**LifeLine IABP Guide**

**SUPPLIES NEEDED:** IABP Bag containing 60cc syringe, stopcock, 500ml bag NS, pressure bag, IABP specific ECG & Arterial pressure cable, Pressure tubing & transducer

**TRANSFERRING IABP→IABP:** Turn on IABP, match settings (should be in auto mode unless IABP fails to function in this mode which is unlikely), Place ECG leads and connect to LL IABP, Transfer Helium line to LL IABP, Transfer pressure line and/or fiber optic line.

*Set Augmentation alarm to 10mmHg pt’s augmented pressure.

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

**PT ASSESS:** √ L 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.

**Arterial Pressure Waveform**

*Timing = inflation /deflation of balloon in cardiac cycle

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

**End Points:**  $\text{↑ MAP}$
- Diastolic Augmentation > Systole
- Assist Diastole < Unassist Diastole
- Assist Systole < Unassist Systole

**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 O2 to the myocardium and coronary artery perfusion.

**Deflation** occurs just prior to systole (before aortic valve opens). Results in a ↓ in (assisted) end diastolic & systolic pressures. ↓ afterload, cardiac workload & left ventricular O2 demand. ↑ C.O.
TIMING ISSUES: √Timing in 1:2

- **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.
*If IABP alarms: push silence, push help button. There are step by step troubleshooting instructions in the menu*

### TROUBLESHOOTING:

*If not sensing “R” wave: ↑ gain or change ECG lead.
*If IAB kinks: See rounded waveform. Confirm HOB<30°. Lower HOB until get chair (** wave)
*If machine dies: Disconnect at helium extender tubing, attach 3-way stopcock & 60ml syringe, manually inflate & deflate IAB (quickly) w 10 ml less than balloon size of air q5 mins.

### RESUSCITATION:

* **VF/VT Ø Pulse**: Auto mode goes to pressure trigger, CPR…, OK to defib (IABP is grounded).
* **Asystole**: Auto mode → pressure, CPR…etc..
* **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!

**Adapted from UC Air Care IABP Guide**