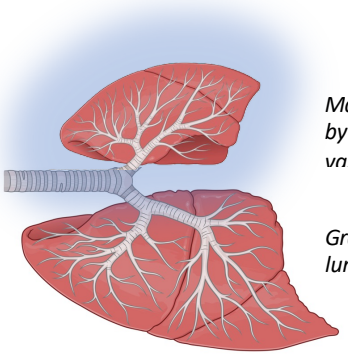
One Lung Ventilation

Kenji Tanabe MD

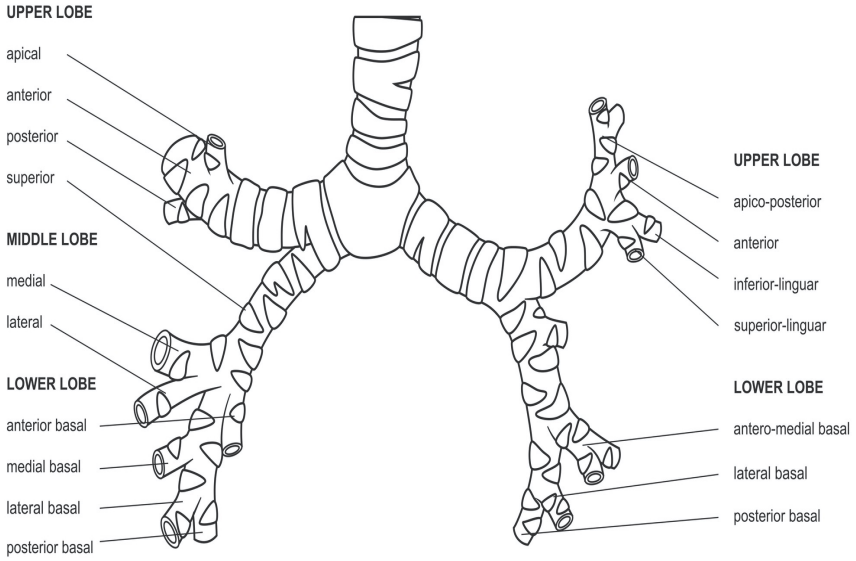
Supply Checklist

- ☐ Extra blankets for head (lateral decubitus)
- ☐ ETT (DLT or sufficiently large single lumen)
- ☐ DLT / bronchial blocker
- ☐ C-MAC/GS (small blade)
- ☐ Fiberoptic scope
- ☐ Bronch lubricant spray
- ☐ Cap for bronch injection port
- ☐ Tube clamps
- ☐ Anti-fog
- ☐ Backup single lumen tube



Massive shunt, tempered by hypoxic pulmonary vasoconstriction

Gravity aids ventilated lung perfusion



Double Lumen Tube Prep

- Check both cuffs
- Stylet distal bronchial lumen
- Lubricate outside distal tip of bronchial lumen
- Prepare dual-head ETT adaptor

Bronchial Blocker Prep

- Ideally >8.0 tube (maximal space)
- Test balloon
- Lubricate distal blocker tip

To drop right lung, cuff must be herniated out of right main to prevent right upper lobe occlusion

One Lung Ventilation

- Vt 4-6 ml/kg
- Pplat < 30 cm H20
- PEEP 5-10

Tolerate permissive hypercapnia

*Consider PCV (decelerating inspiratory flow pattern)

DLT Sizing

~39 Fr for males, ~37 Fr for females

Patient height	DLT size
< 5'4"	35 F
5'4" – 5'8"	37 F
5'8" – 6'	39 F
> 6'	41 F

DLT typically inserted to depth of ~ 29 cm (+/- 2 cm)

Hypoxemia Management

Risk factors: right (bigger) lung down, supine

- Gentle recruitment maneuvers
- Increase FiO2
- Increase PEEP (may worsen shunting)
- Increase I:E (improves mean airway pressure)
- Increase cardiac output (increases SvO2, less severe shunt)

- CPAP 5-10 to operative lung
- Surgeon clamp operative lung PA

**↓ inhaled anesthetic (to allow for HPV) <u>not</u> proven effective*