

IABP TIMING POCKET REFERENCE GUIDE

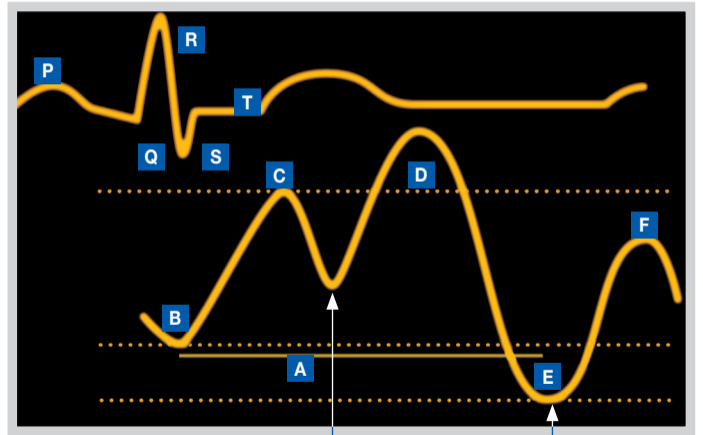
MAQUET
GETINGE GROUP

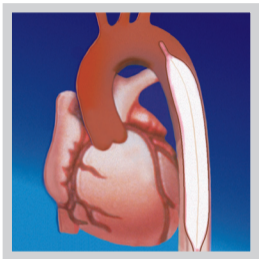
CARDIOVASCULAR



CORRECT IABP TIMING

- A** One complete cardiac cycle
- B** Unassisted aortic end diastolic pressure
- C** Unassisted systolic pressure
- D** Diastolic augmentation
- E** Reduced aortic end diastolic pressure
- F** Reduced systolic pressure





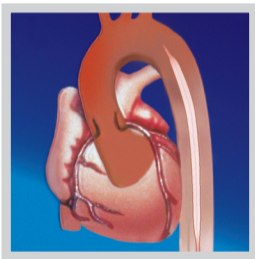
INFLATION

At the onset of diastole, IAB inflation occurs, giving rise to sharp “V” on arterial waveform

Effect:

- Increased coronary perfusion

Please Note: R-Wave deflation may provide more effective support for patients experiencing arrhythmias.



DEFLATION

Occurs at end of diastole prior to systole resulting in reduction of aortic end-diastolic and systolic pressures

Effects:

- Decreased afterload
- Decreased cardiac work
- Decreased myocardial oxygen consumption
- Increased cardiac output

INCORRECT IABP TIMING

Inflation of the IAB prior to aortic valve closure

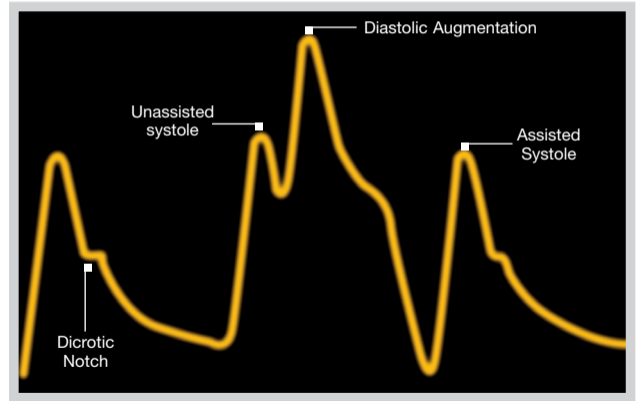
Waveform characteristics:

- Inflation of IAB prior to dirotic notch
- Diastolic augmentation encroaches onto systole (may be unable to distinguish)

Physiologic effects:

- Potential premature closure of the aortic valve
- Potential increase in LVEDV and LVEDP or PCWP
- Increased left ventricular wall stress or afterload
- Aortic regurgitation
- Increased $MV O_2$ demand

EARLY INFLATION



Inflation of the IAB markedly after closure of the aortic valve

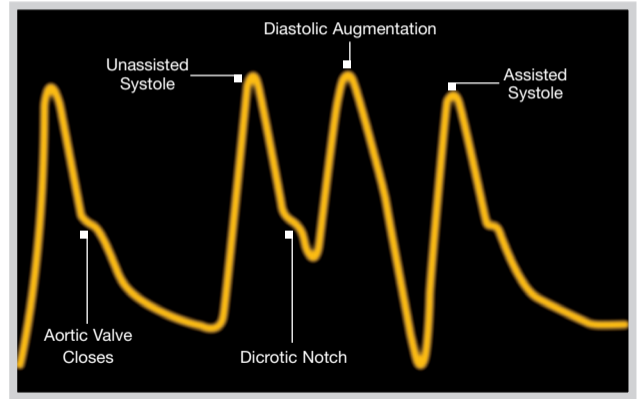
Waveform Characteristics:

- Inflation of IAB after the dicrotic notch
- Absence of sharp V

Physiologic Effects:

- Sub-optimal coronary artery perfusion

LATE INFLATION



INCORRECT IABP TIMING

Premature deflation of the IAB during the diastolic phase

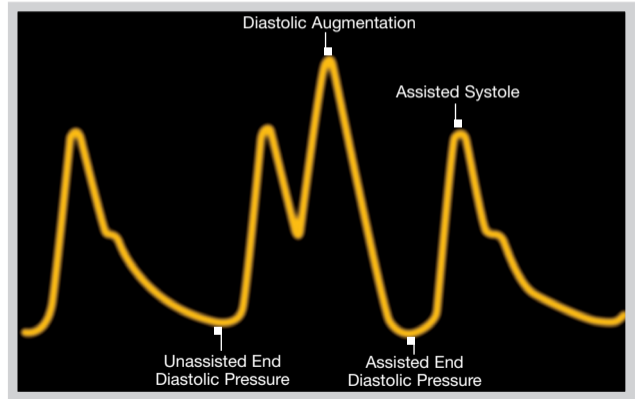
Waveform Characteristics:

- Deflation of IAB is seen as a sharp drop following diastolic augmentation
- Sub-optimal diastolic augmentation
- Assisted aortic end diastolic pressure may be equal to or less than the unassisted aortic end diastolic pressure
- Assisted systolic pressure may rise

Physiologic Effects:

- Sub-optimal coronary perfusion
- Potential for retrograde coronary and carotid blood flow
- Sub-optimal afterload reduction
- Increased $MV\text{O}_2$ demand

EARLY DEFLATION



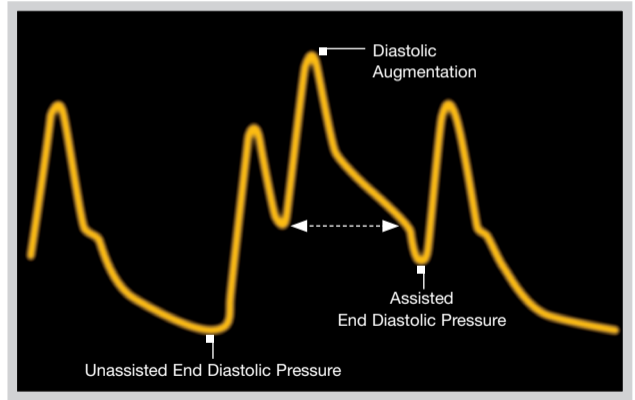
Waveform Characteristics:

- Assisted aortic end diastolic pressure may be equal to the unassisted aortic end diastolic pressure
- Rate of rise of assisted systole is prolonged
- Diastolic augmentation may appear widened

Physiologic Effects:

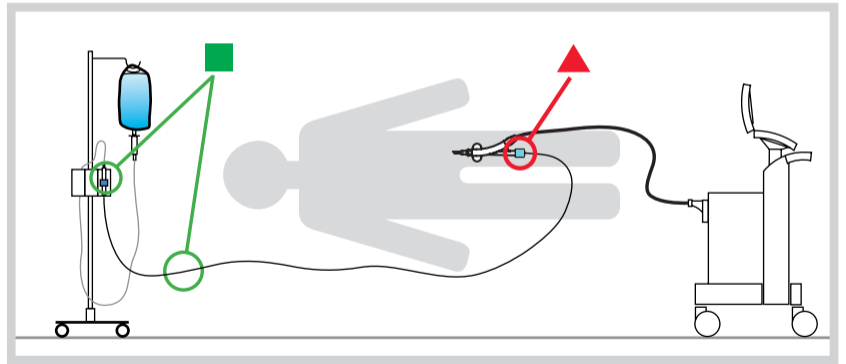
- Afterload reduction is essentially absent
- Increased MVO_2 consumption due to the left ventricle ejecting against a greater resistance and a prolonged isovolumetric contraction phase
- IAB may impede left ventricular ejection and increase the afterload

LATE DEFLATION

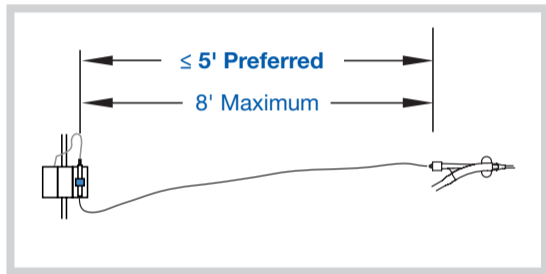


ARTERIAL PRESSURE MONITORING THROUGH THE IAB INNER LUMEN

- Transducer Setup
- ▲ Inner Lumen Care



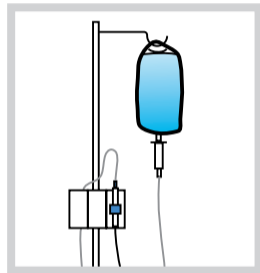
Transducer Setup



- A** Minimize length of pressure tubing
- B** Use **only** high stiffness pressure tubing (as provided by MAQUET)



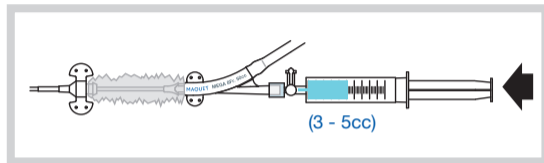
- C** Do not use a damping device (e.g. R.O.S.E. resonance overshoot eliminator)



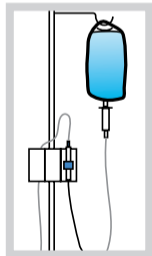
- D** Use gravity fill to minimize air bubbles
- E** Elevate flush bag above transducer

▲ Inner Lumen Care

A Before pumping, after insertion, gently aspirate & discard 3cc of blood & **manually** flush immediately with 3 – 5cc of flush solution



B A 3cc/hour continuous flow through the inner lumen is recommended



C If the central lumen becomes damped:

- aspirate & discard 3cc of blood
- fast flush to clear the pressure tubing
- continue flushing for **at least 15 seconds**



D **Do not** sample blood from the inner lumen



CLINICAL REFERENCE SIZING CHART

50^{cc}

Approx. Height: $\geq 5'4"$
($\geq 162\text{cm}$)

40^{cc}

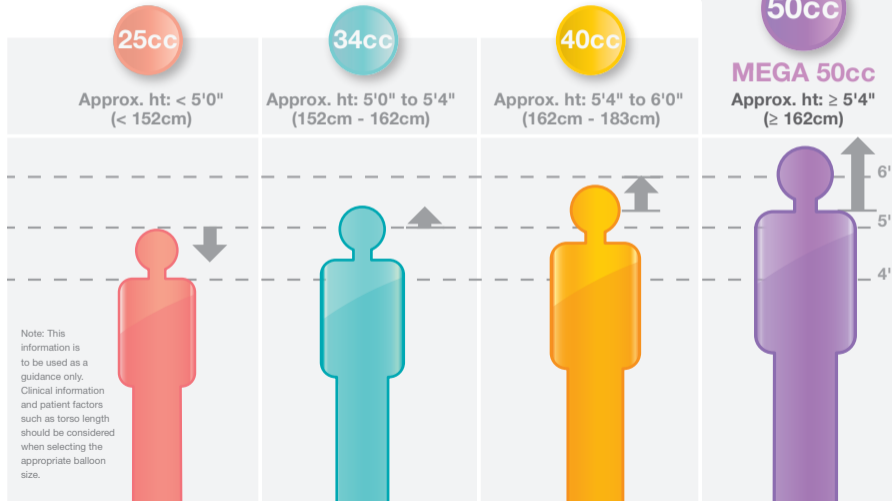
Approx. Height: From $5'4"$ - $6'$
($162\text{ cm} - 183\text{ cm}$)

34^{cc}

Approx. Height: From $5'$ - $5'4"$
($152\text{ cm} - 162\text{ cm}$)

25^{cc}

Approx. Height: $< 5'$
($< 152\text{ cm}$)




MAQUET

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