

# ***Guidelines of preoperative assessment for lung resection during thoracic anesthesia***

An essay for partial fulfillment of master degree in anesthesia

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## *List of abbreviations*

ASA = American Society of Anesthesiologists.

ATS = American Thoracic Society.

C3 = 3<sup>rd</sup> cervical segment of the spinal cord.

CaO<sub>2</sub> = arterial oxygen content.

C<sub>dyn</sub> = dynamic compliance.

CeO<sub>2</sub> = oxygen content in pulmonary end-capillary blood.

CmH<sub>2</sub>O = centimeter water.

CNs = cranial nerves.

CO = carbon monoxide.

COPD = chronic obstructive pulmonary disease.

CSF = cerebrospinal fluid.

C<sub>st</sub> = static compliance.

CvO<sub>2</sub> = venous oxygen content.

DL = diffusion capacity.

DLCO = diffusion capacity for carbon monoxide.

DRG = dorsal respiratory group.

ERV = expiratory reserve volume.

FEF<sub>200-1200</sub> = forced expiratory flow after 1<sup>st</sup> 200 ml.

FEF<sub>25-75%</sub> = forced mid-expiratory flow rate.

FiO<sub>2</sub> = fraction of inspired oxygen.

FVC = forced vital capacity.

FVC<sub>t</sub> = timed forced vital capacity.

FVC<sub>1</sub> = forced vital capacity in the 1<sup>st</sup> second.

Hb = hemoglobin.

IC = inspiratory capacity.

IPPI = intermittent positive pressure inspiration.

IRV = inspiratory reserve volume.

IVC = inspiratory vital capacity.

L = liter

MEF = mid-expiratory flow rate.

MEFV = mid-expiratory flow volume.

MIF = mid-inspiratory flow rate.

Min = minute.

MIFV = maximal inspiratory flow volume.

ML = milliliter.

Mm = millimeter.

MmHg = millimeter mercury.

N<sub>2</sub> = nitrogen.

N<sub>2</sub>O = nitrous oxide.

ΔP = pressure gradient.

P<sub>A</sub> = alveolar partial pressure.

P<sub>a</sub> = arterial partial pressure.

P<sub>a</sub>CO<sub>2</sub> = arterial partial pressure of carbon dioxide.

P<sub>a</sub>O<sub>2</sub> = arterial partial pressure of oxygen.

P<sub>E</sub>CO<sub>2</sub> = mixed expired carbon dioxide tension.

PEEP = positive end expiratory pressure.

PEFR = peak expiratory flow rate.

PFTs = pulmonary function tests.

P<sub>L</sub> = transpulmonary pressure.

P<sub>PL</sub> = pleural pressure.

P<sub>v</sub> = venous partial pressure.

Q = pulmonary perfusion.

QT = cardiac output.

R<sub>aw</sub> = airway resistance.

RBC = red blood cells.



RR = respiratory rate.

RV = residual volume.

SGaw = specific airway resistance.

Sec = second.

TLC = total lung capacity.

V = volume.

v = flow.

VA = alveolar ventilation.

VC = vital capacity.

VD = dead space.

VO<sub>2</sub> = oxygen consumption.

VO<sub>2</sub> max = maximum oxygen consumption.

V/Q = ventilation/perfusion ratio.

VRG = ventral respiratory group.

V<sub>t</sub> = tidal volume.

VTG = thoracic gas volume.

# **Chapter 1**

**Respiratory physiology relevant to  
pulmonary function tests**

# **Chapter II**

## **Pulmonary function tests**

# **Chapter III**

**Interpretation of pulmonary function tests**

# **Chapter IV**

**Role of pulmonary function tests in  
preoperative assessment of surgical patients**

# *Chapter V*

*Perioperative measures to improve  
lung function*

# *Summary*