



A REVIEW OF THORACOTOMIES (2016-2018)

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INTRODUCTION

- **Thoracotomy is a procedure wherein access into the pleural space is achieved to gain access to intrathoracic organs including the heart, lungs, thoracic esophagus or access to the thoracic aorta or spine.**
- **The physiology and anatomy of the respiratory system and especially the respiratory control mechanism in pediatric patients vary from those of adults resulting in a more morbid course postoperatively.**

INTRODUCTION

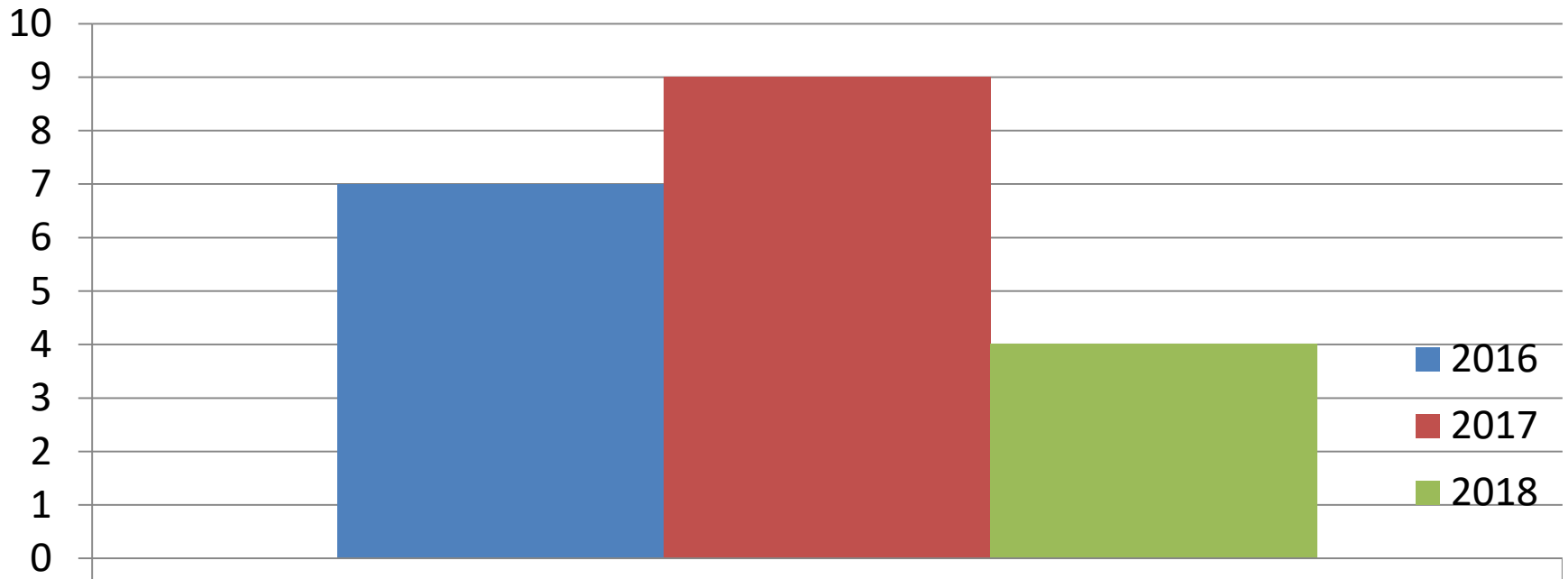
- **In adults usually a posterolateral approach for thoracotomy is preferred because of advances intrathoracic exposure and easy manipulation.**
- **On the other hand lower pain threshold and the different pathologies in children makes lateral thoracotomy a more appropriate choice since it spares the serratus anterior muscle decreasing its negative impact on postoperative respiratory function.**

INDICATIONS

- **Common indications** :
 - **Bronchiectasis**
 - **Bronchogenic duplication cyst**
 - **Chest wall deformities**
 - **Mediastinal masses.**

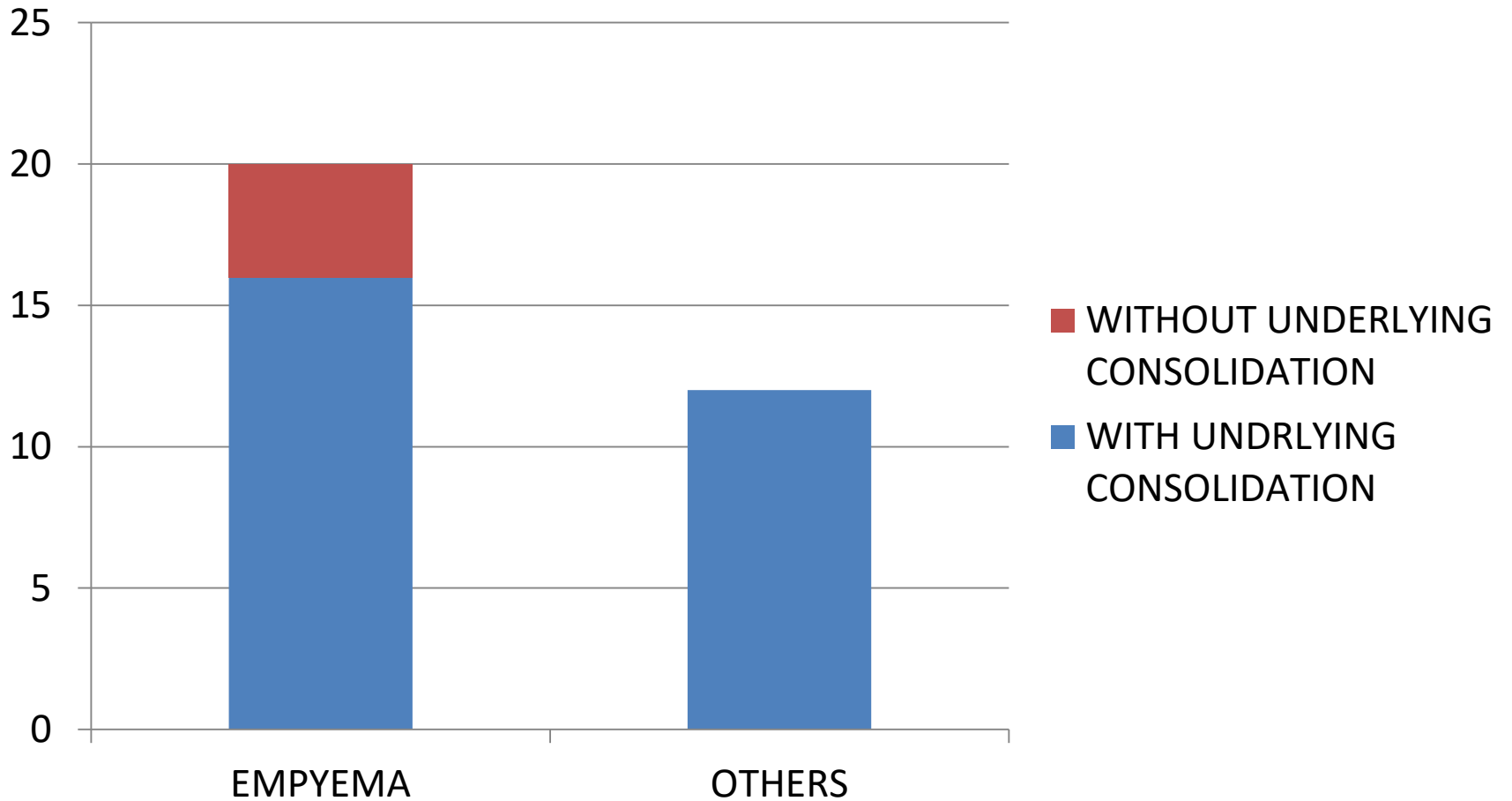
INDICATIONS

- Other rare indications include :
 - Inflammatory pseudotumor.
 - Hydatid cyst.
 - Congenital lobar emphysema
 - Fibrohyalinized cyst
 - Sequestration
 - Eosinophilic granuloma

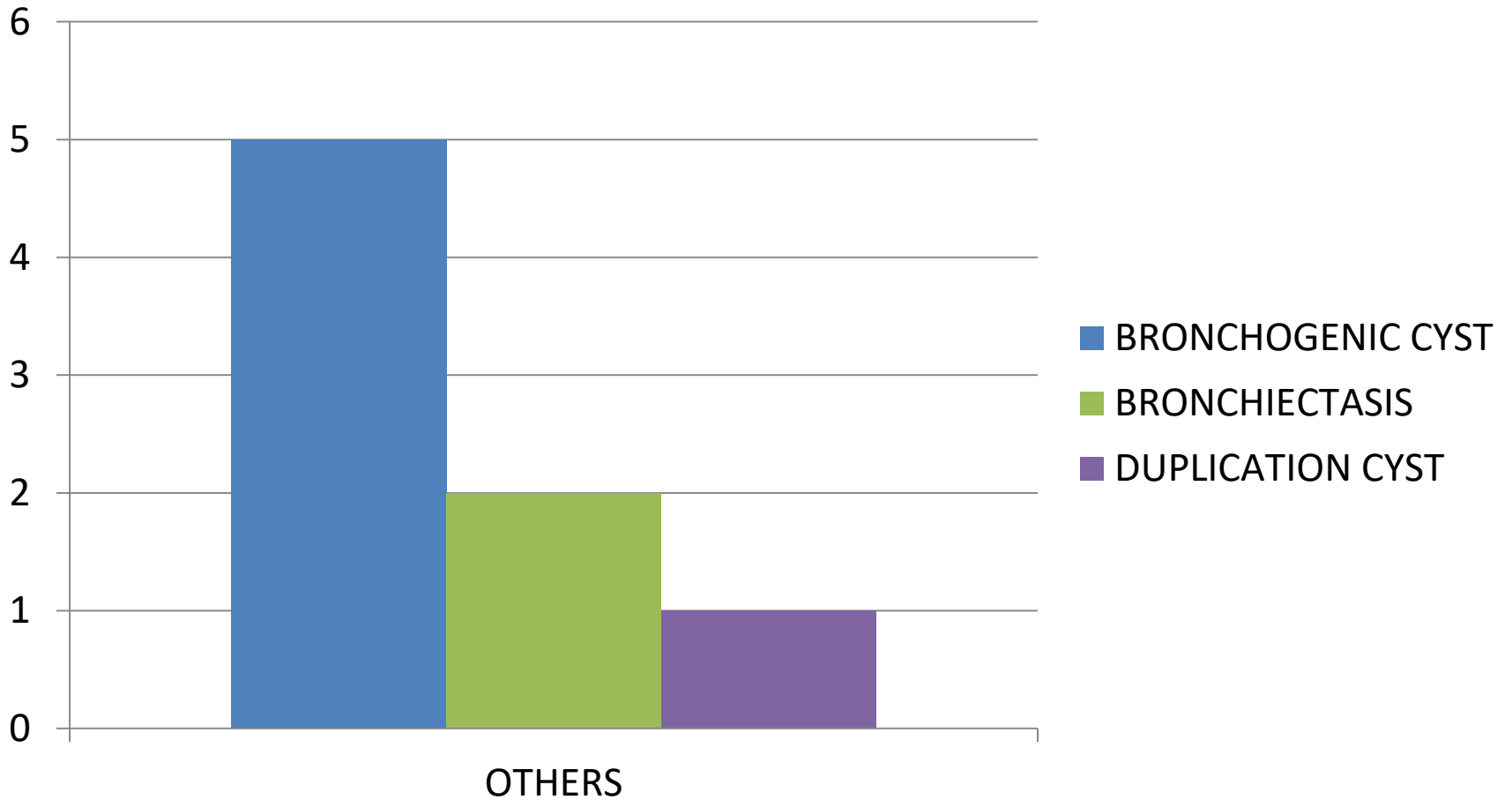


**NUMBER OF THORACOTOMIES PERFORMED BY THE
DEPARTMENT OF PEDIATRIC SURGERY FROM 2016-
2018**

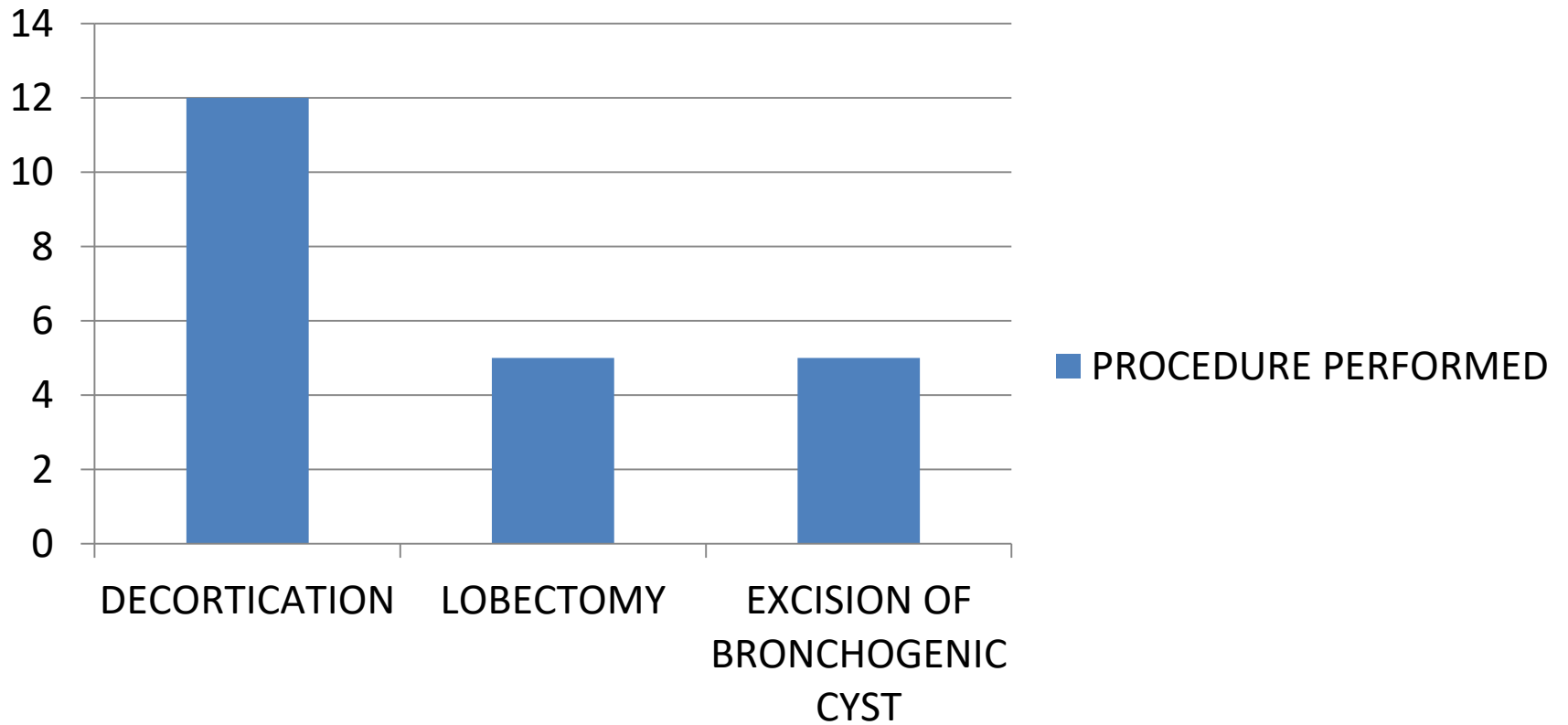
INDICATIONS FOR THORACOTOMY



INDICATIONS FOR THORACOTOMY OTHER THAN EMPYEMA



PROCEDURE PERFORMED



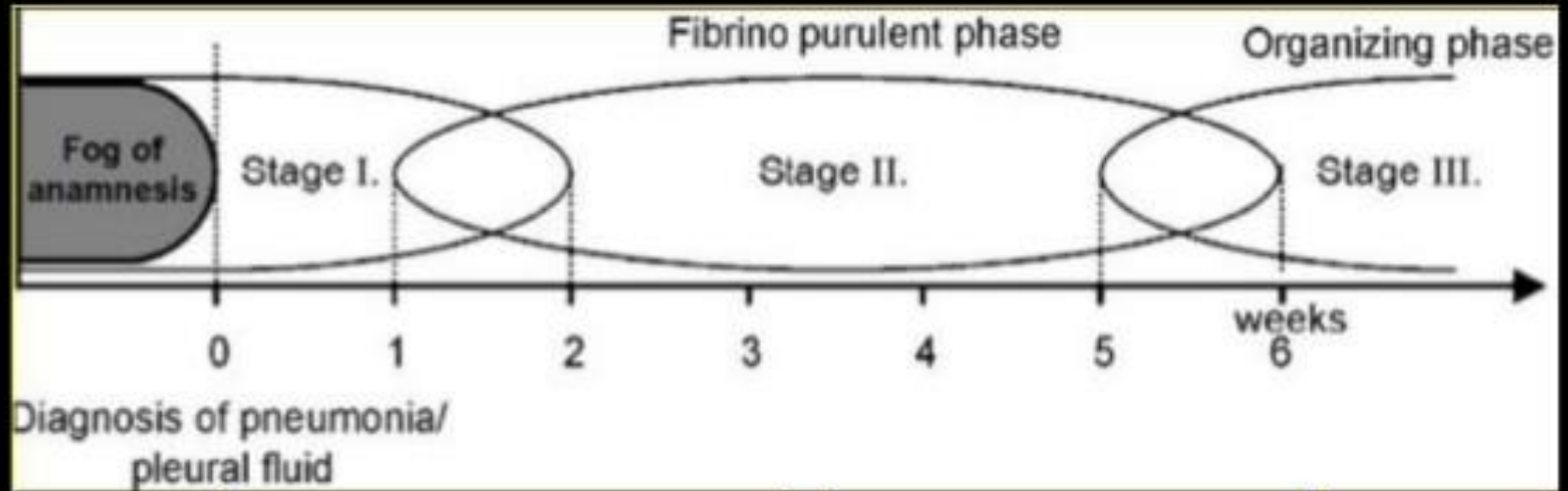
COMPLICATIONS

- **Postoperative Atelectasis**
- **Wound infection.**
- **Hemorrhage**
- **Chylothorax**
- **Postoperative extended air leakage/Bronchopleural fistula.**

DISCUSSION

- In our review of thoracotomies performed at our centre , Empyema was found to be the most common indication.
- Empyema is collection of pus in the pleural cavity.
- It usually progresses through three phases :
 1. Exudative phase.
 2. Fibropurulent phase.
 3. Organizing phase.

PLEURAL EMPYEMA PHASES



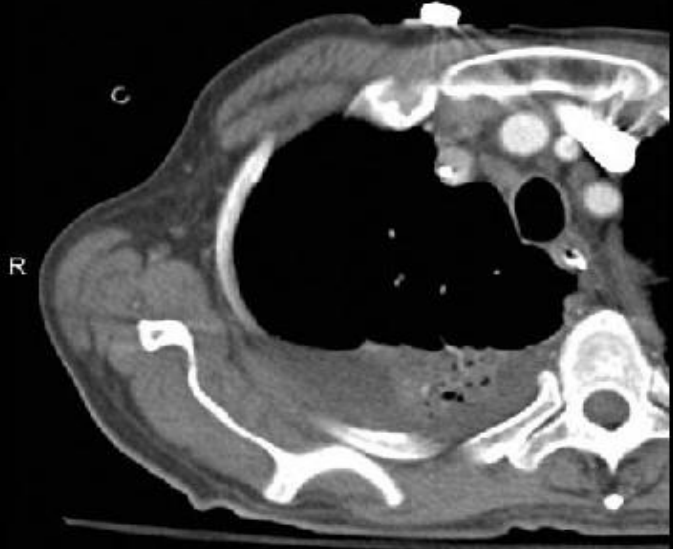


Figure 7. Contrast-enhanced chest CT reveals a Stage I parapneumonic effusion in a patient with pneumococcal pneumonia characterized by a dependent layering lentiform pleural fluid collection.



Figure 8. Contrast-enhanced chest CT reveals a Stage II complicated parapneumonic effusion characterized by a large right effusion and loculated fluid within the mediastinal pleural reflection paralleling the ascending aorta.



Figure 9. Contrast-enhanced chest CT reveals bilateral Stage II complicated parapneumonic effusions characterized by multiple linear septations throughout the pleural fluid collections.



Figure 10. Contrast-enhanced chest CT of a 50-year-old man with advanced cirrhosis and ascites shows a complicated left PPE with a "split pleura" sign. Note the enhancing, thickened visceral and parietal pleural layers separated by an intervening layer of low attenuation fluid.

DISCUSSION

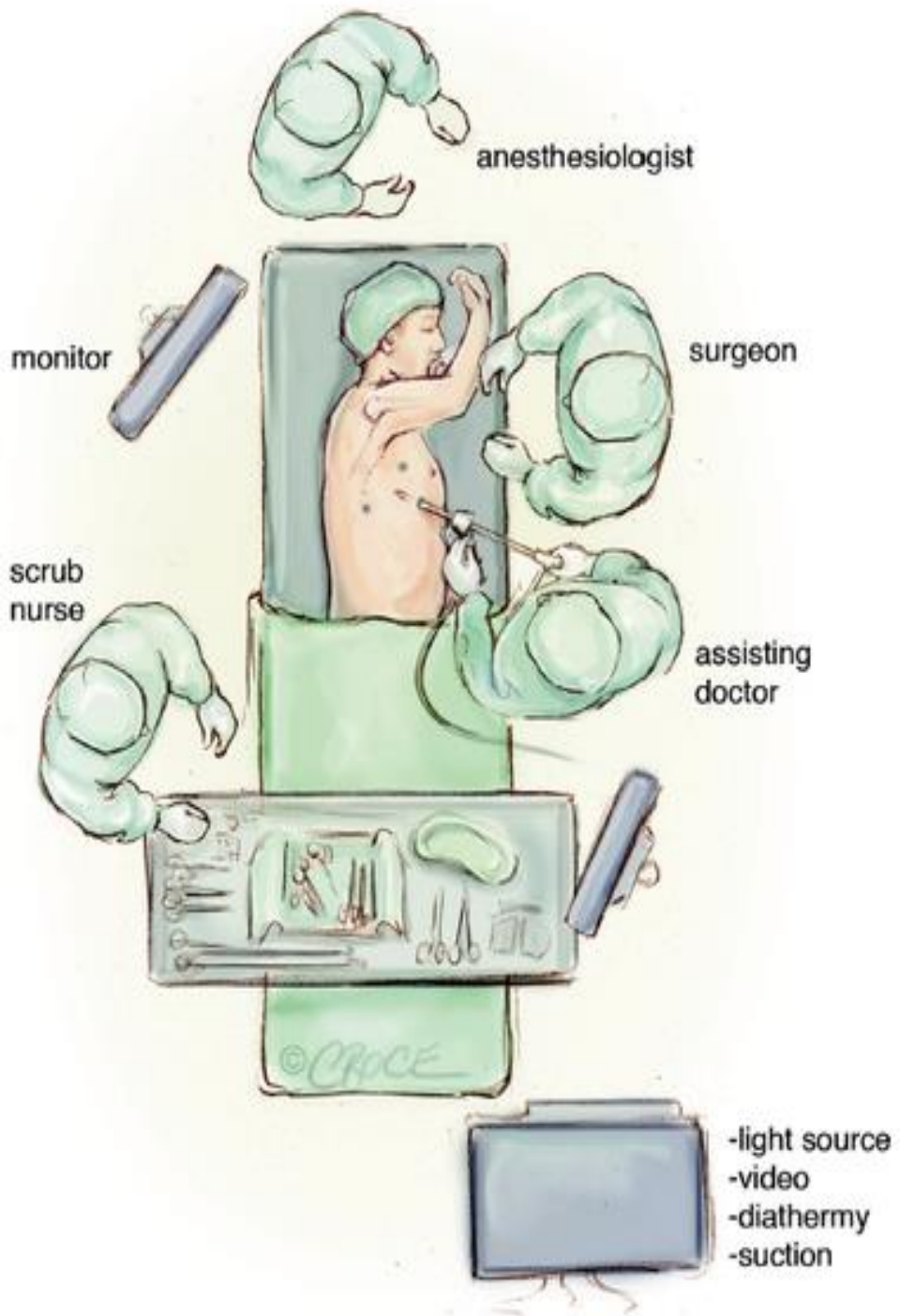
- **Patients presenting in early stage of empyema i.e. exudative phase can be management by using minimally invasive procedures like ICD insertion and VATS (Video Assisted Thoracic Surgery)**
- **However patients presenting late i.e. Fibropurulent or organizing phase cannot be managed by conservative methods and need to be subjected to conventional thoracotomies.**

DISCUSSION

- **Thoracotomies come with their own set of complications :**
 - **Delayed hospital stay.**
 - **Postoperative morbidity.**
 - **Increased post operative pain.**

RECENT ADVANCES

- **With the advent of newer modalities of treatment like VATS (Video Assisted Thoracoscopic Surgery) ,it is possible to deal with a wide range of pathologies in a more minimally invasive way.**
- **However the window for such techniques to be performed is very narrow and requires the patient to present to the clinic earlier.**



CONCLUSION

- **Thus early presentation of patients with empyema and other lung pathologies reduces the need for thoracotomies and its associated complications.**
- **Minimally invasive procedures can be opted for provided the case is caught in time.**

THANK YOU