

Technical aspects of lung cancer surgery

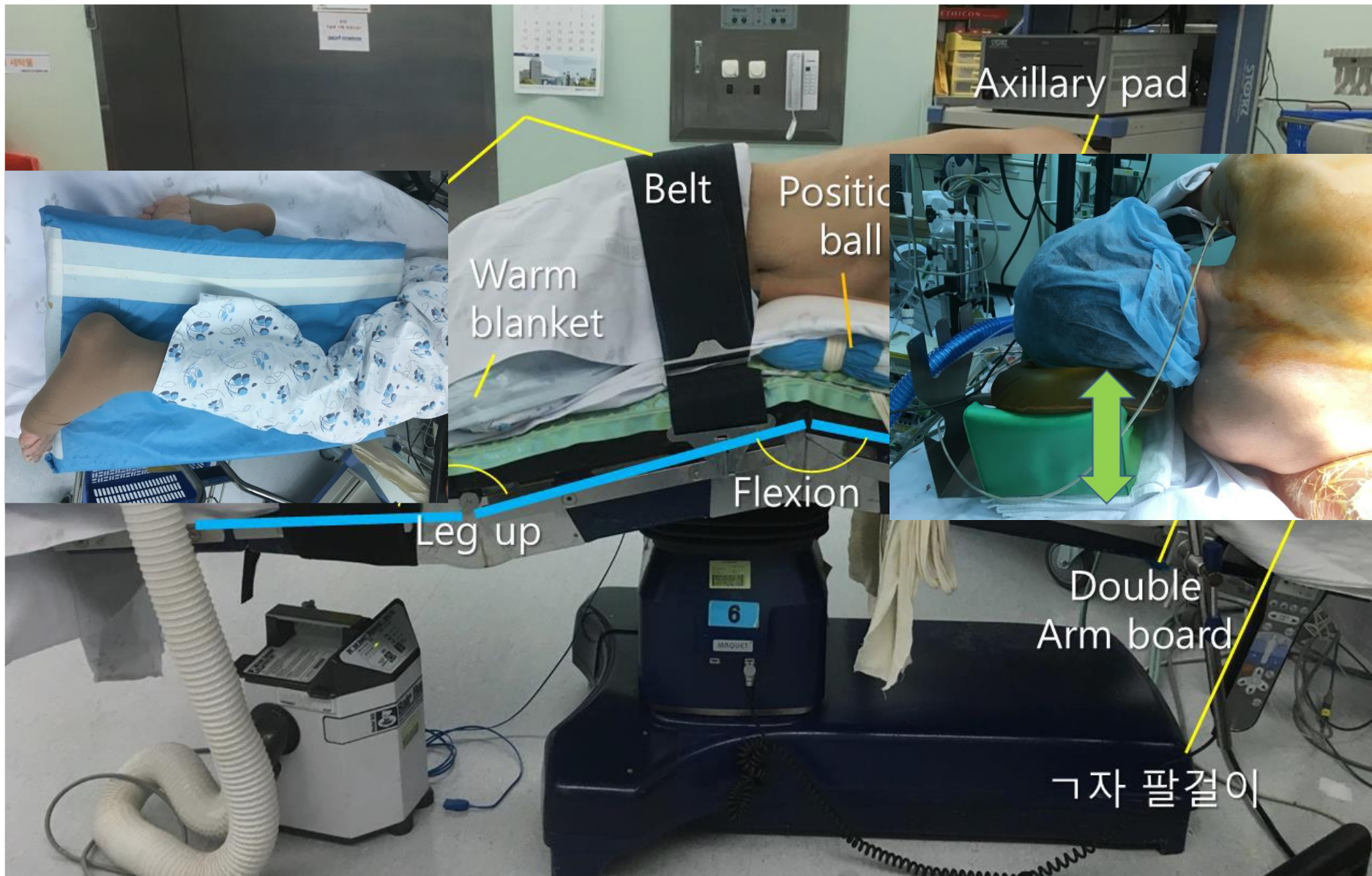
조 석 기

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서울대학교 의과대학 흉부외과학교실

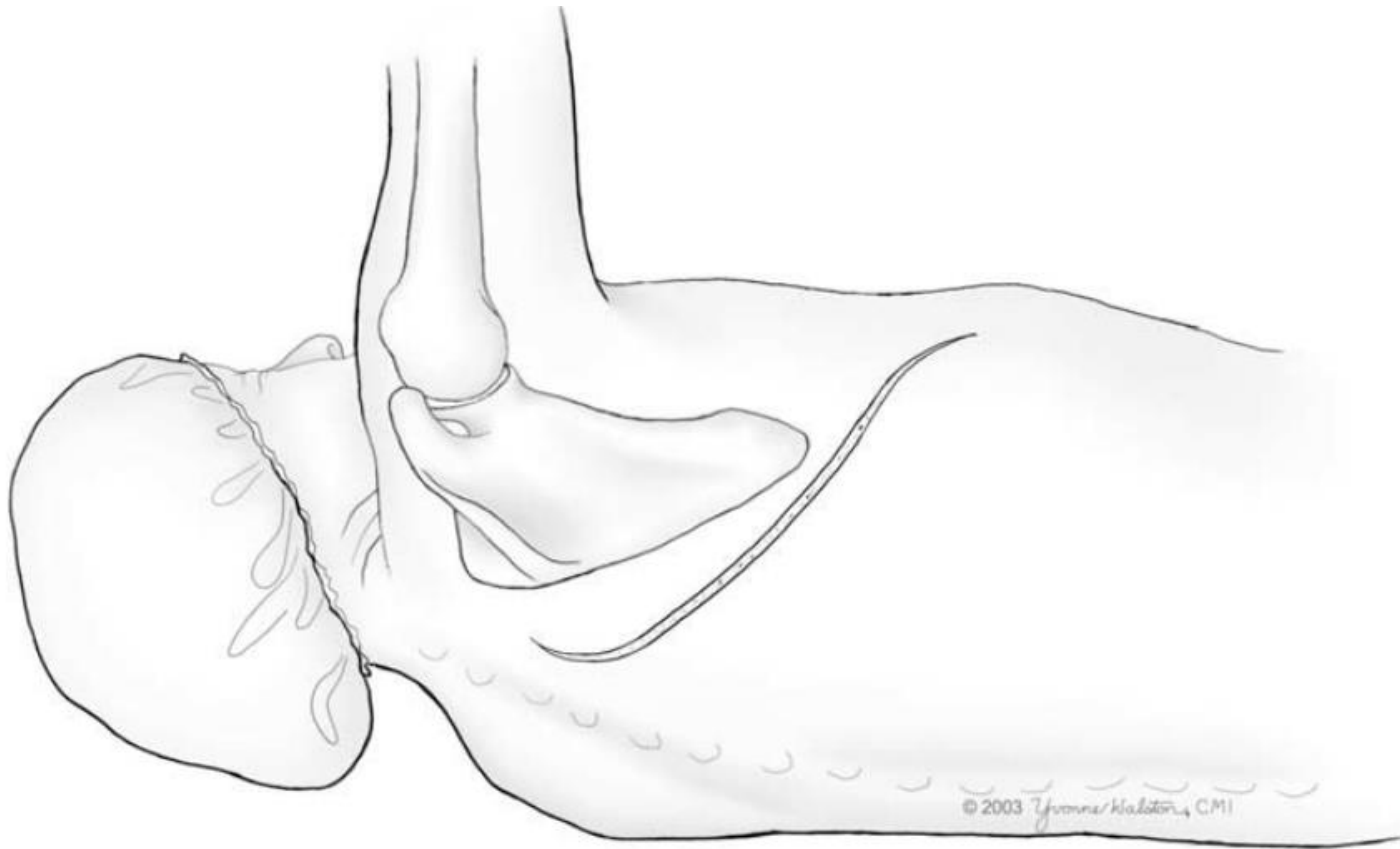
Contents

1. Patients position
2. Open thoracotomy
3. VATS port placement
4. Open / VATS instruments
5. Surgery
 - ① Right upper lobectomy
 - ② Left lower lobectomy
 - ③ Mediastinal lymph node dissection (LND)

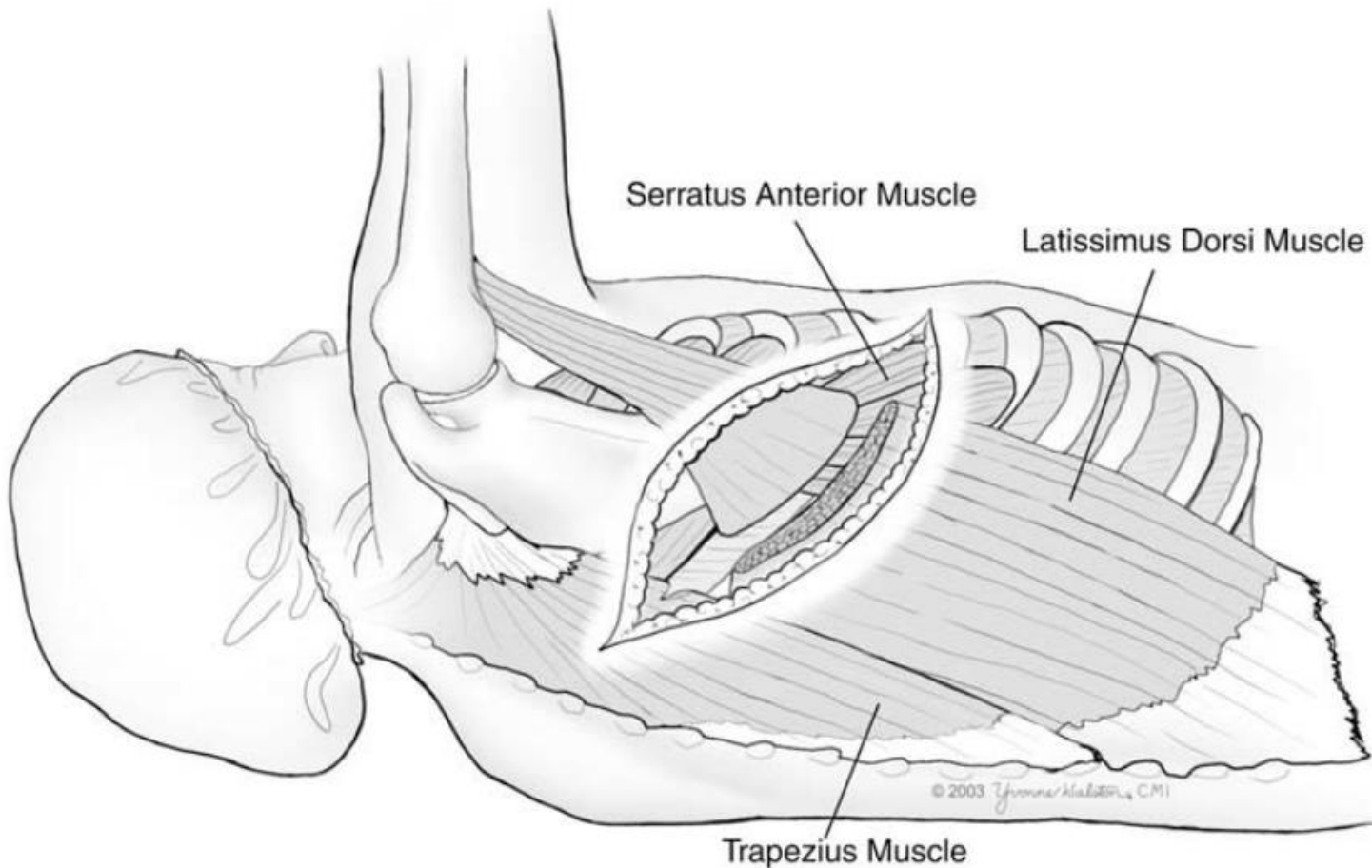
Patients position



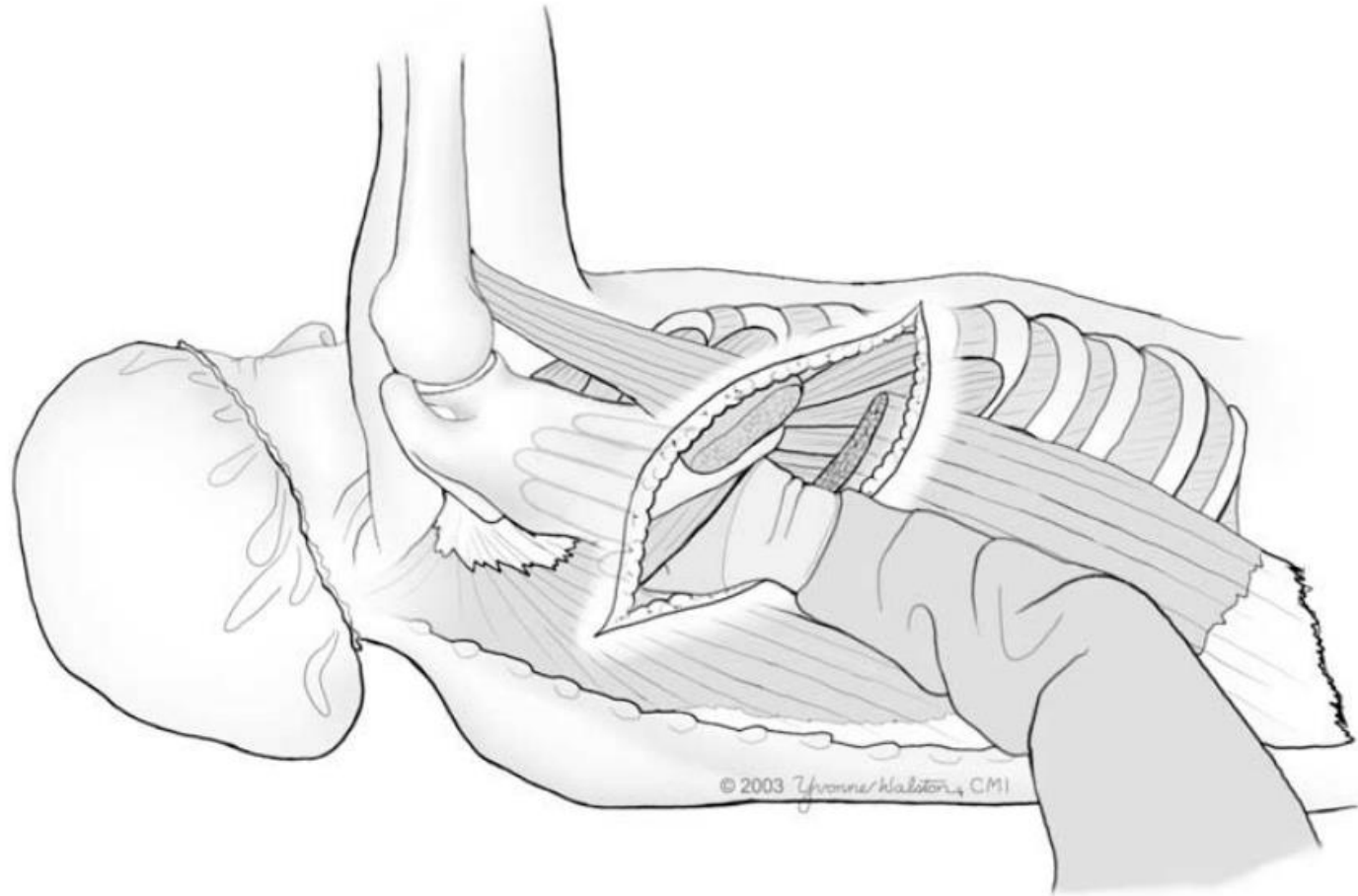
Posterolateral thoracotomy



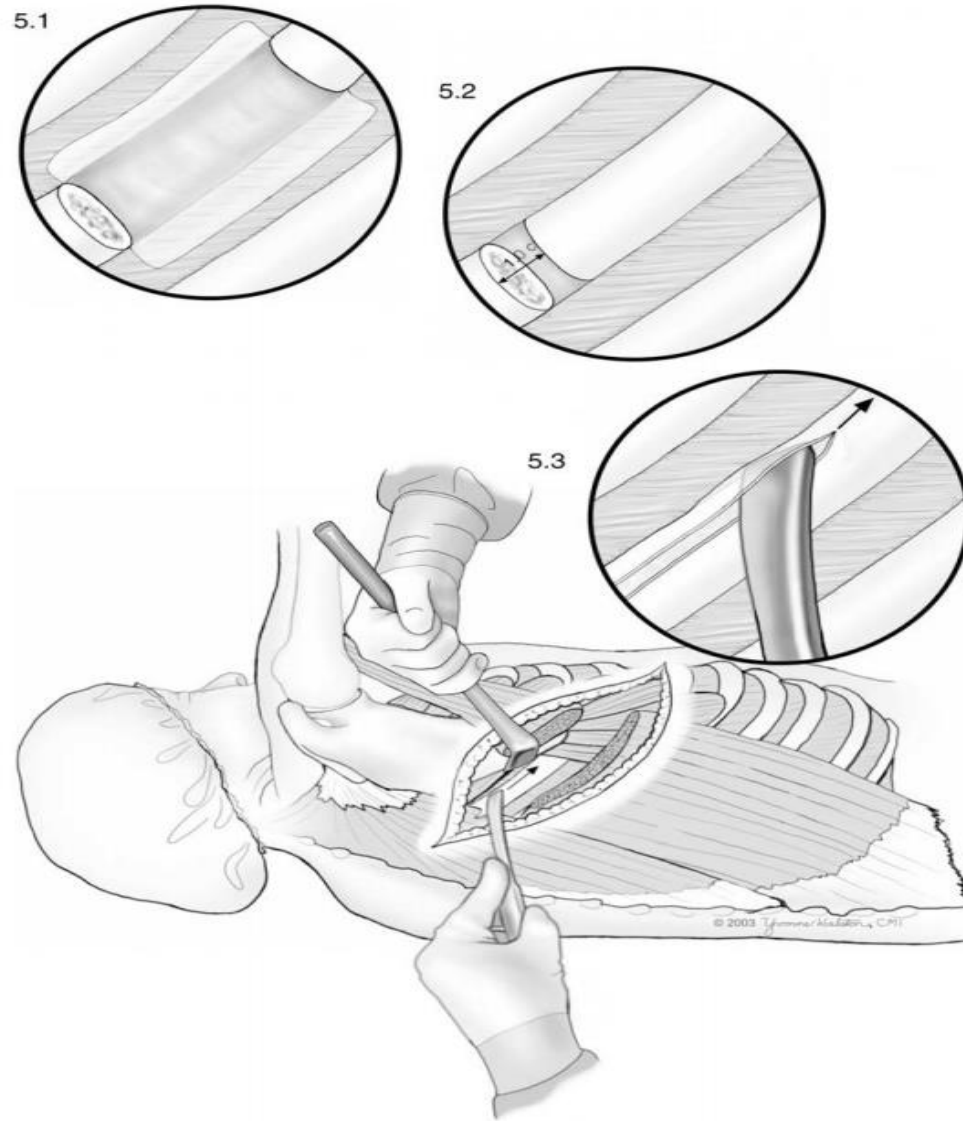
Posterolateral thoracotomy



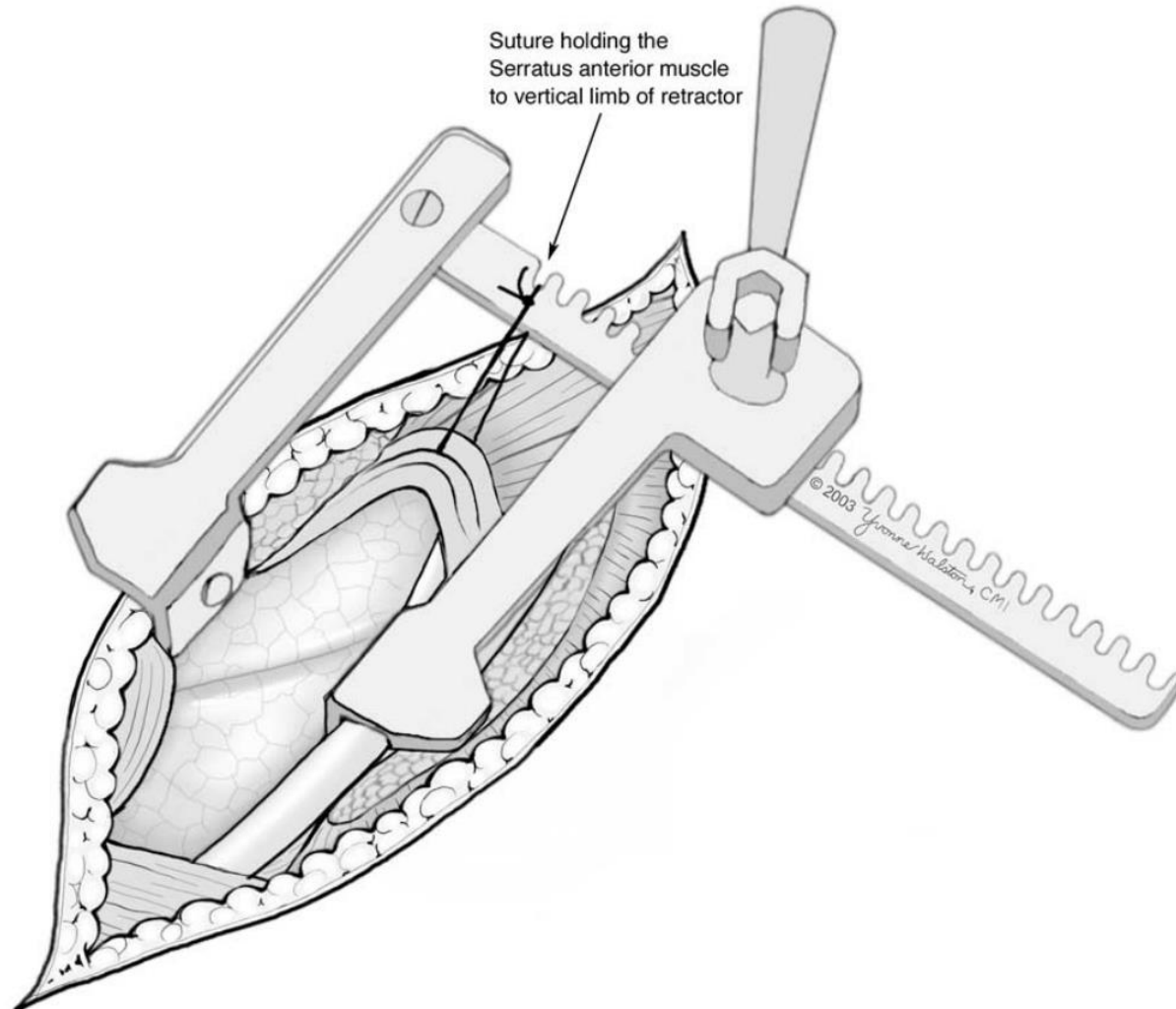
Posterolateral thoracotomy



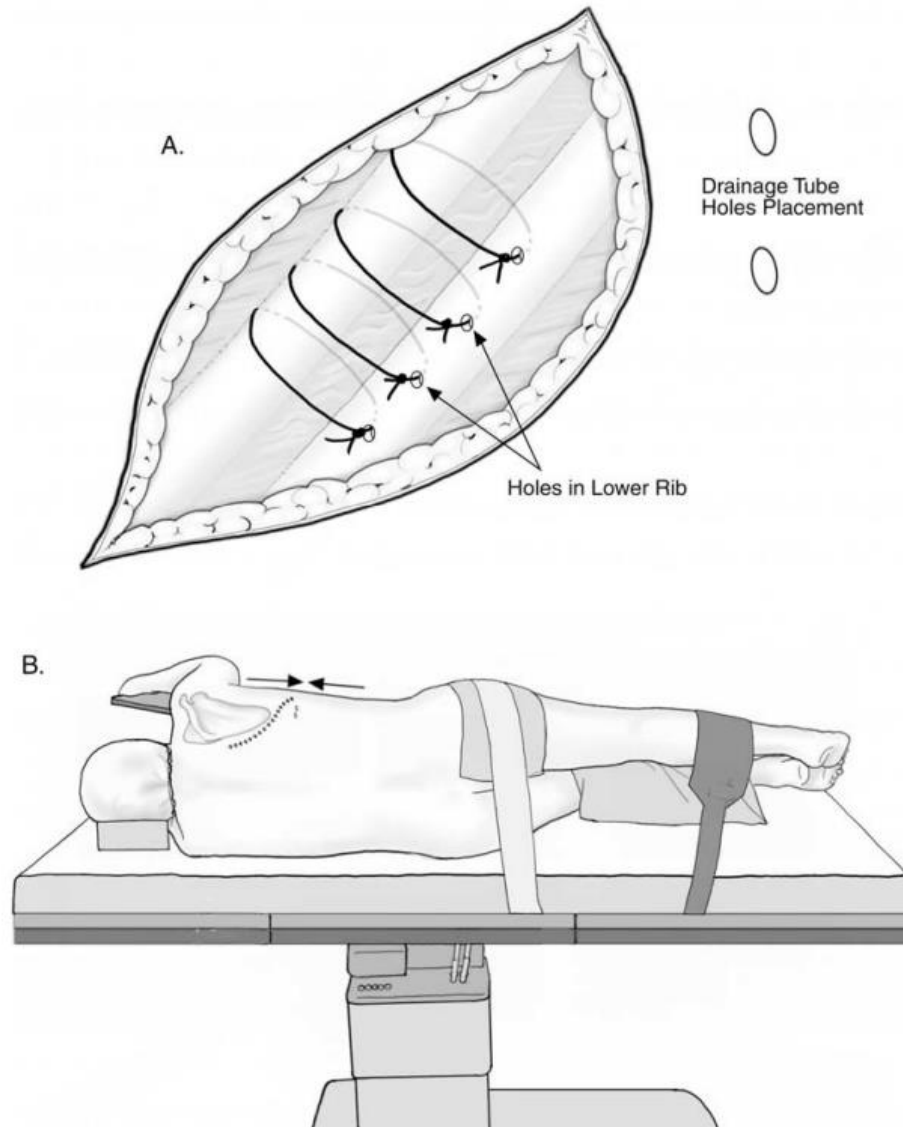
Posterolateral thoracotomy



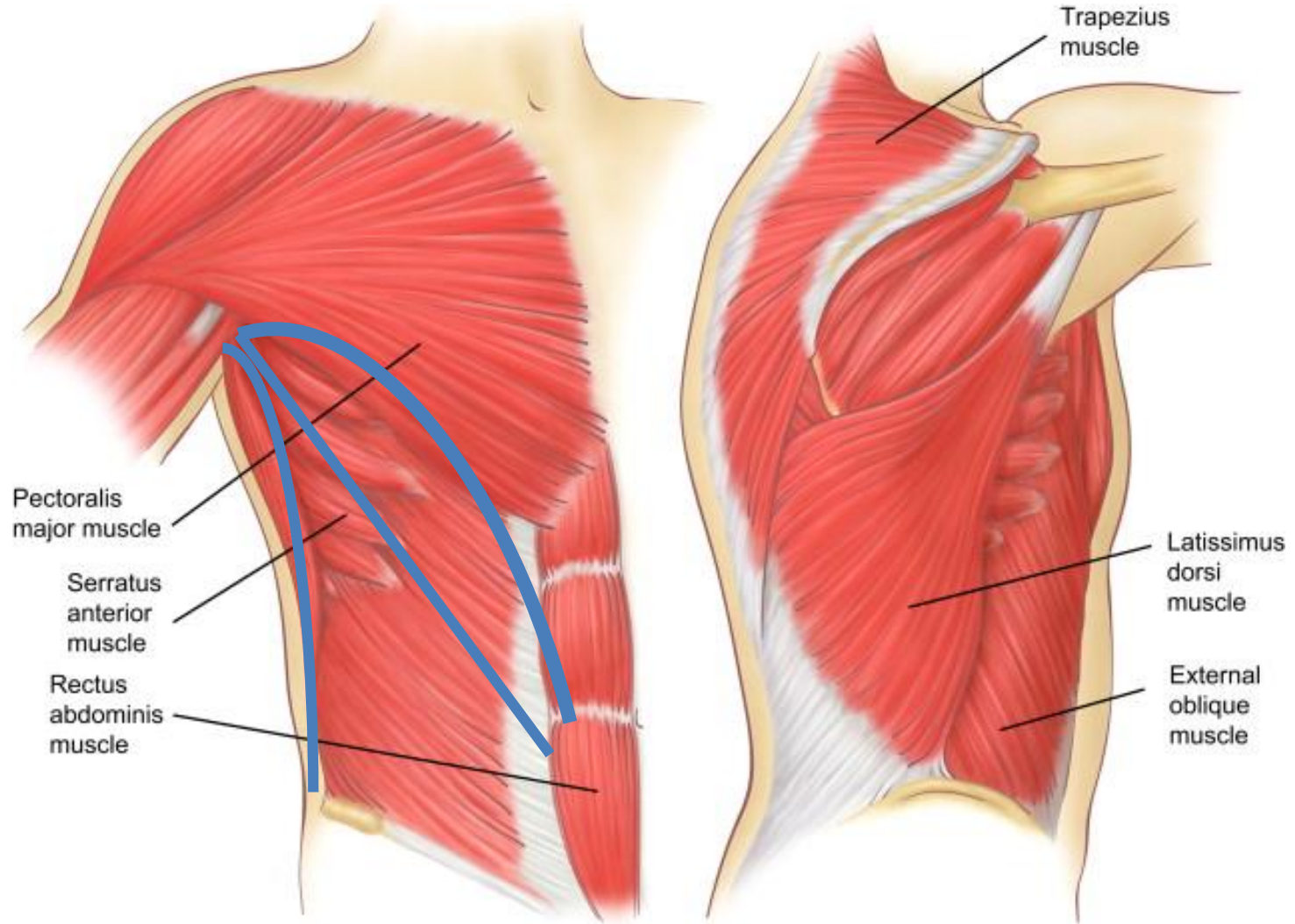
Posterolateral thoracotomy



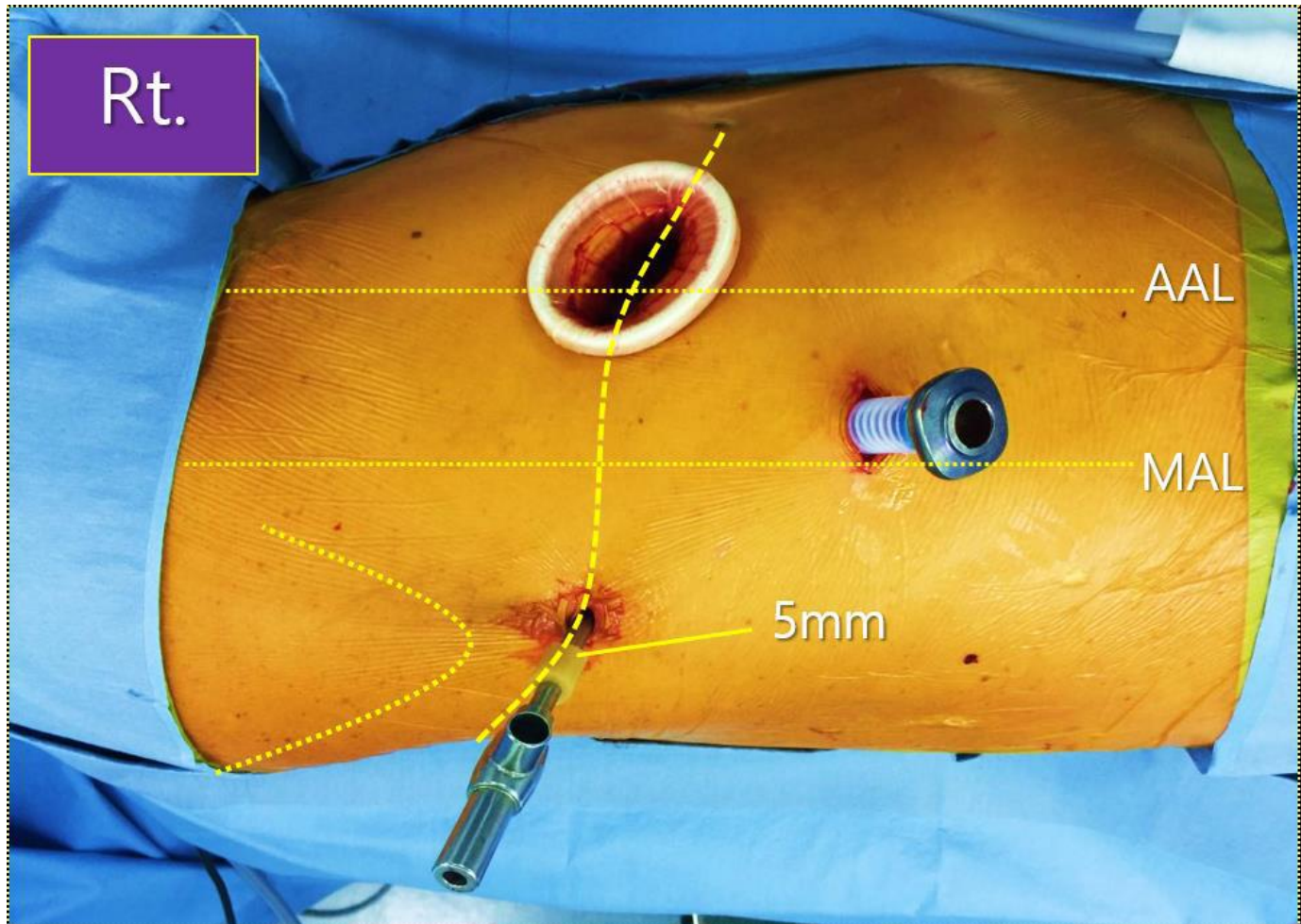
Posterolateral thoracotomy



Axillary line



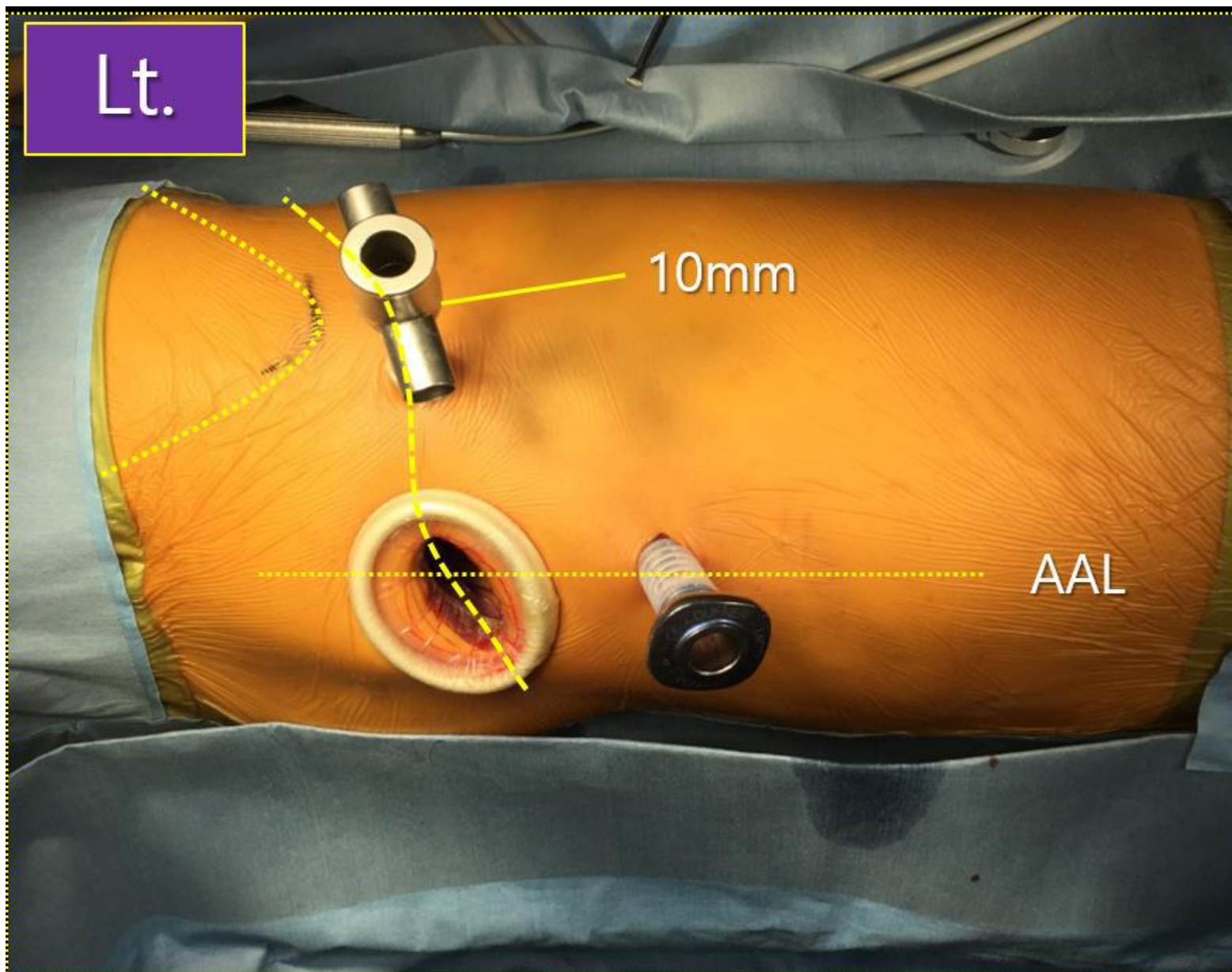
VATS Ports placement

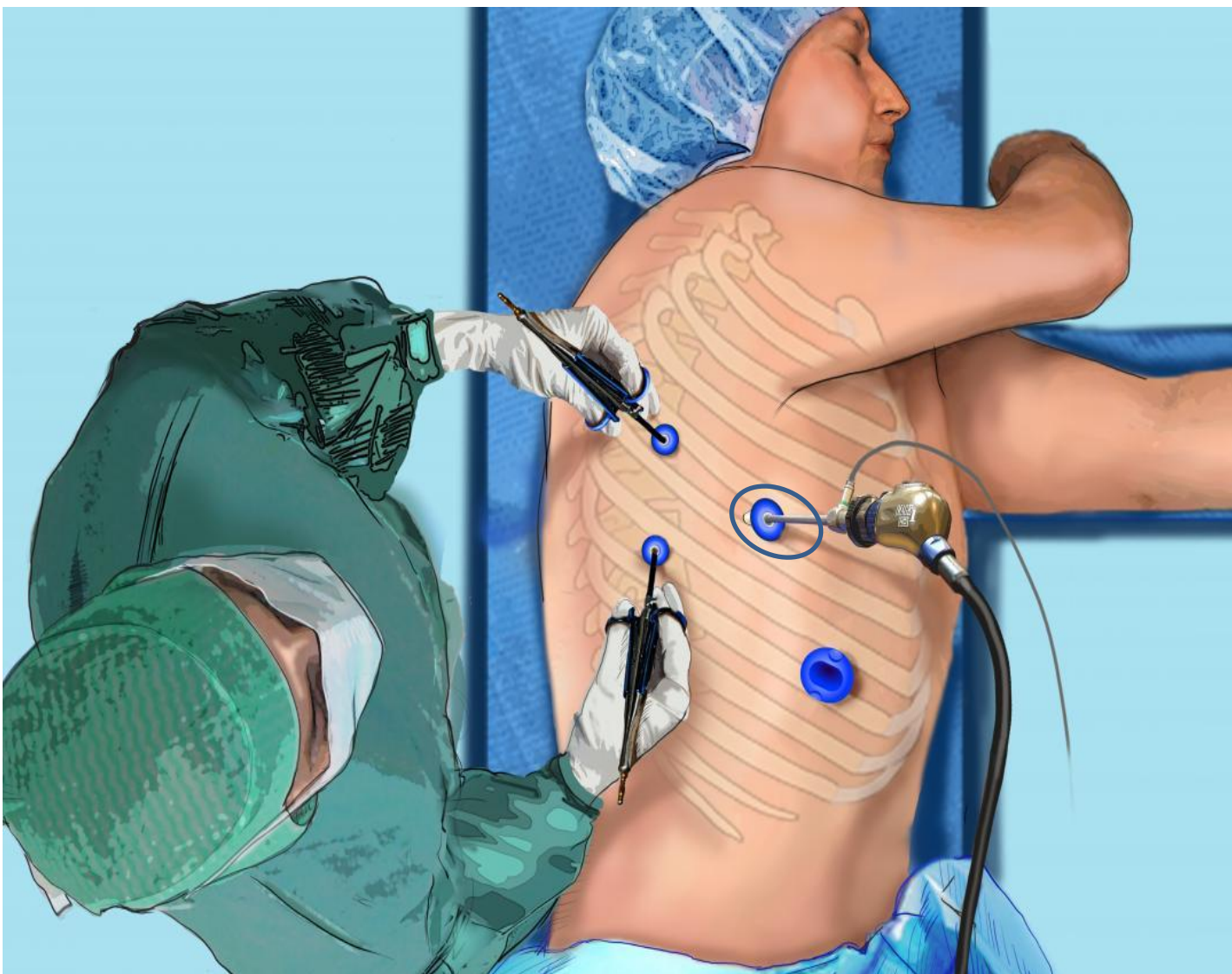


Lt.

10mm






AAL

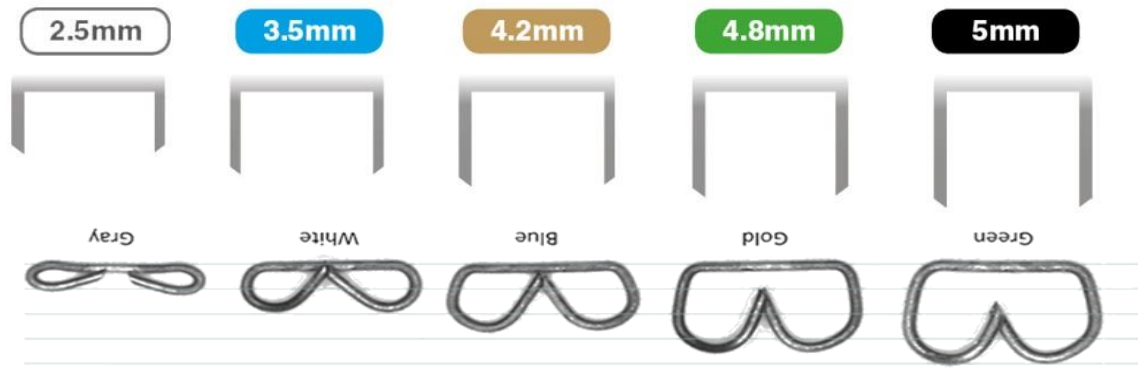




OPEN/VATS Instruments

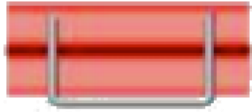


Color	Rows	Tissue type	Open staple height	Closed staple height
 Grey	6	Mesentery	2.0 mm	0.75 mm
 White	6	Vascular	2.5 mm	1.0 mm
 Blue	6	Standard	3.5 mm	1.5 mm
 Gold	6	Standard/ thick	3.8 mm	1.8 mm
 Green	6	Thick	4.1 mm	2.0 mm



Endo Linear stapler, cartridge

The Staple Formation Continuum



BAD



VERY BAD

Staple legs lie
on top of tissue.



GOOD

The tissues have
been pierced
three times. The
legs are bent over
and pierce the
tissue. This staple
line will hold.



GOOD

Tissue will tear
before staple
comes open.

HARMONIC ACE®+7 Shears

Refined blade design

- Tapered tip designed for precision and multifunctionality
- Features a proprietary, nonstick coating

Adaptive Tissue Technology

- Ethicon Generator G11 regulates energy, controlling the thermal profile to reduce the risk of thermal damage
- Enables the system to sense and respond appropriately to changes in patient tissue conditions
- Audible feedback provides a cue to reduce activation time during transection, driving improved efficiency

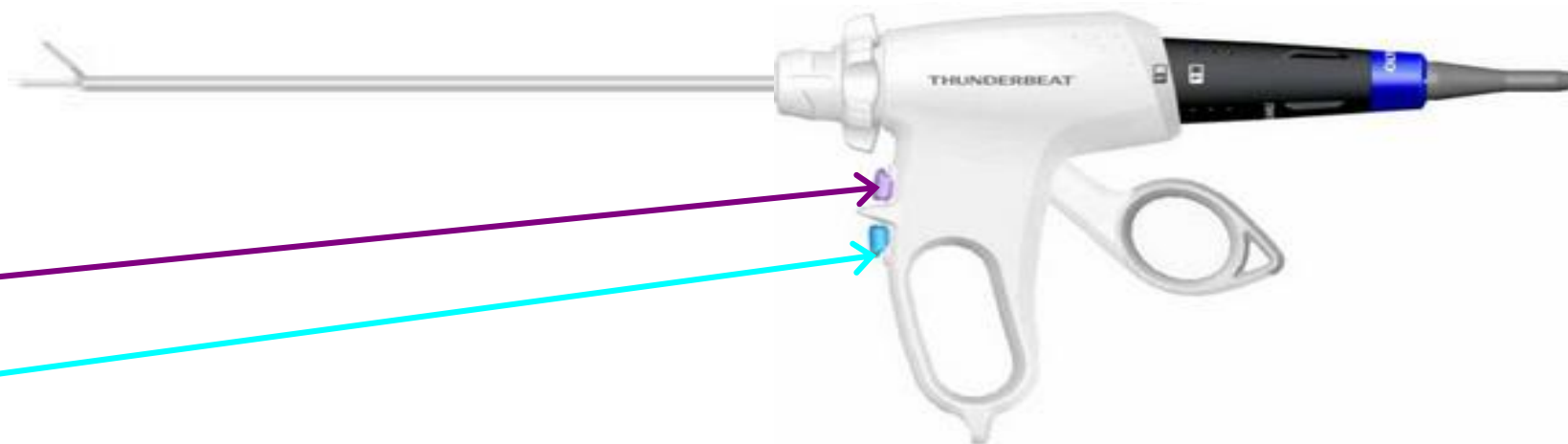
Advanced Hemostasis Mode

- Coagulation of vessels up to and including 7mm in diameter with the use of the Advanced Hemostasis hand control button



Ligasure Maryland jaw type



**SEAL & CUT mode**

(Synergistic energy = US+Bipolar)

For fast transection of tissues and vessels up to and including 7mm in diameter

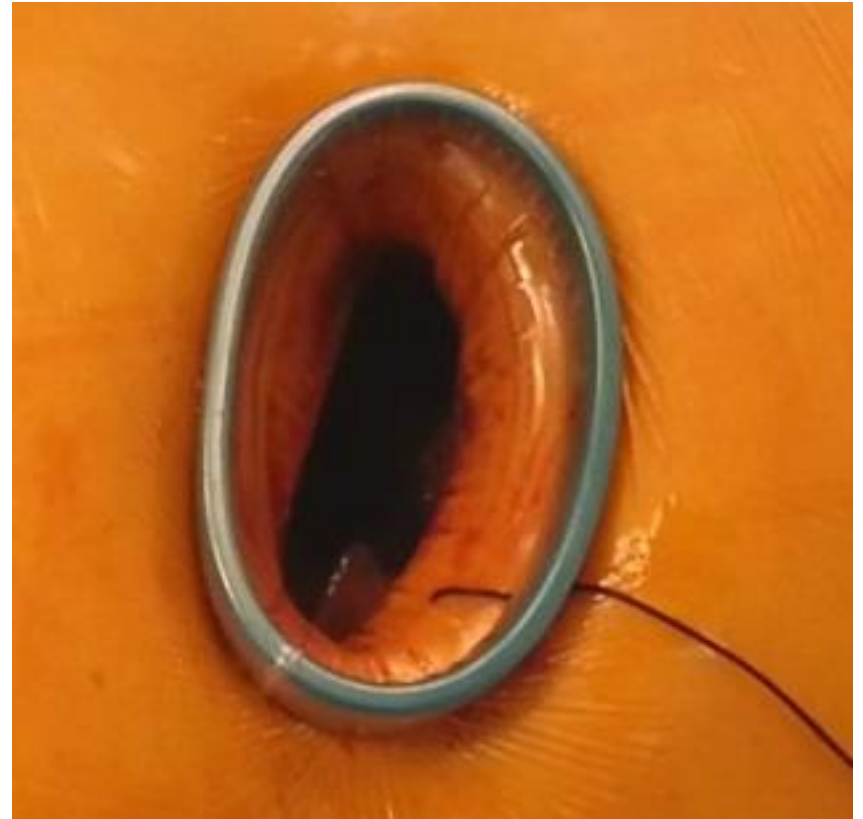
SEAL mode

(Bipolar)

For secure coagulation of tissues, vessels up to and including 7mm and bleeders



Wound protector/retractor



Trocars



Features

- Threaded cannula enhances stability when exchanging instruments.
- Blunt tip obturator prevents the damage of internal structure.
- Available in 5mm, 10/11mm, 13mm, 15mm diameters.
- Cost-effective option.

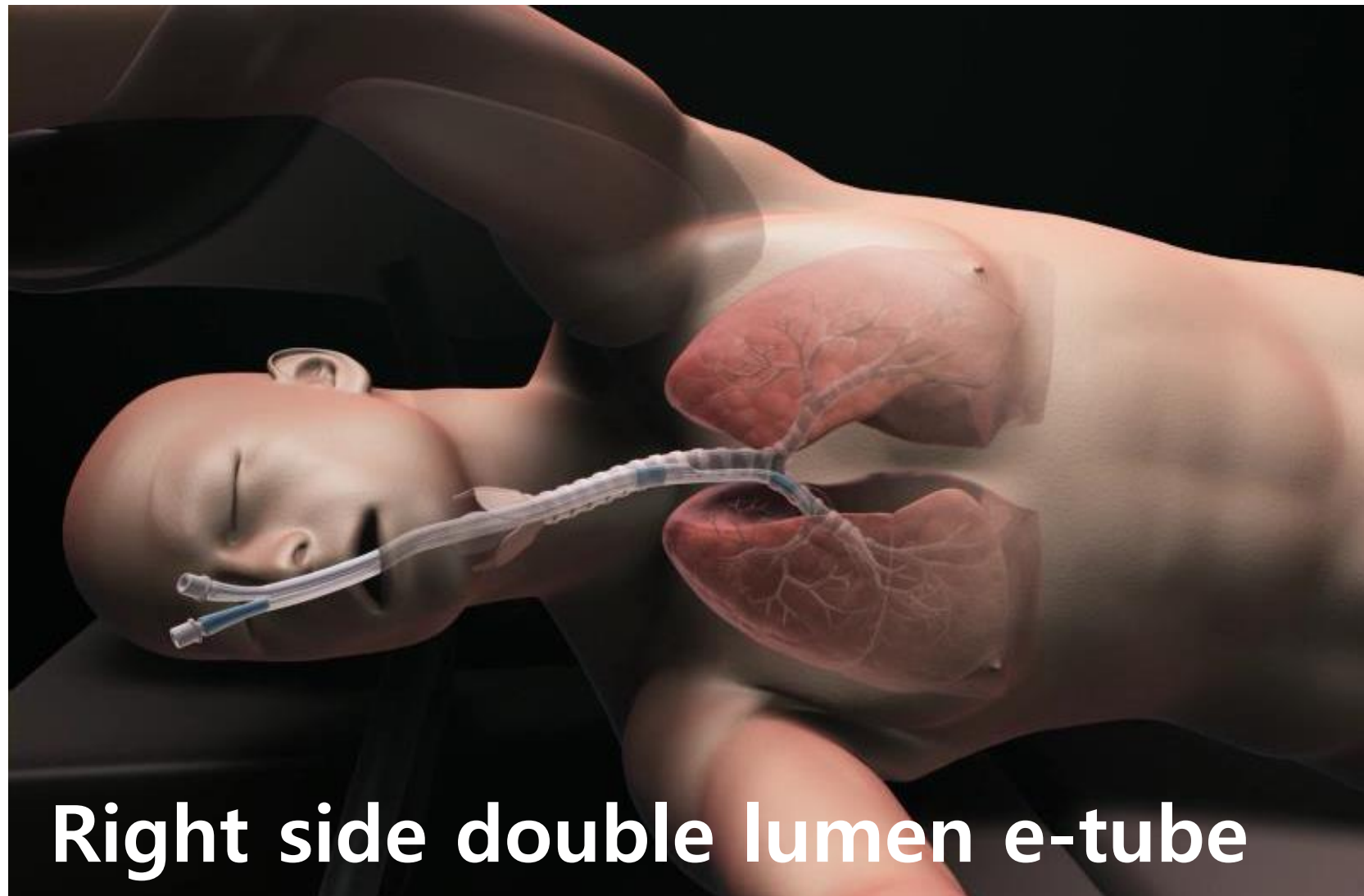
The new ENDOPATH® Trocar Por
from EES b
value



Inspection

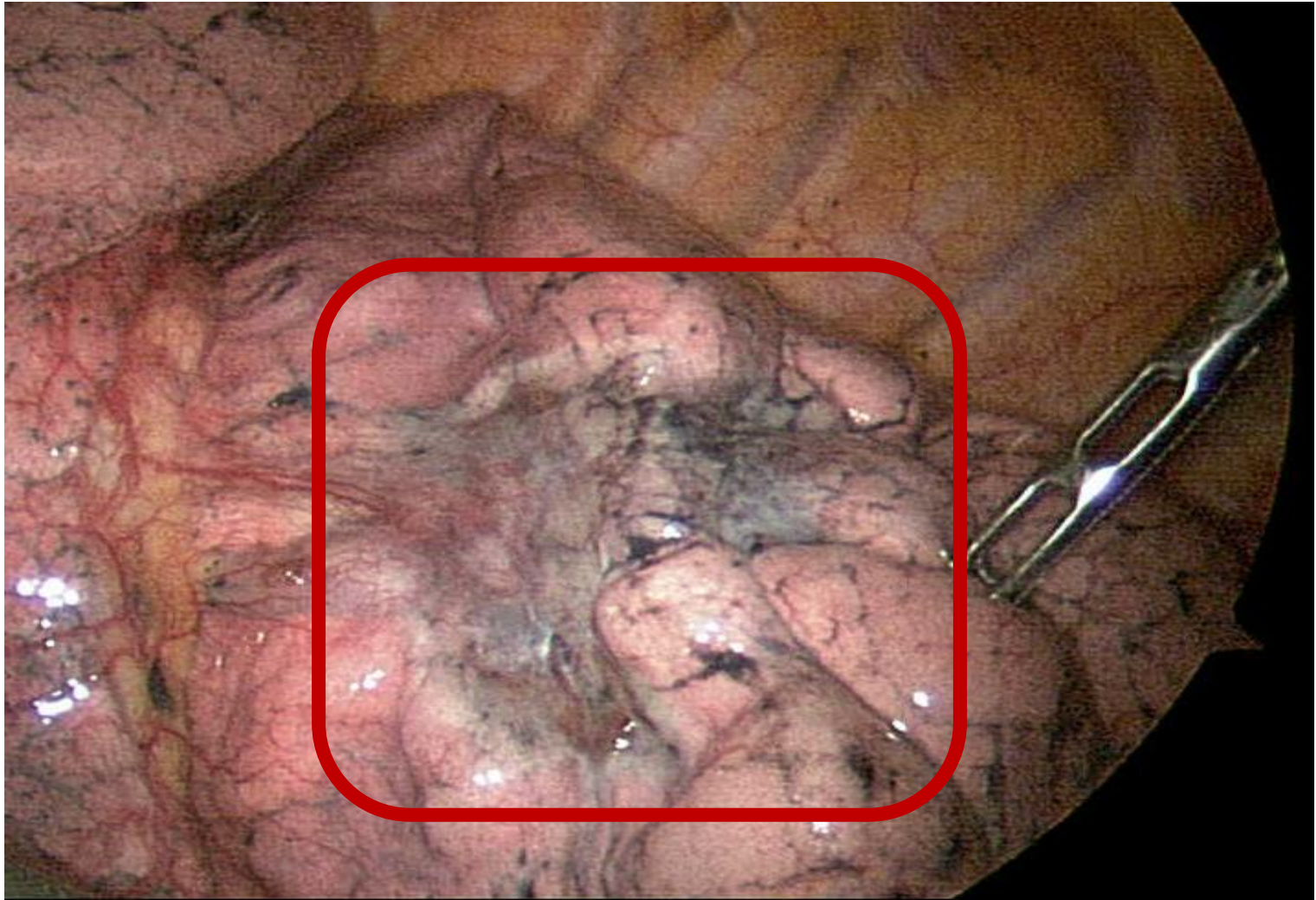
- One lung ventilation
- Adhesion
- Fissure development
- Identification of mass
- Effusion
- Pleural seeding

One lung ventilation



Right side double lumen e-tube

Identification of mass



Pleural seeding



Superior Mediastinal Nodes

1. Highest Mediastinal
2. Upper Paratracheal
3. Pre-vascular and Retrotracheal
4. Lower Paratracheal (including Azygos Nodes)

Aortic Nodes

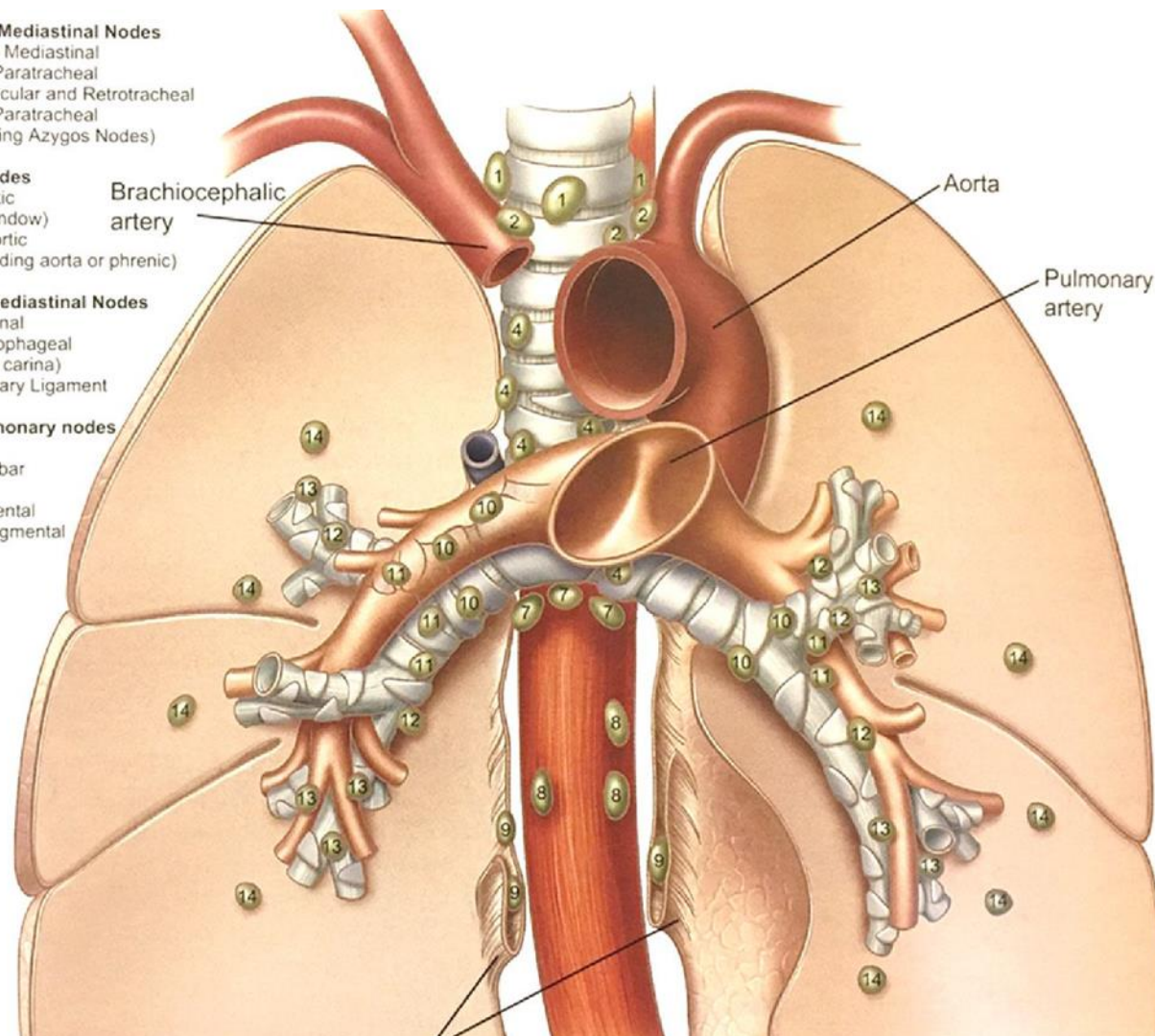
5. Subaortic (AP window)
6. Para-aortic (ascending aorta or phrenic)

Inferior Mediastinal Nodes

7. Subcarinal
8. Paraesophageal (below carina)
9. Pulmonary Ligament

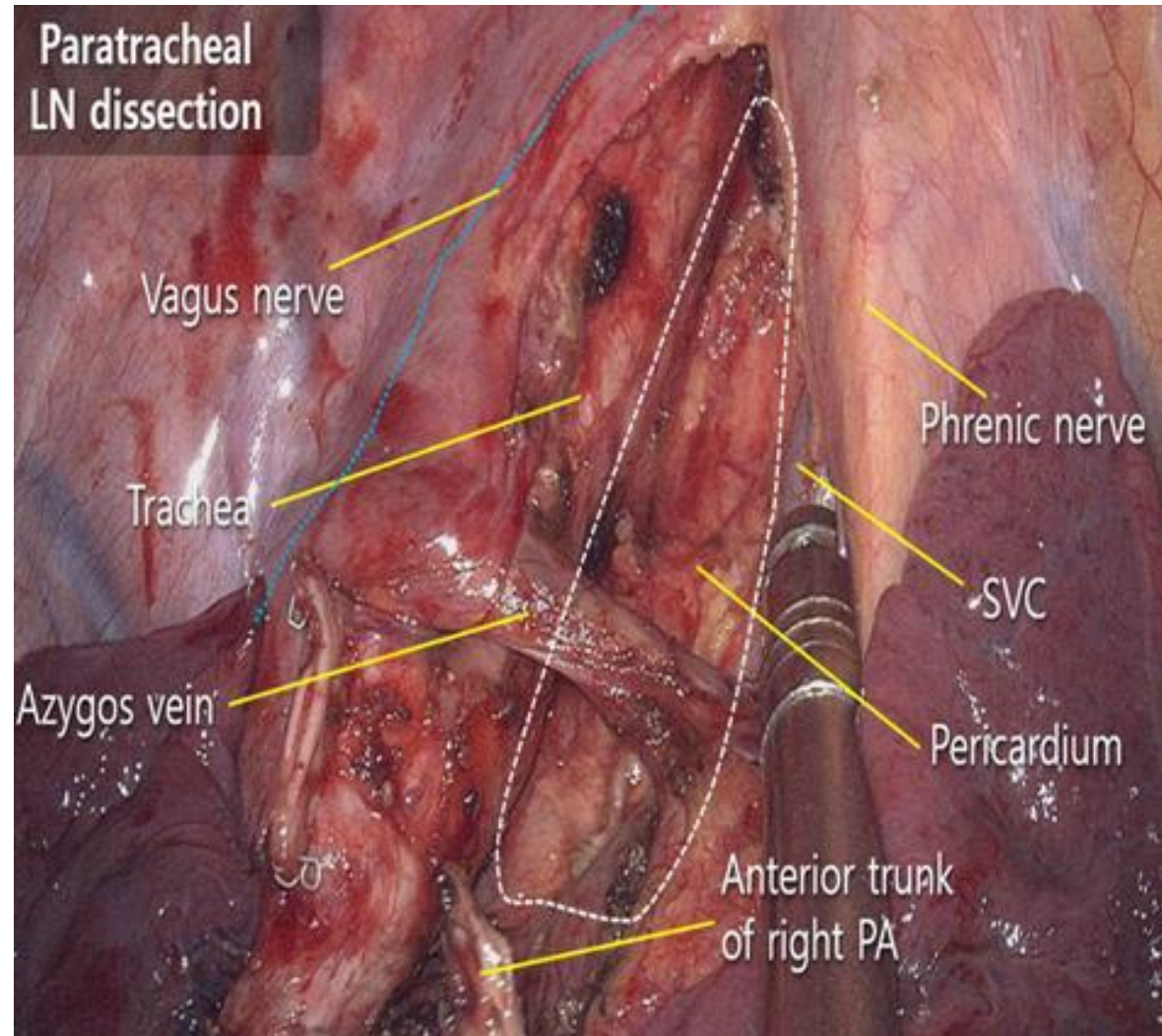
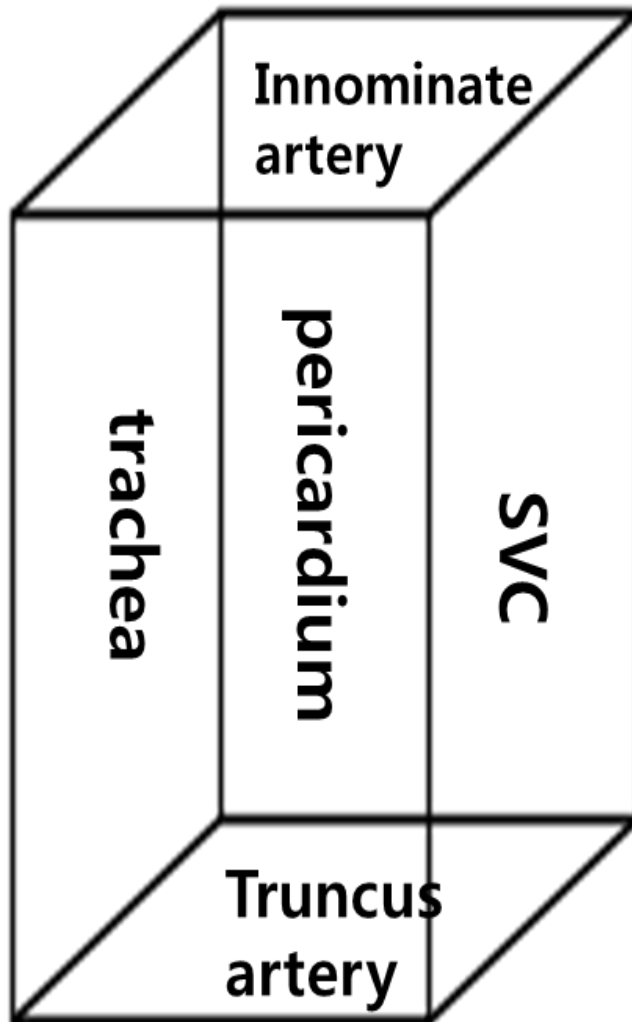
Intra pulmonary nodes

10. Hilar
11. Interlobar
12. Lobar
13. Segmental
14. Subsegmental

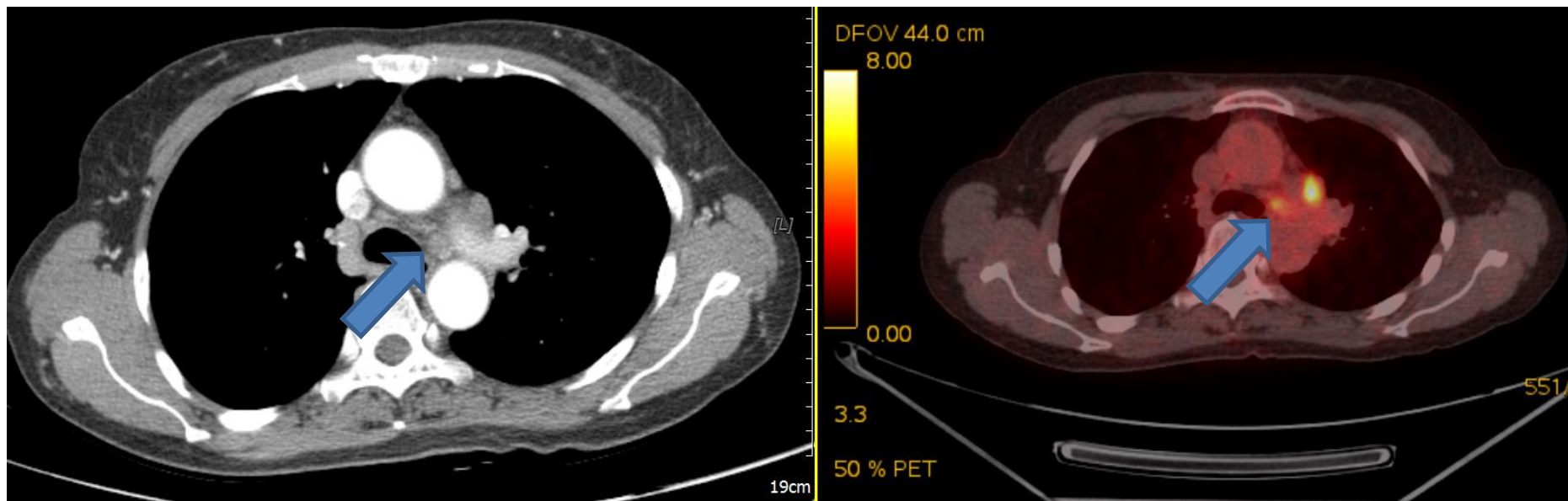


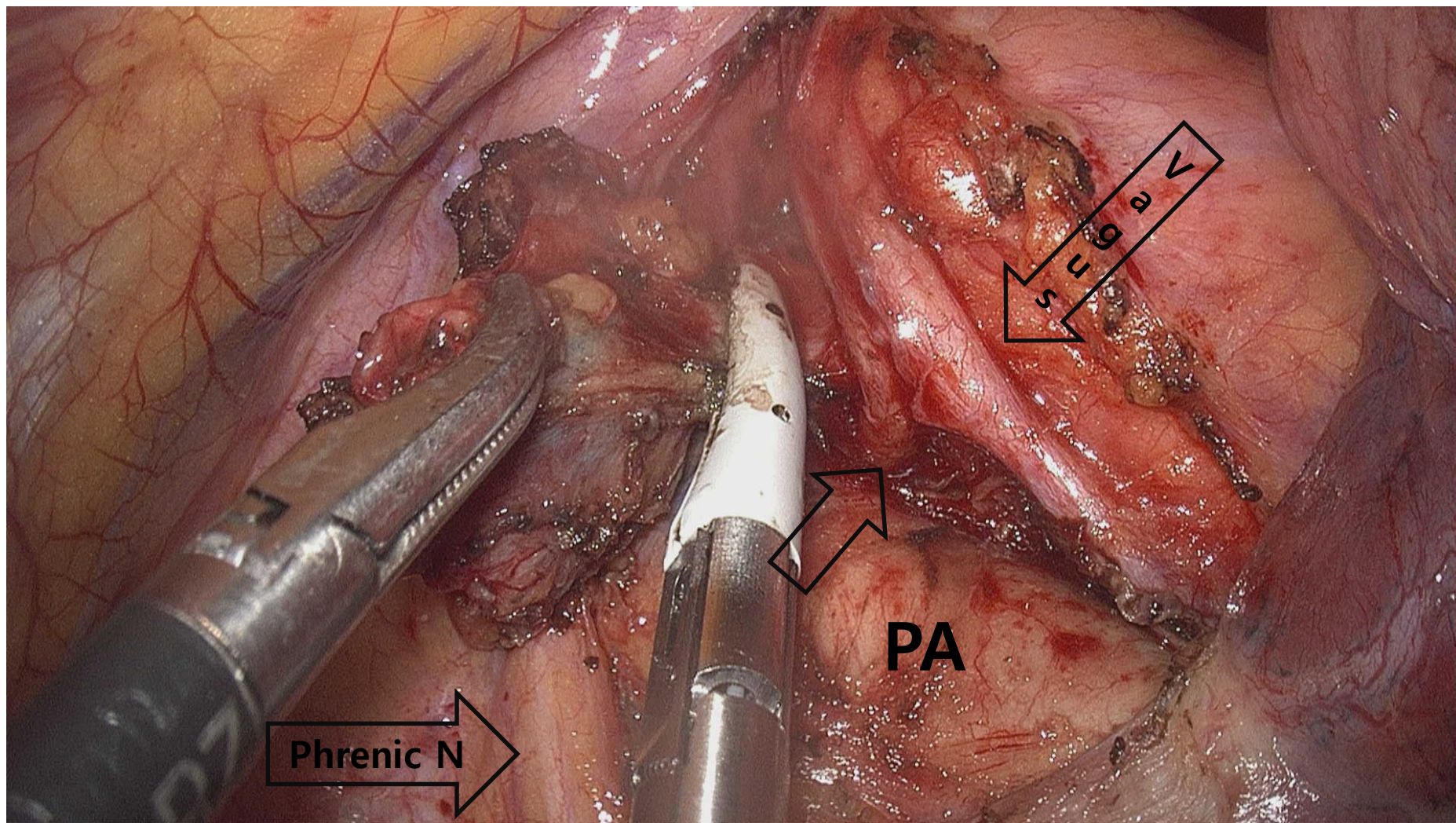
Mediastinal LN dissection

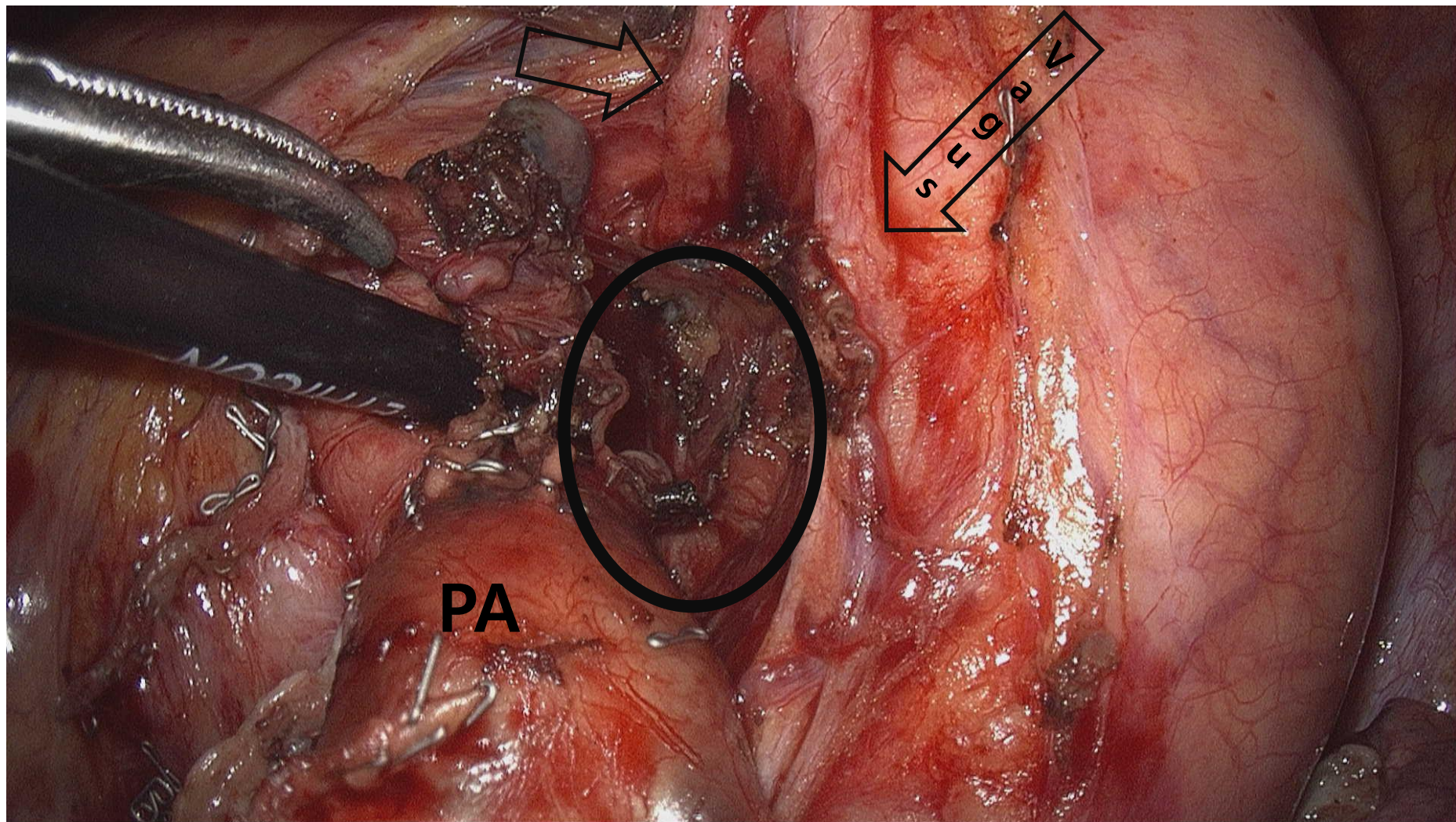
Paratracheal LND, Right



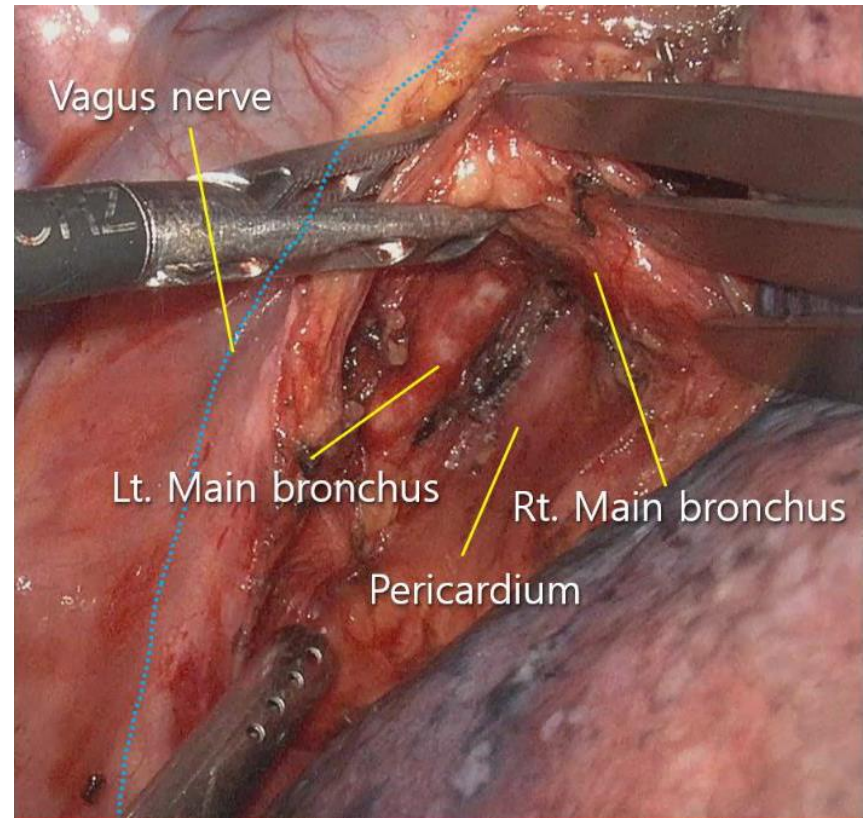
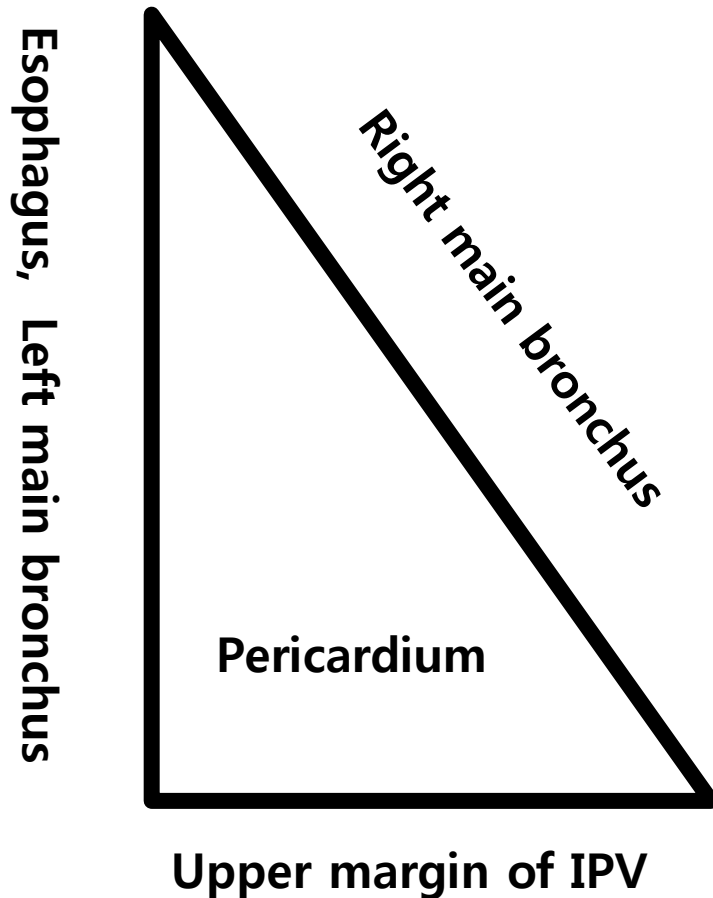
Paratracheal LND, Left



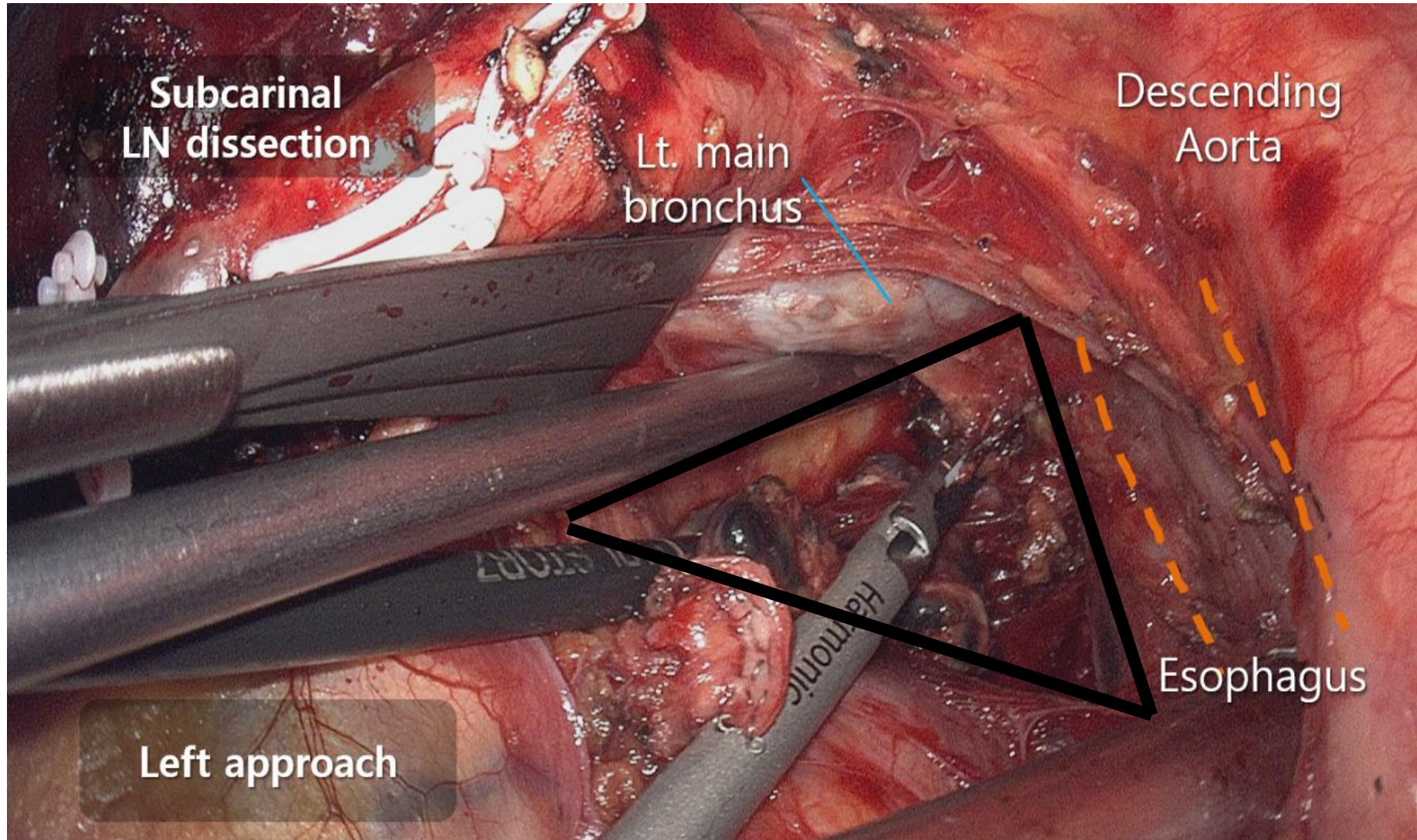




Subcarinal LND, right

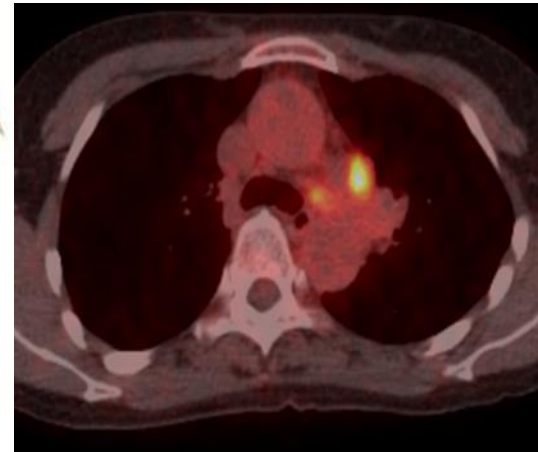
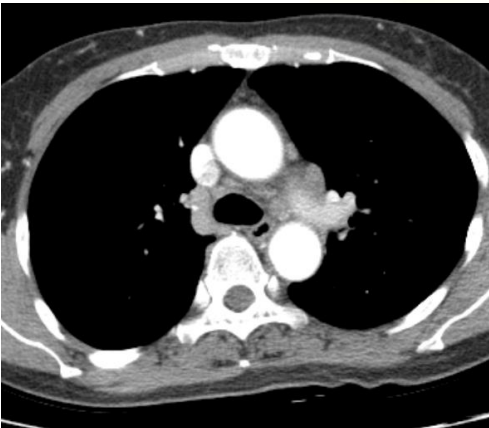
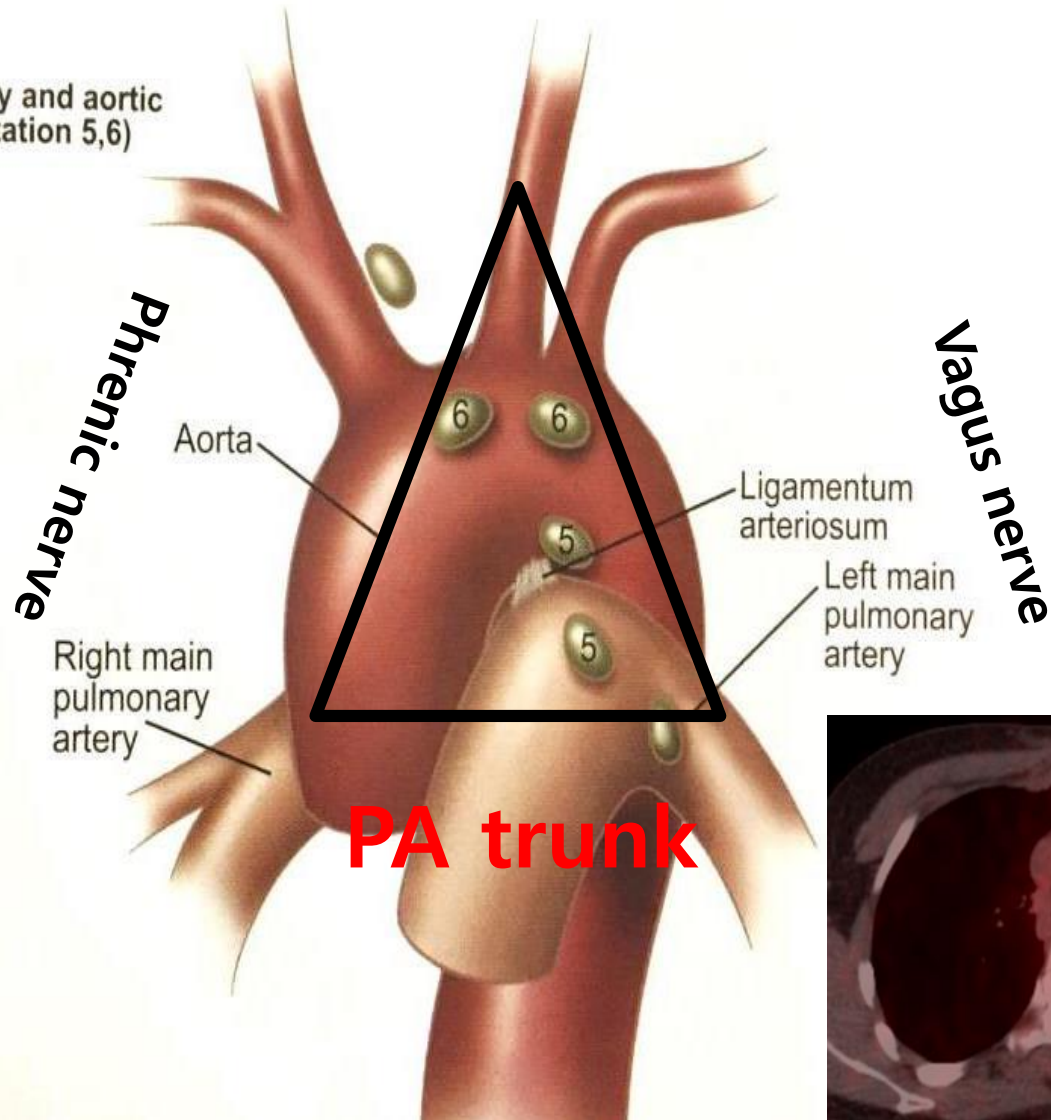


Subcarinal LND, left

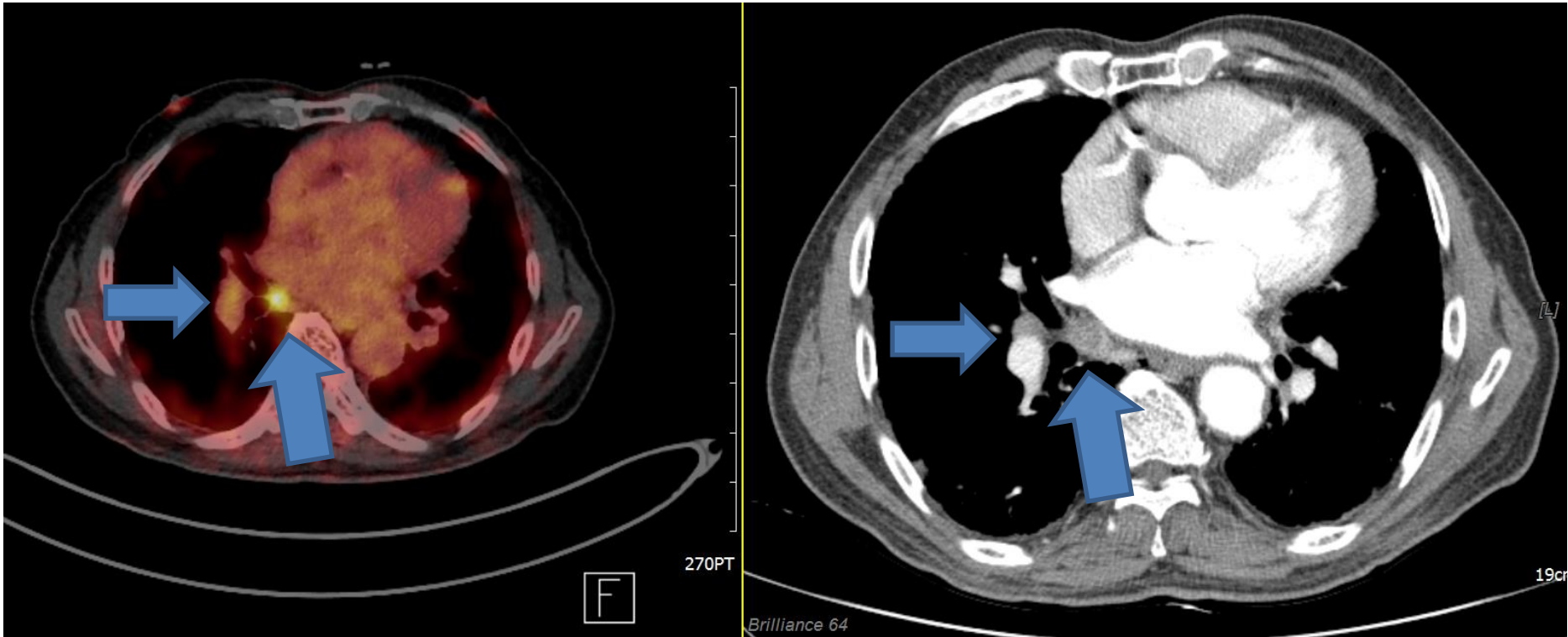


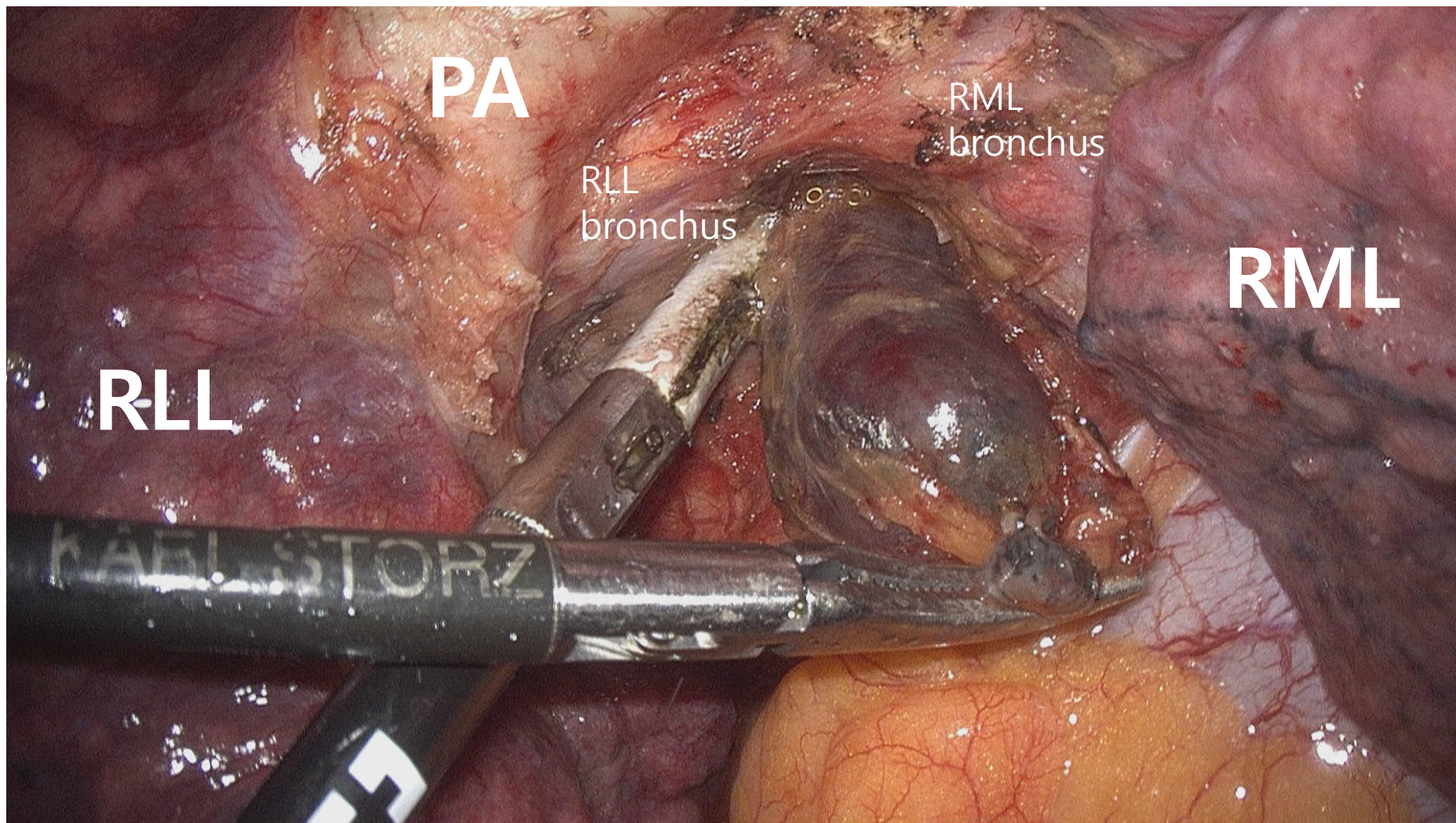
Aortic nodes

Aorto pulmonary and aortic lymph nodes (station 5,6)



Interlobar LND





A good surgeon has

