

Swan-Ganz Catheter Insertion (Paediatrics)

The **Swan-Ganz thermodilution catheter** is designed to measure minute cardiac output, intracardiac pressures, pressures in the pulmonary artery and capillary pressure in the wedge of the pulmonary artery.

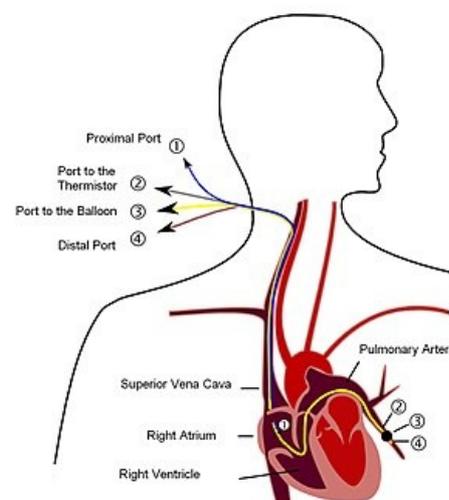
Continuous evaluation of the minute cardiac output and the other parameters mentioned above belong to important auxiliary methods determining the optimal approach to the treatment of circulatory insufficiency.

Indication

- unclear intravascular volume
- PEEP > 12 cm H₂O
- heart failure
- the need for intensive inotropic support of the myocardium

Method

- **modified Seldinger techniques** according to Desilet-Hoffman are most often used to introduce the catheter, using special sets
- after inserting the catheter into the vena cava, we inflate the balloon with a small volume of CO₂ according to the manufacturer's recommendations
- then we move the catheter into the right atrium of the heart
- inflate the balloon to its full capacity, approximately 1.5 ml
- the further path of the catheter tip is monitored by the shape of the pressure curves, which change in the right ventricle, pulmonary artery and when the catheter is wedged
- CO measurement is performed by connecting the thermistor to the monitor module after inputting the patient's weight and height: a predetermined volume of water is injected into the proximal lumen of the catheter and the thermistor records the change in temperature over time; the CO calculation is performed automatically



Scheme of right heart catheterization

Links

Source

- HAVRÁNEK, Jiří: *Introduction of the Swan-Ganz catheter*. (edited)

related articles

- Heart failure (pediatrics)
- Determination of cardiac output
- Blood pressure monitoring
- Oxygen Parameters
- Right-sided heart catheterization