Is Physiotherapy routinely required following video-assisted thoracoscopic surgery (VATS)?
Postoperative Physiotherapy - Thoracic Surgery

- High risk patients
- Prevention/treatment PPC

• Sit out of bed POD 1
• Mobilise POD 1
• Progression to exercise-frequency/duration/task

• Sputum clearance
• Increase lung volume
VATS - Background

• Minimally invasive surgery/ VATS
  • reduces LOS/complication/
  • Less painful
  • Less surgical attachments/ Increases mobility

• Conflicting evidence re reduction of pneumonia?
  • Varying frequency reported

• No published studies rehab/physiotherapy following VATS
  • Anecdotal evidence suggests physiotherapy may not always be required
VATS- Physiotherapy practice UK 31/40

- Variable practice following VATS
  - 35% routine contact
  - 13% no routine contact
  - 52% smokers, elderly, mobility, pulmonary

- Vs 97% routine physiotherapy post-thoracotomy
VATS lobectomy - SCTS 2013

• HEFT - VATS lobectomy (n=123) :
  – left hospital earlier (4 vs 6 days p<.001)
  – significantly less PPC (7% vs 23% p=.025)
  – fewer physiotherapy sessions (p=.005) and less time (p<.001)

• BUT
  – 70% (38) – early mobility required considerable assistance
  – 41% (22) – mobility/ respiratory problems beyond PODs 1/2
  – Routine Physiotherapy consequently maintained
AIMS

**Question:** Is routine physiotherapy necessary following **ALL** VATS?

**STUDY AIMs**

1. To observe the physiotherapeutic requirements, both respiratory and mobility, of patients undergoing minor VATS procedures

2. Observe frequency of PPC development to establish if there is a role in prevention
Patients and Methods

- Feb-Sept 2013
- All patients undergoing VATS observed prospectively
  - Exclusions- lobectomy/LVRS/decortication
- POD1 patients screened by Physiotherapists on ward round
- If triage revealed...
  - chronic lung disease (CLD)
  - decreased mobility
  - elderly
  - increased bronchial secretions
  - oxygen saturations <92%
- ...patients were fully assessed to ascertain physiotherapy needs
- MDT aware of screening - able to easily refer patients with specific problems as , when and if necessary
The triage screening process was based on anecdotal evidence and risk factors for development of PPC following thoracotomy.
Results

• n=261 screened by Physiotherapists
  – wedge resection (156)
  – pleural procedures (50)
  – bullectomy/ pleurectomy (37)
  – mediastinal procedures (12)
  – other (6)

• After triage 42 patients (16%) received full physiotherapy assessment, 35 (13%) needed specific treatments
  • 12 CLD
  • 15 pulmonary -2 developed pneumonia (0.7%)
  • 8 mobility
• A further 7 (3%) patients (not originally assessed) were later referred by MDT PODs 1-6 for specific treatments
  • 5 pulmonary
  • 2 mobility (1 stairs)

• In total 42 patients (16%) needed physiotherapy
  • 12 CLD
  • 20 pulmonary
  • 10 mobility
• No link with operative procedure

Triage correctly identified 83% (35/42)
Importance

• **BOTTOM LINE- 84% DID NOT** receive physiotherapy assessment and **WERE NOT** re-referred with any problems

• Re-direction of resources- staff/time
  • 28 contacts per month
  • 1- 1.5hr/ day

• Enhanced recovery
  • Early mobilisation

• Thoracotomy/ Chest wall patients
Conclusion

• Routine physiotherapy is unnecessary following minor VATS
• Few patients developed PPC- no preventative role
• The triage/ screening system successfully identified the majority of patients with mobility/ pulmonary problems, with few subsequent referrals

• Change in practice- more time for higher risk patients, PPC and early mobilisation
Questions?
Postoperative Physiotherapy

**Lung Volume**
- Deep breathing techniques
- Early mobility/Exercise
- Positioning

**Sputum**
- Humidification/nebulisation
- Breathing techniques Huff/ cough
- Improve lung volume

**Analgesia**