

The Literature

Inaba K, Lustenberger T, Recinos G, Georgiou C, Velmahos GC, Brown C, Salim A, Demetriades D, Rhee P. Does size matter ?A prospective analysis of 28-32 versus 36-40 French chest tube size in trauma. J Trauma Acute Care Surg. 2012 Feb;72(2):422-7. doi: 10.1097/TA.0b013e3182452444. Anderson D, Chen SA, Godoy IA, Brown LM, Cooke DT. Comprehensive Review of Chest Tube Management: A Review. JAMA Surg. 2022;157(3):269– 274. doi:10.1001/jamsurg.2021.7050

HOW TO PLACE A CHEST TUBE

Tips & Tricks from ESTES Education in collaboration with the Visceral Trauma section

The Problem

Pneumothorax; Hemothorax; Pleural effusion; Empyema

The Challenge

Placing a tube without risks

The Evidence

The complication rate associated with chest tubes is variable and has been quoted as high as 40%. Insertional complications include injury to intrathoracic or extrathoracic organs within 24 hours of insertion. To reduce this risk, it is crucial to use a standardized and precise technique.

Tips & Tricks



- Patient supine, with the head of the bed elevated of 35-40°
- Usually, the incision site is the 4th or 5TH intercostal space at the midaxillary line
- After doing the anesthesia, make an incision of 2-3 cm at the upper margin of the rib below the identified intercostal space
- Check with the finger to confirm entry into the pleural space and clear any adhesions
- Insert a 28-32 Fr tube with a Kelly clamp or similar and direct it posteriorly and superiorly for air drainage or posteriorly and inferiorly for fluid drainage
- Suture the tube to the skin and attach it to the drainage system



Conclusion

Placing a chest tube is essential in some cases to allow lung re-expansion and improving breathing. Proper placement is crucial to avoid complications.