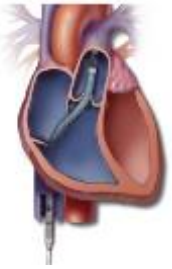
University of Cincinnati Medical Center | UC Health



ACMC Impella Guide

Indications: acute heart failure, cardiogenic shock, acute and post myocardial infarctions, acute on chronic ischemic cardiomyopathy, myocarditis, cardiac transplant-related acute graft failure, support during PCI, etc.
Contraindications: aortic regurgitation, severe aortic valve calcification, prosthetic aortic valves, aortic dissection, left ventricular thrombi, ventricular septal defects, severe sepsis, severe PAD, and bleeding diathesis.
Insertion: Impella 2.5 and CP are inserted via the femoral artery, Impella 5.0 is inserted axillary or via femoral artery cut-down. Impella RP is inserted via the femoral vein.
Complications: anemia, hemolysis, aortic injury and aortic valve insufficiency, arrhythmias, bleeding, cardiac tamponade, CVA, functional mitral stenosis, limb ischemia, mitral regurgitation secondary to chordal rupture. Device malfunction is predominantly due to device thrombosis (heparin should be in place).

Power Sources: AC or internal battery. BATTERY HAS **ONE HOUR** OF LIFE! Keep plugged in!!!

SUPPLIES NEEDED:
*You will likely be taking the device from the sending facility and it will need to be returned. Take the device off of the wheeled stand and secure to rack-pack (do not block cooling vents).
*If possible, take the manual for the device with you. It has a wealth of information regarding alarms/issues. Return it to sending facility when you return their device.
*If possible, take an extra purge cassette with you (in case of leak/failure). If you don't use it, you can return it to the sending facility when you return their device. Manual or rep can walk you through setting up a new purge cassette if needed.

***PATIENT ASSESSMENT:**
*All pulses as normal – but check distal pulses from insertion site with each set of vitals. May need Doppler.
*Assess insertion site with each set of vitals.
*The arterial pressure (placement signal) on the Impella console is a reflected pressure of the aorta (used for catheter positioning only) and not a 'true' arterial pressure. Legally, clinical decision making for interventions must be based on blood pressures recorded by the non-invasive blood pressure or an arterial line ONLY. There will be times where pulsatility is minimal and NIBPs will be inaccurate/unobtainable; using the MAPs from the placement signal in this situation is acceptable (document appropriately!).

TROUBLESHOOTING:
Reference manual for specific alarms. Impella display will tell you what you can do to remedy alarms.
Device Position Wrong: *If at sending facility*, request 2D echo and cardiologist repositioning. The pump offers no support if it is in the wrong place, and can actually cause harm.
If during transport, assess waveform to ascertain whether it is too far in or too far out. We are not qualified to reposition this device. Alert receiving facility to have echo tech and cardiologist present upon arrival for repositioning. Keep pump running. May need pressors/inotropes to support cardiac fxn.

If pump fails DO NOT ATTEMPT REPOSITIONING. Closely monitor patient and anticipate need for inotropic/pressor agents. Keep device/purge system running to prevent thrombus formation.

AA 1.2016 edit 7.2016

Alarms:

Suction: decrease P level by 1 or 2 to reduce effects of suction. Assess patient for volume needs. Gradually return P level to previous after treating.

Air in Purge System: Follow instructions on screen for de-airing purge system. Keep purge bag/syringe above level of purge cassette at all times!

Purge Pressure Low: Check tubing for leaks, ensure all connections are tight.

Purge System Blocked: Check tubing for kinks.

Impella Position Unknown: Confirm positioning with imaging, assess motor current/placement signals and hemodynamics.

RESUSCITATION:

*VF/VT ∅ Pulse/Asystole/PEA: Reduce flow to 1.5 L/min (P2), CPR and defib OK

*With ROSC, return P level to previous, and ensure receiving is aware they will need an echo to re-confirm placement. Monitor the device very closely.

*Arrhythmias, hypotension, respiratory distress, altered LOC, etc: **Treat patient**!

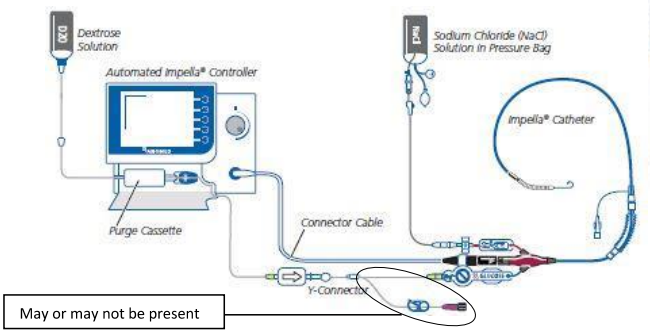
Documentation:

P level, Impella flows (max/min and mean), placement signal and motor current (max/mins and means). These will have to go in the comment section of your vital signs. If placement signal MAPs are being used to guide treatment, document reason. Insertion date/time and last placement confirmation via echo. Last ACT.

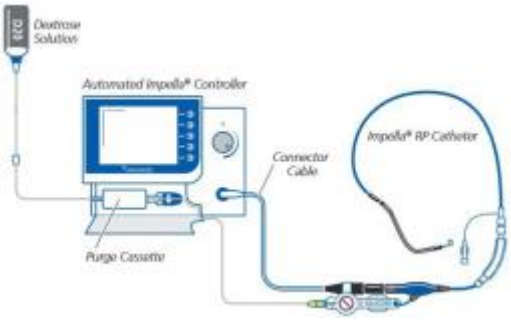
In GH make sure "ventricular assist device" is checked under cardiac portion of physical assessment.

Abiomed reps are a phone call away (ask referring RN which rep they have been in contact with).

24hr Support Line: 1-800-422-8666 Myles Murphy (regional rep): 513-227-6099



Correct configuration of the Impella system (2.5, 5.0, CP)



Correct configuration of the Impella RP system