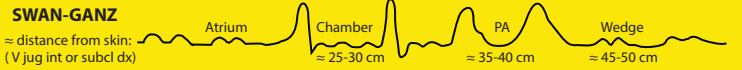


Thoracic Anesthesia – Pocket Guide

VERSION nov 2020

| | | |
|--|--|---|
| Central venous pressure (CVP) | 2 - 6 mmHg | |
| Right Ventricular Pressure | Systolic (RVSP) 15 - 25 mmHg Diastolic (RVDP) 2 - 8 mmHg | |
| Pulmonary Artery Pressure | Systolic (PASP) 15 - 25 mmHg Diastolic (PADP) 8 - 15 mmHg Mean (MPAP) 10 - 20 mmHg | |
| Pulmonary Artery Wedge Pressure (PAWP) | 6 - 12 mmHg | |
| Cardiac Output (CO) | HR x SV/1000 | |
| Cardiac Index (CI) | CO/BSA | 2.5 - 4.0 l/min/m ² |
| Stroke Volume (SV) | CO/HR x 1000 | 60 - 100 ml/beat |
| Stroke Volume Index (SVI) | CI/HR x 1000 | 33 - 47 ml/m ² /beat |
| Systemic Vascular Resistance (SVR) | 80 x (MAP - RAP)/CO | 800 - 1200 dynes · sec/cm ² |
| Systemic Vascular Resistance Index (SVRI) | 80 x (MAP - RAP)/CI | 1970 - 2390 dynes · sec/cm ² /m ² |
| Pulmonary Vascular Resistance (PVR) | 80 x (MPAP - PAWP)/CO | <250 dynes · sec/cm ² |
| Global Enddiastolic Volym Index (GEDVI) | Heart filling = measure of preload & contractility | 680-800 ml/m ² |
| Intrathoracic blood volume Index (ITBVI) | Intrathoracic blood volume = measure of preload | 850-1000 ml/kg |
| Extravascular Lung Water Index (ELWI) | Extravascular pulmonary water = higher in pulmon edema | 3-7 ml/kg |
| Global Ejection Fraction (GEF) | EF of all four heart chambers = measure of contractility | 25-35 % |



Anesthesia at valve disease

| | |
|---|---|
| <p>AS - Aortic stenosis</p> <ul style="list-style-type: none"> - Avoid tachycardia - aim at 60-80 beats / min - Maintain sinus rhythm - Maintain preload - Avoid a drop in blood pressure - maintain SVR. | <p>AI - aortic relapse</p> <ul style="list-style-type: none"> Filled - Fast - Forward - High-> normal HR (90/min) possibly beta agonist - Maintain preload - Low SVR - anesthesia |
| <p>MS - Mitral valve stenosis</p> <ul style="list-style-type: none"> - As an AS with even more respect. - Avoid tachycardia & hypotension! - Avoid hypoxia, hypercapnia & acidosis (worsens PH) - Low PVR (avoid hypoxia, hypercapnia & acidosis) | <p>MI - Mitral valve relapse</p> <ul style="list-style-type: none"> - Think AI-> high heart rate + adequate preload - Low SVR - anesthesia, milrinone, nitropruss, IABP |

| | | | | |
|-------------------|-------------------|-------------------|---|--|
| Pace | Sense | Sense-svar | Stimulation (output) | Atrial - normal 2-10 V (max range 0,1-18,0 V) |
| Atrium | Atrium | Triggered | Chamber - normal 5-10 V (max range 0,1-18,0 V) | Guideline - 5 V above the capture threshold |
| Ventricle | Ventricle | Inhibited | Atrial - normally 0,5- 1mV (max range 0,2 – 20 mV) | Chamber - normally 2-3 mV (max range 1,0 – 20 mV) |
| Dual (A+V) | Dual (A+V) | Dual (T+H) | AV-interval | Usually 150-180 m - cf. the patient's PQ time |
| O=None | O=None | O=None | | |

VOO = Fixed frequency chamber pace, **VVI** = Chamber inhibited pace, **AAI** = Atrium inhibited pace, **DDD** = Atrium & ventricular pace

Double lumen tube

| | | | |
|----------------------------|-------------|---------------------------------|--|
| DLTR - at pulmet left | Tube size: | Men 37-39 fr | Technique: - Rotate and lower the tube in one motion (Jaw lift + reverse rotation of head can facilitate) - Auscultate car + with shutdown. Note peak pressure - Blue = bronchial |
| DLTL - all other operation | Tube depth: | Men 29-31 cm Women: 27-29 cm | |

Tamponade

| | | | |
|--------------------------|--|------------------------------|--|
| Clinical picture: | Hypotension Tachycardia | CVP ↑ Collarvenous stasis | Muted heart sounds Pulsus paradoxus |
| Risk facts: | Coagulation disorder Platelet inhibition Valve surgery | | |

ME AV LAX 110°-140°
- CFV over AV
- Please rate LVOT
- Aortic asc - dissection?

ME RV in-out 60°-80°
- Rate RV
- Please rate RVOT
- CFV over TV

ME AV SAX 30°-40°
- Is there a valvular AS?
- Rate the morphology of AI!

ME 2C 90°
- Vrid heger
- LV ant & inf mobility?
- Good picture of LV apex
- Rate MV

ME 4C 0°-10°
- Rate MV & TV with CHD
- LV lat & sept mobility?
- Rate RV free wall!

TG LAX 0°
- Best CHF over AV & LVOT

TG 2C 90°
- Probe downwards

TG mid SAX 0°
- Please rate LV + preload + contractility + dimensions

Anterior projection → **Esophageal projection** → **Transgastric projection** + anteeflection