

Insertion technique

1. Easiest insertion sites are normally the right internal jugular vein or the left subclavian vein
2. Prior to starting, an evaluation of any contraindications should be made
3. Lines, pressure bags, transducers, zeroing apparatus should be assembled & ready prior to insertion
4. Sterile procedural field should be used
5. Strict attention to handwashing, cap & mask usage, sterile gown & glove use & full length drapes
6. The introducer catheter is inserted in a similar manner to a central venous catheter using the Seldinger technique.
7. The insertion technique is slightly different in the sense that the dilator is advanced through the introducer rather than separately ; the guidewire & dilator are removed together, leaving the introducer alone in the vessel
8. All ports of the PAC should be flushed & balloon checked for leaks
9. The operator should ensure that the catheter tip does not protrude beyond the inflated balloon as this can increase the risk of vascular rupture
10. All ports should be connected to pressure transducers & flushed
11. Waving the catheter tip with verification of a waveform on the monitor
12. Protective catheter sheath to be inserted over the PAC before insertion
13. The catheter should be oriented to match the natural curve in the catheter before insertion
14. The PAC is advanced through the introducer, usually to about 15-20 cms to obtain a RA trace, then the balloon is gently inflated
15. Once the balloon is inflated & the lock on the inflating syringe has been activated, the catheter is advanced further & waveforms inspected
16. The RA waveform will increase in amplitude as the RV is entered, which normally occurs at about 30 cms
17. The passage of the catheter through the tricuspid valve & RV is arrhythmogenic & should be kept as short as possible
18. As the catheter tip traverses the pulmonary valve, the RV trace changes to the PA trace, as identified by the increase in diastolic pressure & development of a dicrotic notch, often at 40 cms
19. The PCWP tracing is identified by loss of the arterial tracing to a flatter tracing of lower amplitude than the PA diastolic pressure, often at 50 cms
20. At this point, the balloon should be deflated & the PA waveform should be observed
21. Gentle reinflation of the balloon while feeling for increased resistance & monitoring for overwedging is important
22. If the wedge tracing is obtained before full balloon inflation, it suggests overwedging & the catheter should be gently withdrawn 1-2 cms with the balloon deflated & the inflation performed again
23. Once the insertion is complete, the distance of insertion should be noted & recorded, the protective sheath applied, the catheter should be secured & a CXR obtained to confirm position & rule out complications