Robotic Assisted Thoracoscopic Minimally Invasive Treatment of TOS Including First Rib Resection: How is it done, Advantages And limitations

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First rib resection for TOS

Surgical Approach to First Rib Resection
• Posterolateral Thoracotomy
• Anterior Thoracotomy
• Transaxillary
• Supraclavicular / Infraclavicular Approach
• Thoracoscopy

Shortcomings of Surgical Approaches
• "Key Hole Surgery" with All Surgical Approaches
• Poor Visualization of the Medial Aspect of First Rib
• Long Thoracic Nerve Injury
• Injury of Superficial Cervical Nerves
• Brachial Plexus Injury
• Inadequate Rib Resection

No Disclosures
Robotic Surgical Systems

Paget-Schroetter Disease

Surgical Robot

Direct Minimally Invasive Transthoracic Approach to the Resection of First Rib and Scalenectomy

Advantages Robotic Assisted Thoracoscopic First Rib Resection
- Excellent visualization (medial aspect) first rib
- Less Nerve injury (long thoracic nerve, superficial cervical nerves, brachioal plexus)
- Immediate detection of accidental haemorrhage
- Easy venolysis

Limitations Robotic Assisted Thoracoscopic First Rib Resection
- Extent rib resection
- Best indication vTOS (6% of all TOS)
- Cervical rib resection difficult
- Extensive neurolysis difficult
- Need for TX drainage
- Access to Da Vinci robotic platform/costs
- Arterial/venous reconstruction/patching difficult

Thank you for your attention