ACMC IABP Guide

**Indications:** Refractory angina, Acute MI, Vent failure, Cardiogenic shock, wean from bypass.

**Contraindications:** Aortic insuff, AAA, severe PVD, Obese w/ groin scars (use with a sheath).

**Insertion:** (Frec) Lt Fem. artery→descend thoracic aorta (CXR tip @ 2nd→3rd ICS, base renals).

**Complications:** Limb ischemia, bleeding, balloon leak, infection, aortic dissection.

**Inflation** occurs at the onset of diastole (dicrotic notch), when aortic valve closes. Appears as a sharp “V.”

Inflation displaces blood in the aorta & aortic pressure & MAP, supply of 02 to the myocardium and coronary artery perfusion.

**Deflation** occurs just prior to systole (before aortic valve opens). Results in a V in (assisted) end diastolic & systolic pressures. V afterload, cardiac workload & left ventricular 02 demand. C.O.

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**CS300 IABP START UP:**

(Top of left side/near back)

*Timing* = inflation /deflation of balloon in cardiac cycle

*Trigger* = *Primarily ECG (R wave) vs Pressure (upstroke of AP waveform)*

**End Points:**
- Diastolic Augmentation >Systole
- Assist Diastole < Unassist Diastole
- Assist Systole < Unassist Systole

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**SUPPLIES NEEDED:** 60cc syringe, stopcock, scissors & Kelly, 500ml bag NS, pressure bag, ECG & Arterial pressure cable, Pressure tubing & transducer (max 8ft), IABP flowsheet, x-tra helium tank if <25%.
**PT ASSESS:** √ radial pulses to assure balloon has not migrated up to Lt SC artery & pedal pulses (limb ischemia), Insertion site (√ for bleeding), IAB cath tubing (√ for bld), flush line, U.O.

**TRANSFERRING IABP→IABP:** Turn on IABP, match settings, attach ECG leads next to current leads, transfer IAP line (level/ 0**off-pt/open-air). Press Stand By on active pump, transfer helium line & start transfer IABP.*Plug IABP in, turn invertor ON. *Augmentation alarm set 10mmHg ↑ pt’s augmented diastolic pressure.

*Keep pressure bag w NS (remove air from IV) @ 300mmHg > 3ft above transducer. Level transducer @ phlebostatic axis – mid Axillary. **If fiberoptic (orange cable) need to zero/level. Internally calibrates.

**MISC INFO:**
*Auto mode = auto lead & trigger select, timing, auto management of irreg rhythms.
*If IABP alarms: push silence, push help button.  ? Call 800# on pump.
*Main concern in transport: Ø disruption of ECG signal, arterial pressure or helium flow.
*Must always have ≥ ½ IAB pressure / IAB status (keeps membrane from getting a clot).
*IABP Wt = 125#/ . *Always put IABP in standby prior to flushing IAP line.

**TROUBLESHOOTING:**
*If not sensing “R” wave: ↑ gain or change ECG lead.
*If IAB kinks: See rounded waveform. ↑D/T HOB>30°. Lower HOB until get chair (**) waveform.
*If see IAB leak: Turn pump off. Rec. MD to remove within 30mins. Turn pump on q5 mins to prevent clot.
*If machine dies: Disconnect at helium extender tubing, attach 3-way stopcock & 60ml syringe, (asp 1st to √ for blood), manually inflate & deflate IAB (quickly) w 40-50cc air q5 mins.

**TIMING ISSUES:** √Timing in 1:2 “Fiddle to the Middle” ↑inflatable/deflate time(Semiauto mode)
-Early inflation = inflation of IAB prior to aortic valve closure (prior to dicrotic notch).
   Effect = ↑ MV02 demand, aortic regurg, ↑ afterload.
-Late inflation = inflation of IAB after closure of aortic valve (after dicrotic notch), absence of sharp V, sub-optimal augmentation. Effect = sub-optimal coronary artery perfusion.
-Early deflation = premature deflation of the IAB during the diastolic phase. Effect = sub-optimal coronary perfusion & afterload reduction, angina, ↑ MV02 demand.
-Late deflation = Assisted = unassisted end-diastolic pressure, diastolic augment may be widened.
   Effect = no afterload reduction, ↑ MV02 consumption.

**RESUSCITATION:**
*VF/VT ⊗ Pulse: Auto mode goes to pressure trigger, CPR…, OK to defib (IABP is grounded).
*Asystole: Auto mode → pressure, CPR…etc. Will return to ECG trigger if ROSC. ?mute alarm.
*PEA: If keep in Auto mode, will have ECG rhythm interference. Go to semi-auto mode, change to pressure trigger & restart. CPR…etc.
*A Fib: After 16 irreg beats goes into “Auto R wave” deflate.
*If HR too fast: (Pump can keep up to a HR of 200). Treat patient (+) ? change timing to 1:2.
*Pacer (V/AV, Atrial): Go to semi-auto mode/select approp. pacer when ECG triggering unsuccessful.
*Arrhythmias, Hypotension, Resp distress, Altered LOC…etc : Treat patient!