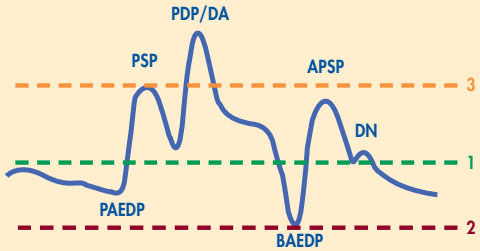
Intra- Aortic Balloon Pump

Timing Guidelines

"The Timing Three"



Assisted Arterial Waveform (1:2)

Abbreviation	Definition
PAEDP	Patient Aortic End Diastolic Pressure
PSP	Peak Systolic Pressure
PDP/DA	Peak Diastolic Pressure/Diastolic Augmentation
BAEDP	Balloon Aortic End Diastolic Pressure
APSP	Assisted Peak Systolic Pressure (Systole after IAB deflation)
DN	Dicrotic Notch

Inflation

Goal: To produce a rapid rise in aortic pressure (optimize PDP/DA), thereby increasing O_2 supply to coronary circulation.

1. Inflate just prior to DN which should result in PDP/DA > PSP

Deflation

Goal: To reduce aortic end diastolic pressure (afterload), thereby decreasing MVO_2 while improving the CO (cardiac output).

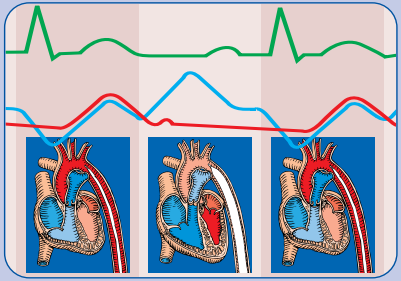
2. BAEDP < PAEDP
3. APSP < PSP

ARROW INTERNATIONAL

24-Hour Intra-Aortic Balloon Product Hotline:
800-447-IABP

Worldwide:
617-389-8628

Balloon Inflation and Deflation



Electrical and Mechanical Relationship

ARROW INTERNATIONAL

2400 Bernville Road
Reading, PA 19605
610-378-0131
800-233-3187

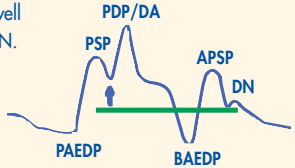
24-Hour Intra-Aortic Balloon Product Hotline: 800-447-IABP

Worldwide: 617-389-8628

Incorrect Timing States

Early Inflation

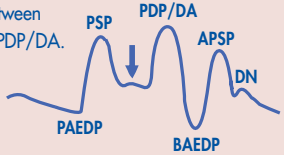
IAB is inflated well before actual DN. (aortic valve closure.) Violates **Rule 1** for inflation.



Result: Premature closure of aortic valve. Reduces stroke volume/CO. Increase in LVED volume.

Late Inflation

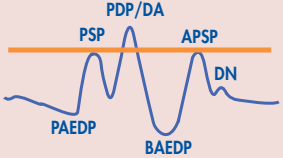
DN is visible between points PSP and PDP/DA. Violates **Rule 1** for inflation.



Result: PDP/DA less than optimum. Decreased perfusion pressure and volume to coronary arteries.

Early Deflation

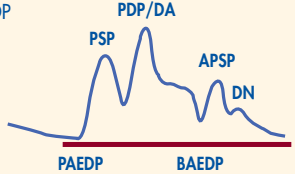
APSP = PSP
Violates **Rule 3** for deflation.
May see "U" shape at BAEDP.



Result: No afterload reduction.

Late Deflation

BAEDP > PAEDP
Violates **Rule 2** for deflation.



Result: Increased workload of left ventricle. Increased MVO_2. Decreased CO.

TMC-M 2/01 60M