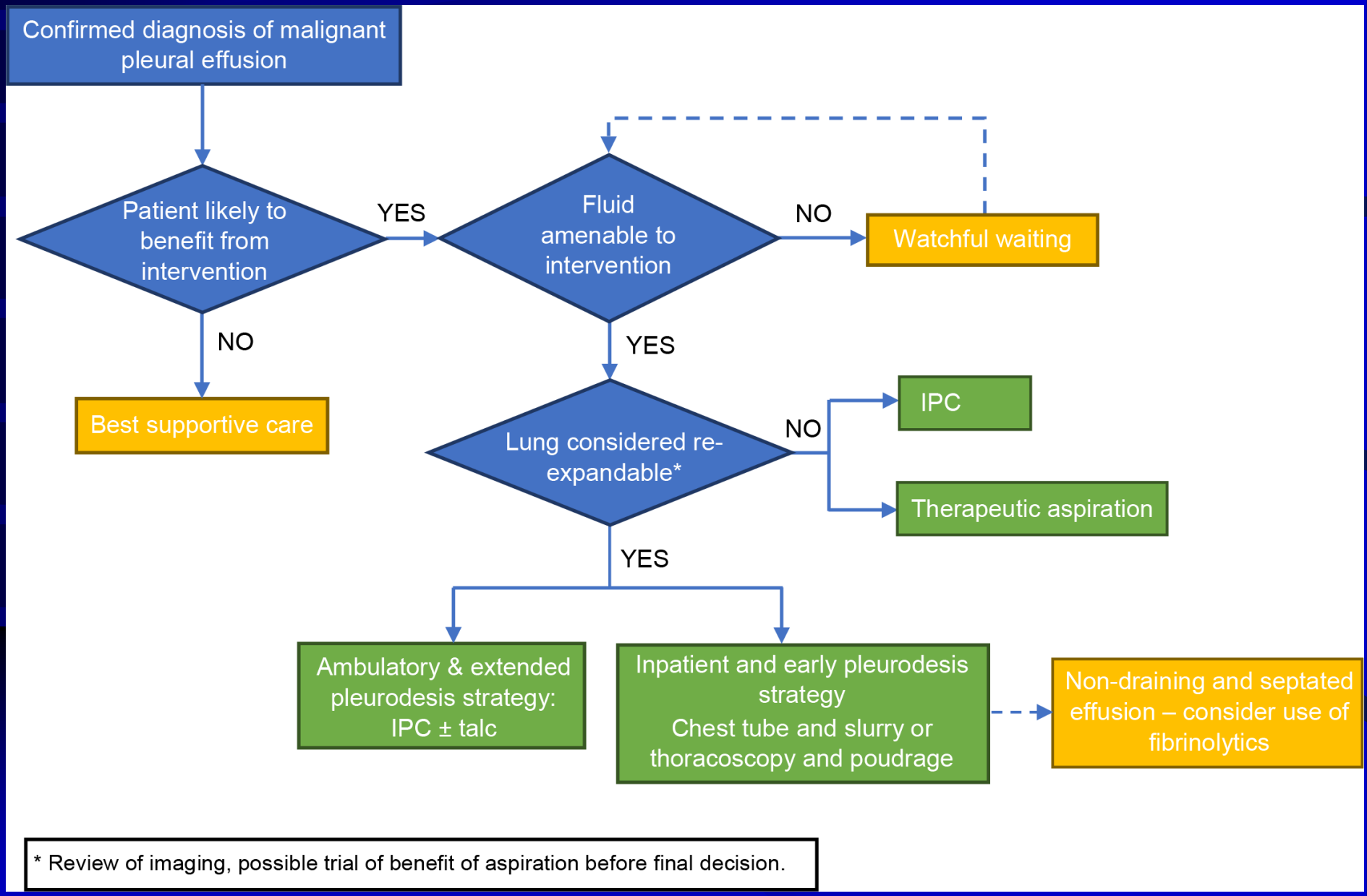
could be drained for symptomatic benefit. **(C)**

- Poor clinical progress during treatment with antibiotics alone should lead to promp patient review, repeat pleural fluid sampling and probably chest tube drainage. **(B)**

# Pleural infection treatment pathway


Pleural infection requiring ICD treatment
Calculate RAPID score
Insert small bore chest tube (12-14F)
Commence appropriate antibiotic therapy *
Consider direct surgical referral if:
1. Clinically unstable; or
2. Profound pleural thickening / solid pleural collection on imaging
Review clinical progress @48 hours
Poor clinical progress:
• Persistent pleural shadowing on imaging
PLUS
• Static or worsening inflammatory markers
Good clinical progress:
• Resolving pleural collection on imaging
PLUS
• Reducing inflammatory markers
Thoracic CT scan
Suitable surgical candidate?
YES †
NO
>48 hours delay in planned surgical intervention
Continue current treatment
Remove chest drain when little residual pleural shadowing
Switch to oral antibiotic therapy when significant reduction in inflammatory markers
Refer for surgical treatment (VATS as initial treatment)
Consider intrapleural treatment:
• TPA+DNase if available and risks / benefits suitable
• Intrapleural irrigation if high bleeding risk
Reconsider surgical options
Failed intrapleural therapy
Consider:
• Switch in empirical antibiotic therapy
• Prolonged antibiotic therapy
• Non intubated surgical options (rib resection)
• Indwelling pleural catheter

# Malignant pleural effusion pathway


Confirmed diagnosis of malignant pleural effusion
Patient likely to benefit from intervention
YES
Fluid amenable to intervention
NO
Watchful waiting
NO
YES
Best supportive care
Lung considered re-expandable*
NO
IPC
Therapeutic aspiration
YES
Ambulatory & extended pleurodesis strategy: IPC ± talc
Inpatient and early pleurodesis strategy
Chest tube and slurry or thoracoscopy and poudrage
Non-draining and septated effusion – consider use of fibrinolytics
* Review of imaging, possible trial of benefit of aspiration before final decision.

# does intrapleural fibrinolytics therapy improve outcomes???

# MIST1; MIST2 : Recommendations:

- Combination tissue plasminogen activator (TPA) and DNAse should be considered for the treatment of pleural infection, where initial chest tube drainage has ceased and leaves a residual pleural collection .

- Saline irrigation can be considered for the treatment of pleural infection when intrapleural tPA and DNase therapy or surgery is not suitable .

- Single agent tissue plasminogen activator (TPA) or DNAse should not be considered for treatment of pleural infection.
- Streptokinase should not be considered for treatment of pleural infection .

# Recommendations:

- The rationale for this approach is based upon data that report lower rates of referral for surgery (by 30 to 80 percent) when tPA/DNase are used.

- When administering TPA plus DNase the regime of should be 10 mg TPA twice daily + 5 mg DNase for 3 days .

- repeat chest CT should be performed 24 to 48 hours after the chosen intervention(s) to evaluate the response.


THANKS
FOR YOUR
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