# Intra aortale ballonpomp

Toepassing IABP - cardiogene shock

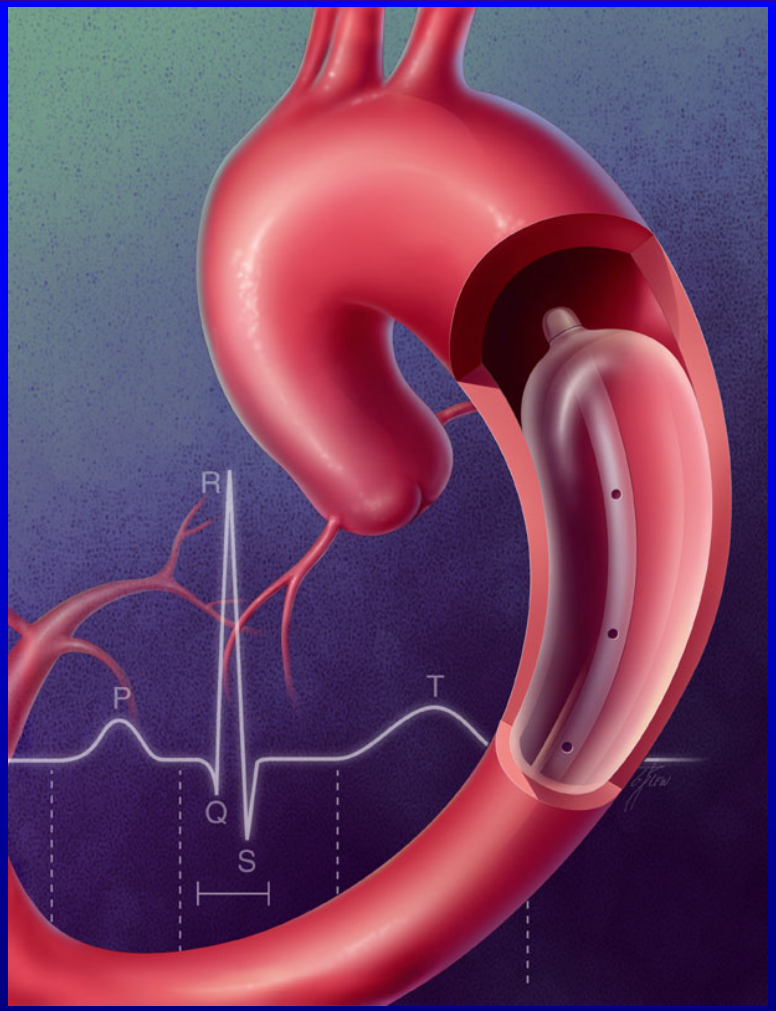
- low output syndroom

- coronairsclerose

Gemeenschappelijke probleem verminderde
Cardiac Output of Hart Minuten Volume

IABP zorgt voor een betere doorbloeding van het myocard
gevolg verbeterde CO

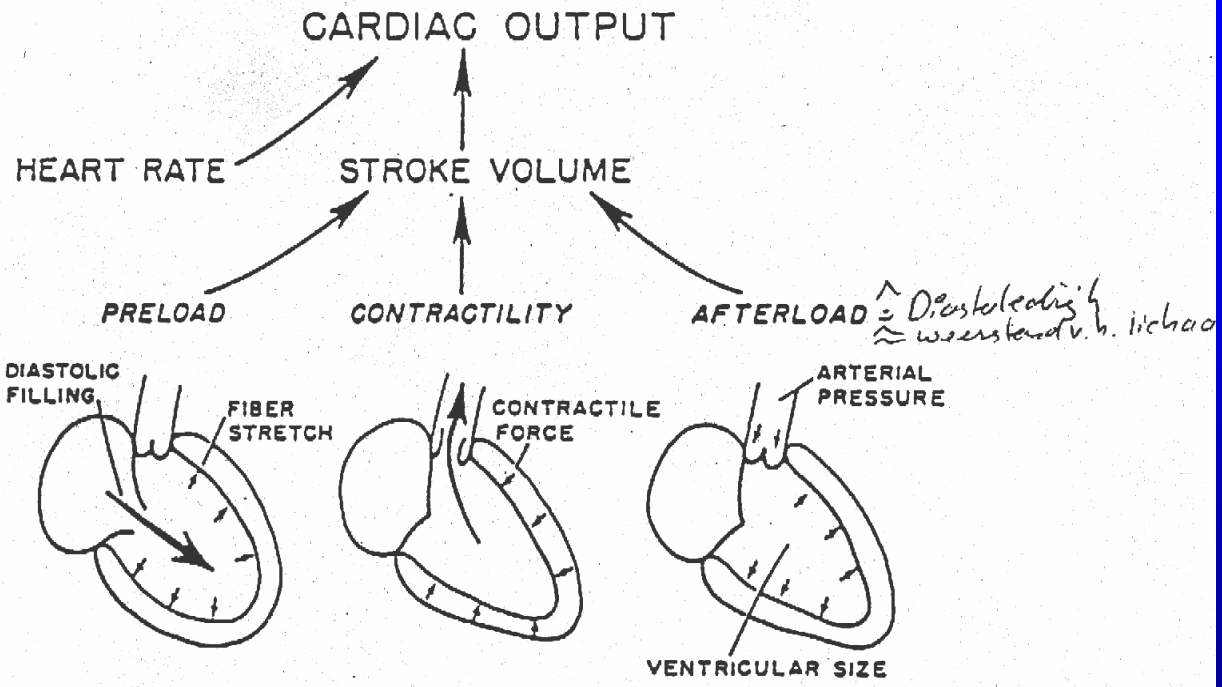
# IABP



# Cardiac Output

II. Measurement of Cardiac Performance

A. Cardiac Output = heart rate x stroke volume
(NL 4-6 liters/minute)




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# Cardiac output

CO = Hartrate * Strokevolume

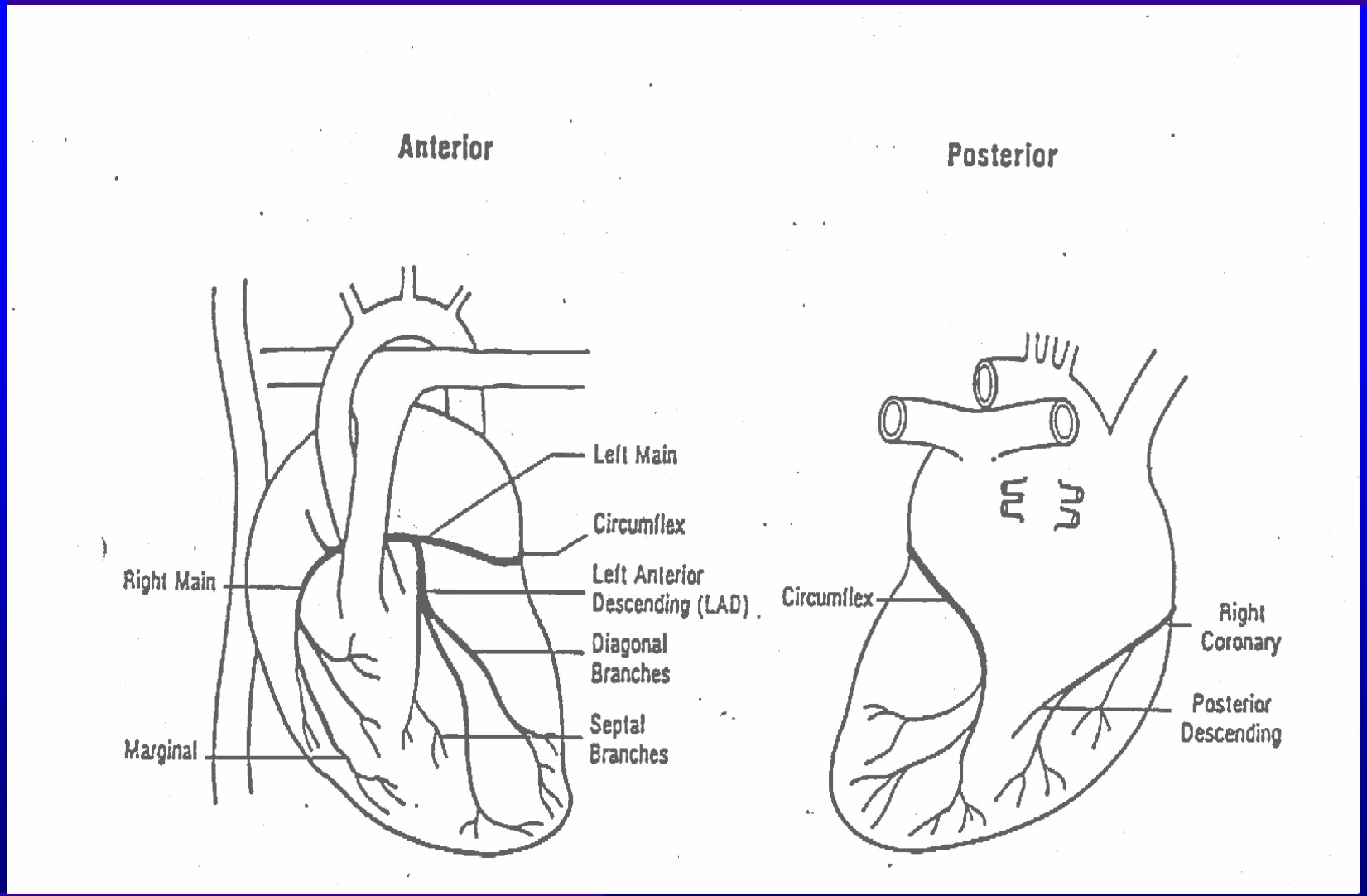
HMV= Hartfrequentie * Slagvolume (l/min)

HR aanpassing naar behoefte van het lichaam.

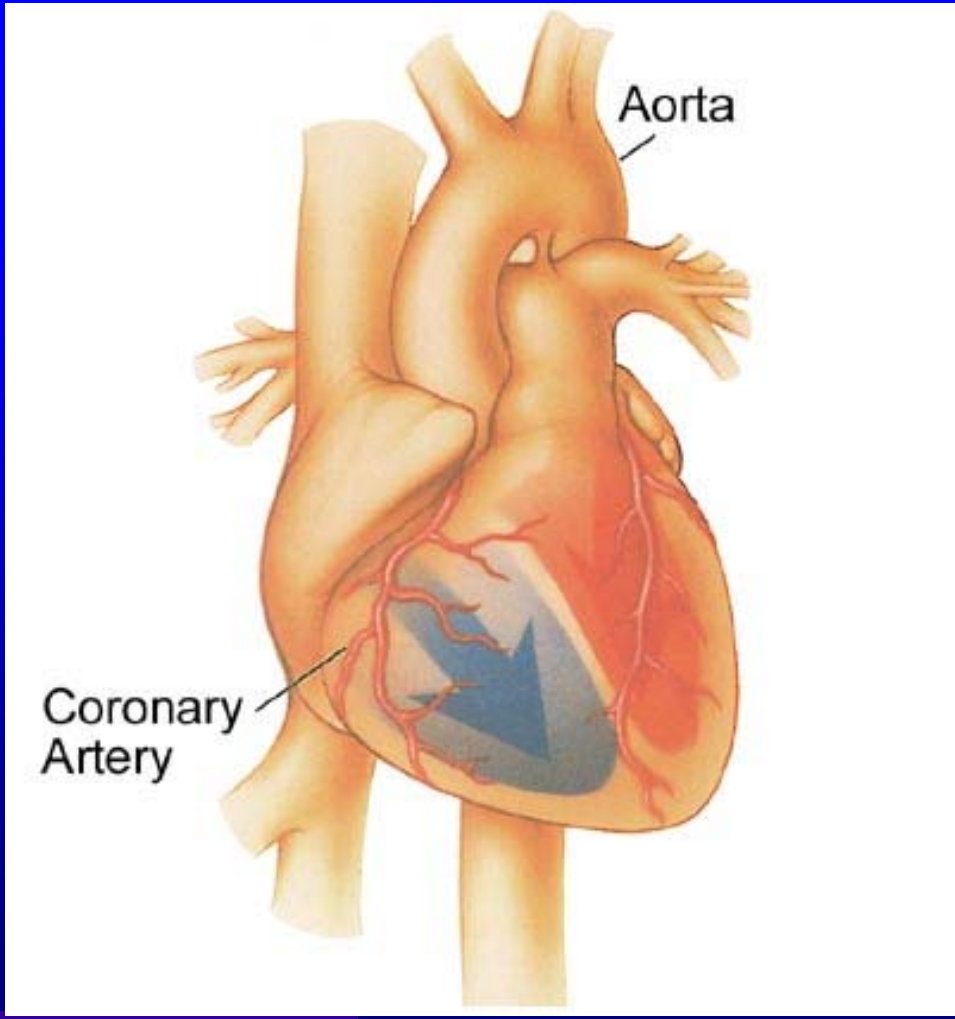
Slagvolume is afhankelijk van preload afterload contractility

Dit is afhankelijk van de goede doorbloeding van het myocard de hartspier of anders gezegd aanbod van zuurstof naar de hartspier. Coronair perfusie

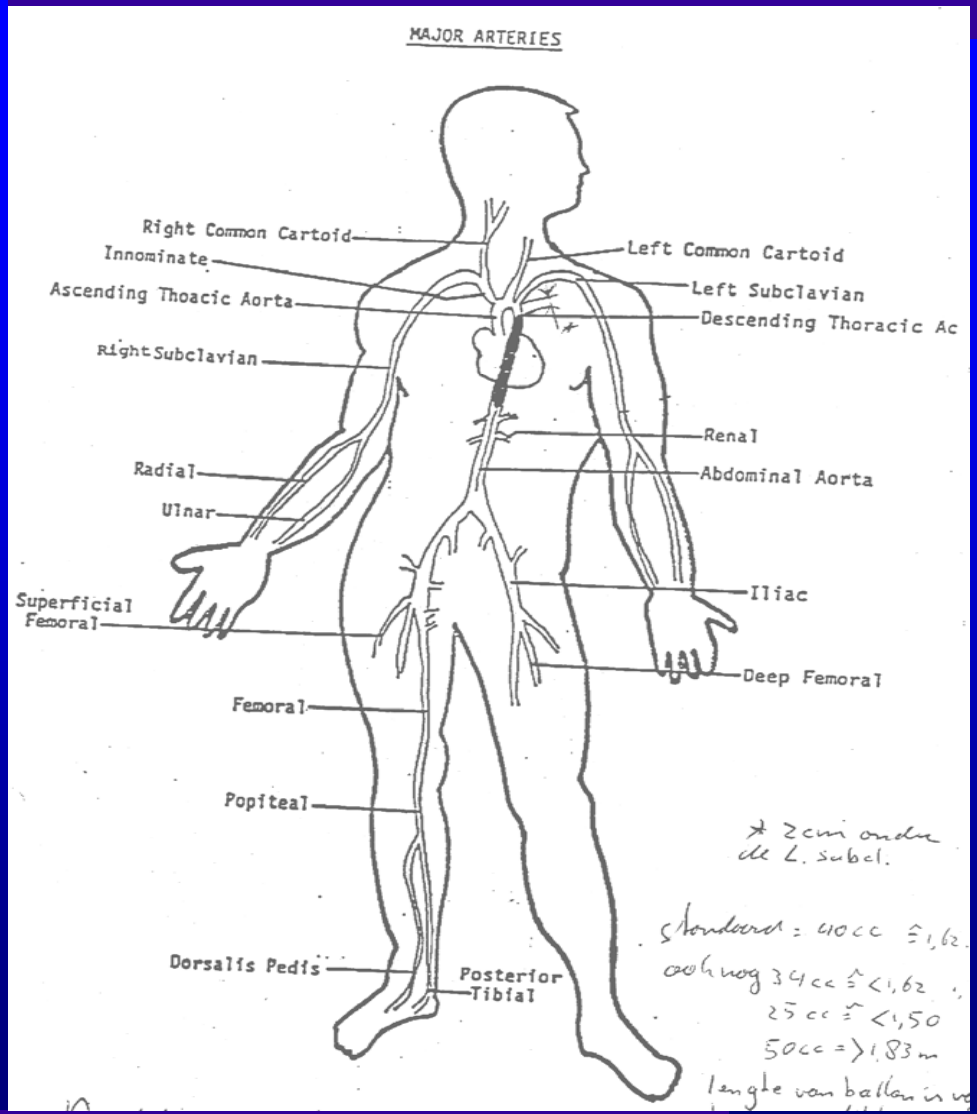
# Coronaire Perfusie



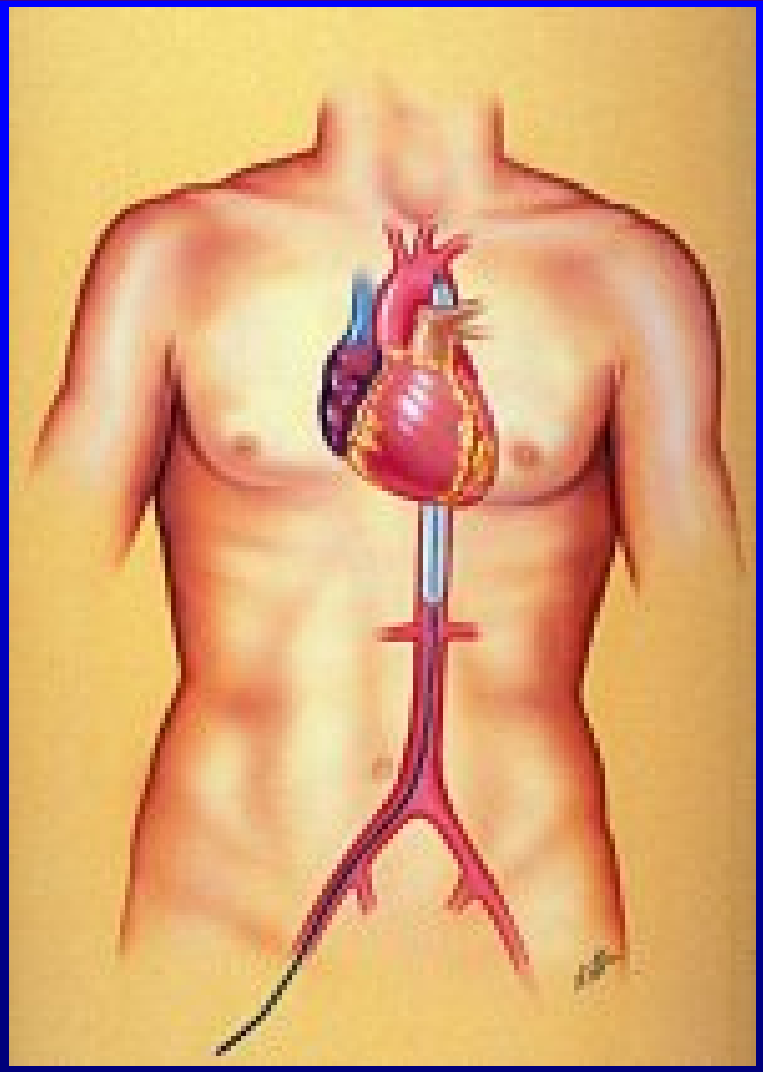
# Coronaire Perfusie



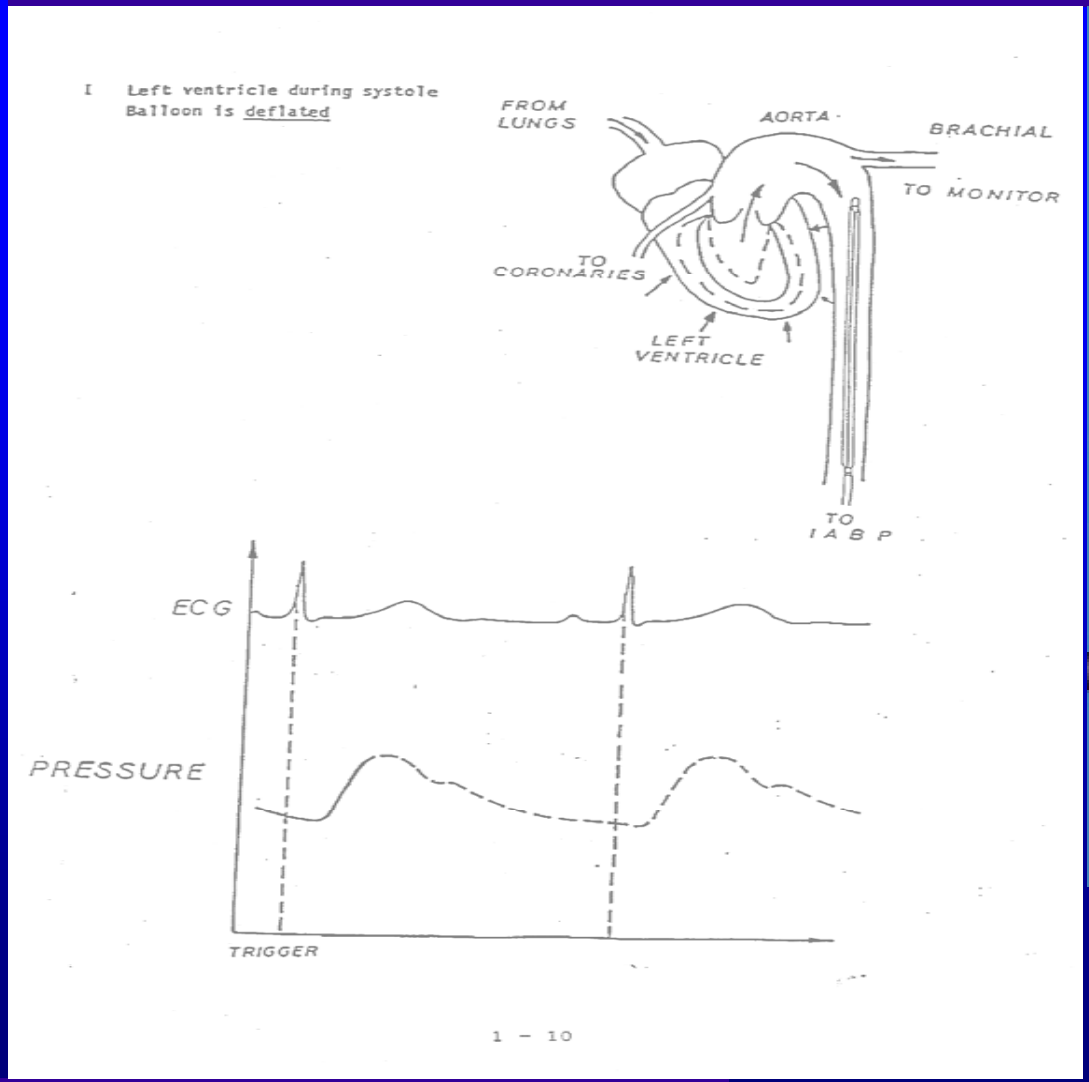
# Werking IABP

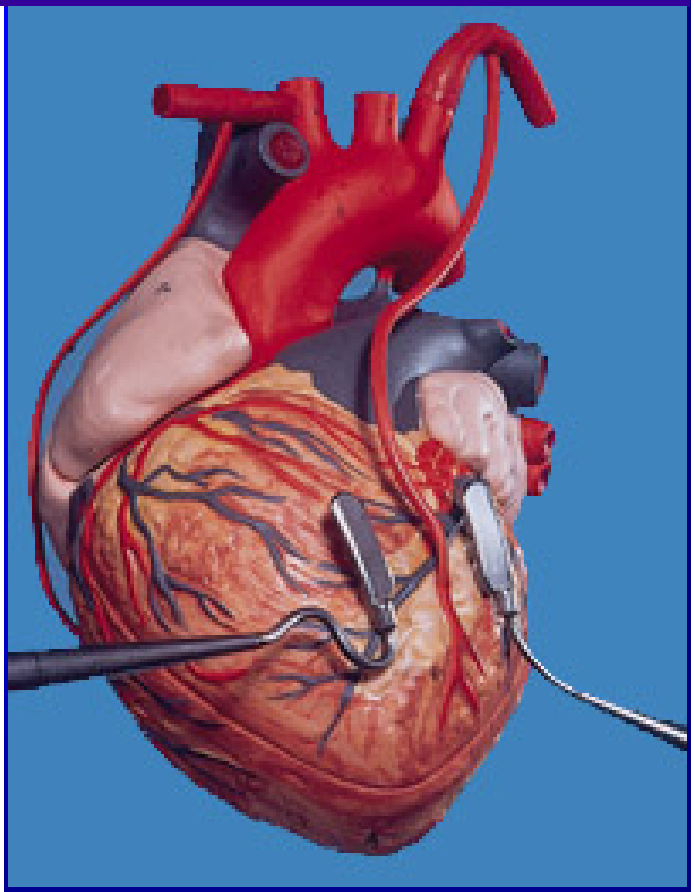


# IABP



# IABP

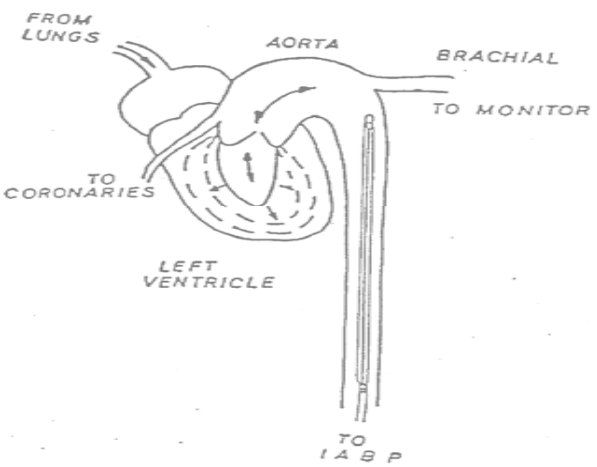

I Left ventricle during systole
Balloon is deflated
FROM LUNGS
AORTA
BRACHIAL
TO MONITOR
TO CORONARIES
LEFT VENTRICLE
TO I A B P
ECG
PRESSURE
TRIGGER
1 - 10

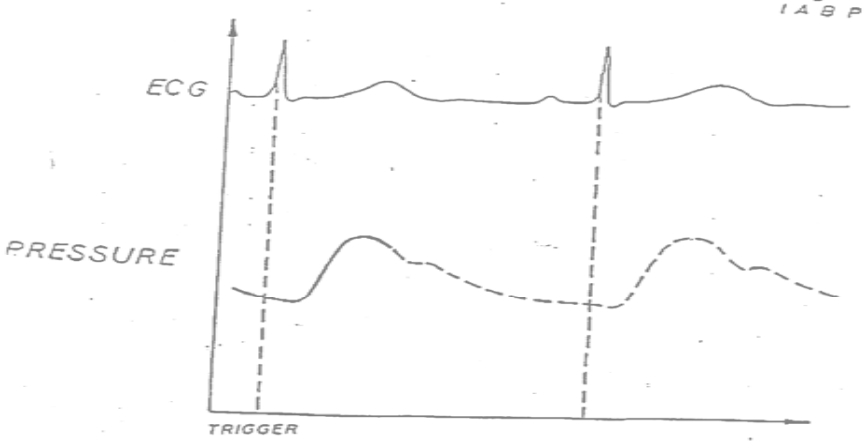


# IABP

If . Left ventricle just after peak of systole.

Balloon remains deflated



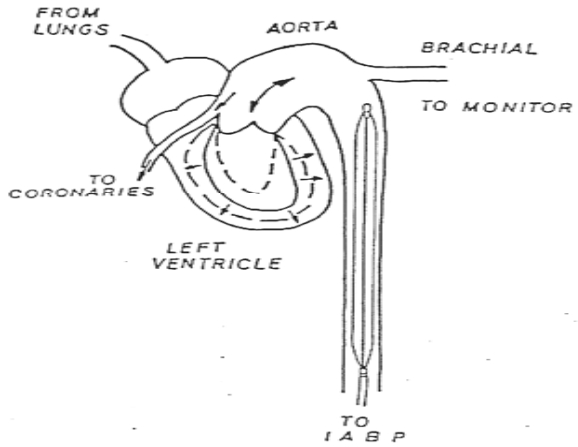

1 - 11

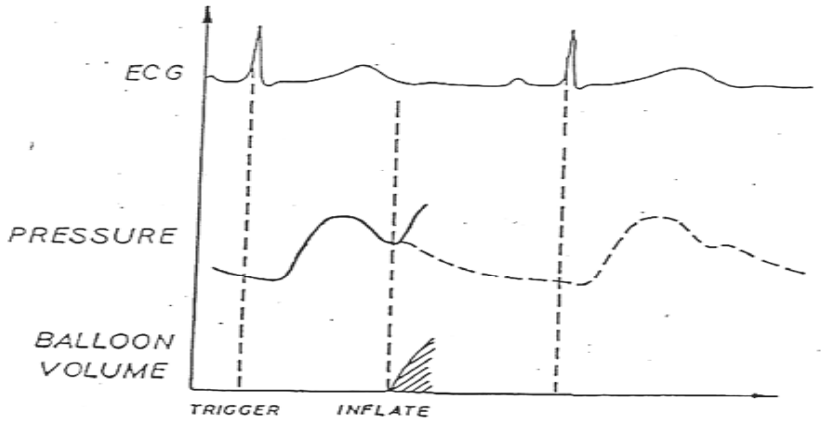
# IABP

III. Aortic valve closure.

Balloon starts to inflate

Dicrotic notch caused by valve closure.



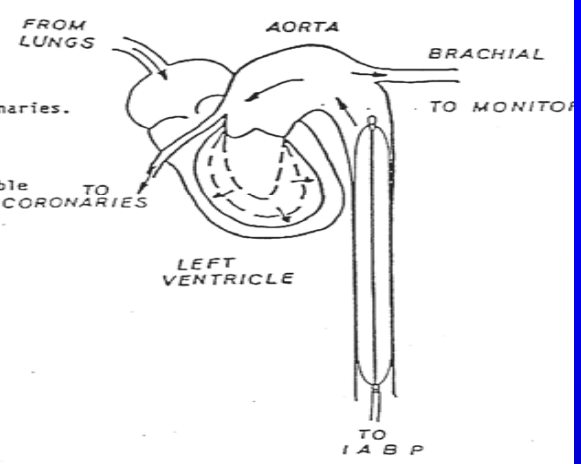



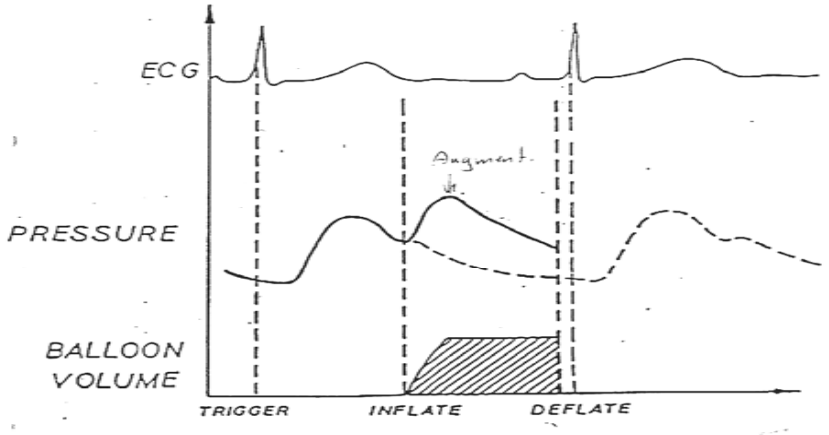

1 – 12

# IABP

IV. Left ventricle in diastole
Balloon is fully inflated
1. Diastolic Augmentation.
2. Increased perfusion to coronaries.

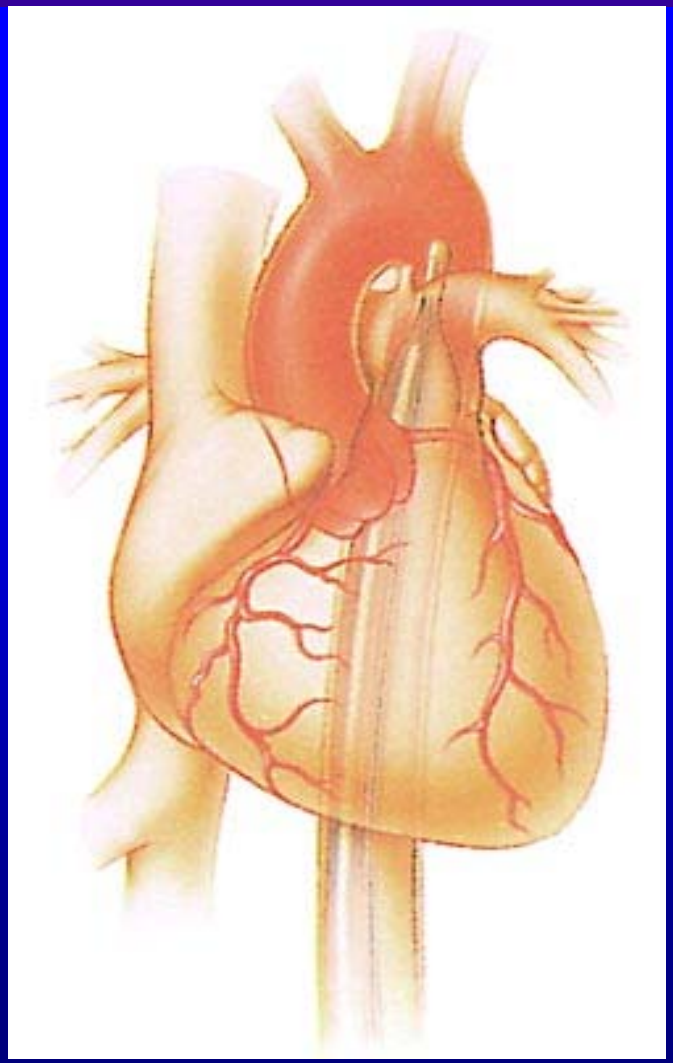
NOTE: Aortic valve must be viable
ingood steat.




1 - 13

# IABP

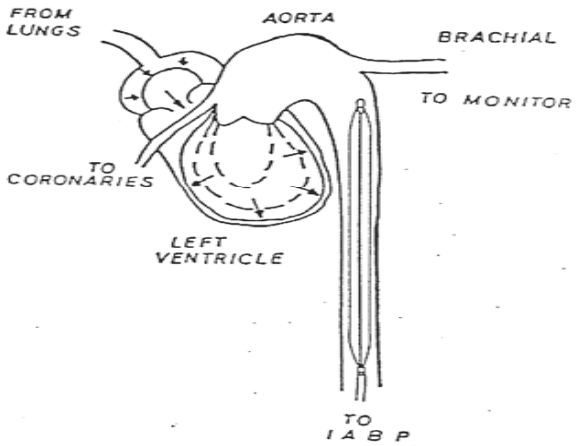


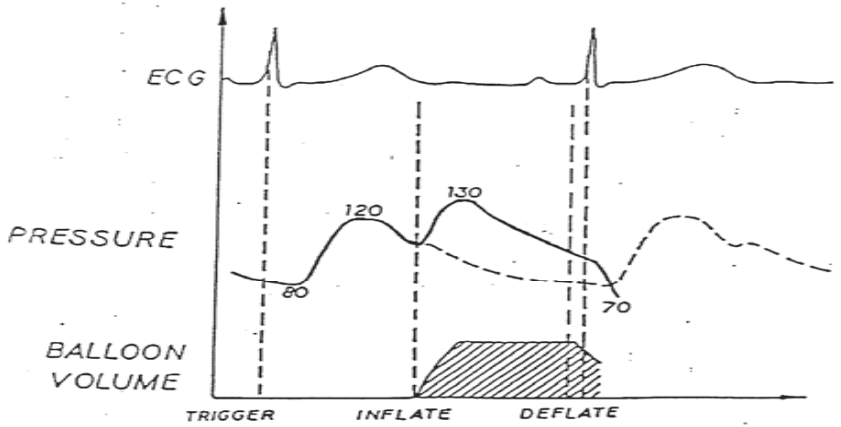
# IABP

Left ventricle in late diastole

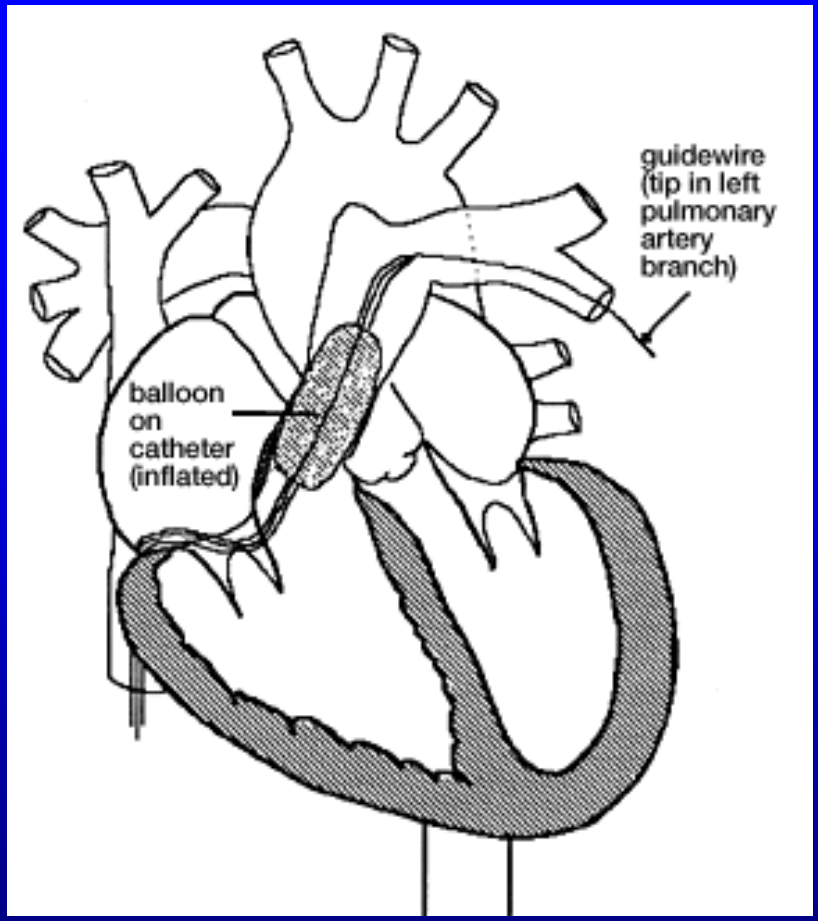
Balloon begins to deflate

1. Rapid reduction in Aortic pressure.
2. Pre systolic dip. (In Aortic pressure)
3. Reduction of end diastolic pressure.



# IABP

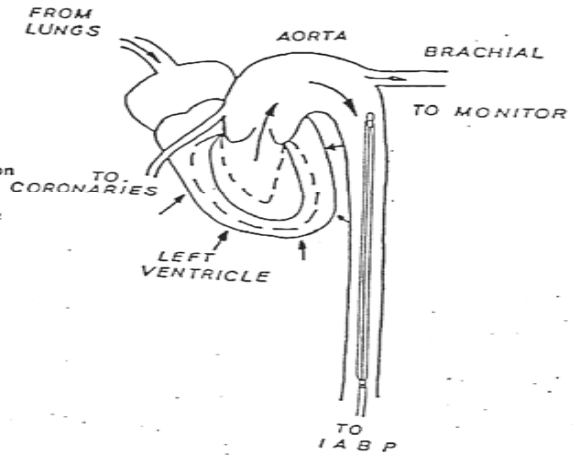

guidewire
(tip in left
pulmonary
artery
branch)
balloon
on
catheter
(inflated)

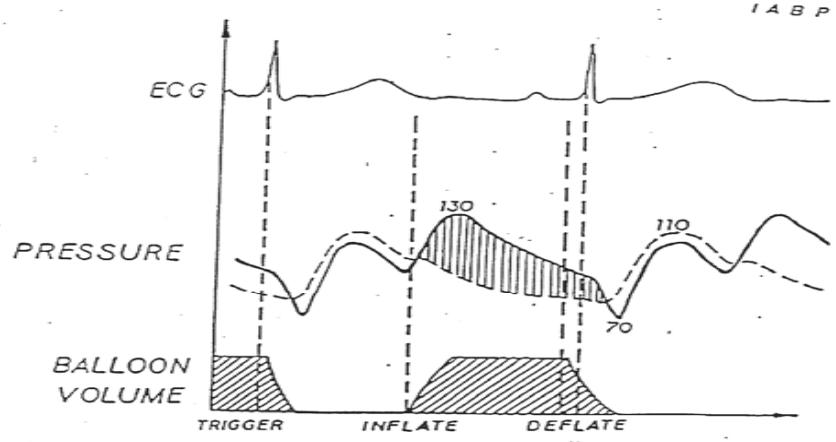
# IABP

VI. Left ventricle in systole

Balloon fully deflates

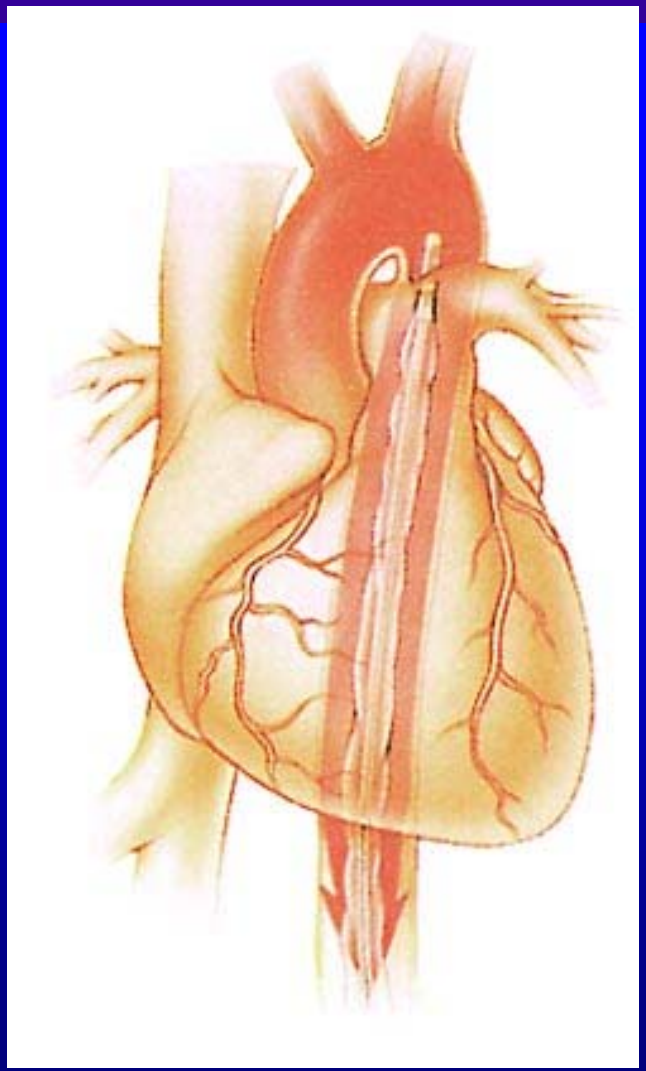
1. Ventricle pumps against reduced Aortic pressure.
2. Ventricular work-load is reduced.
3. Myocardial oxygen consumption is reduced.
4. Increased stroke volume-more blood is ejected.



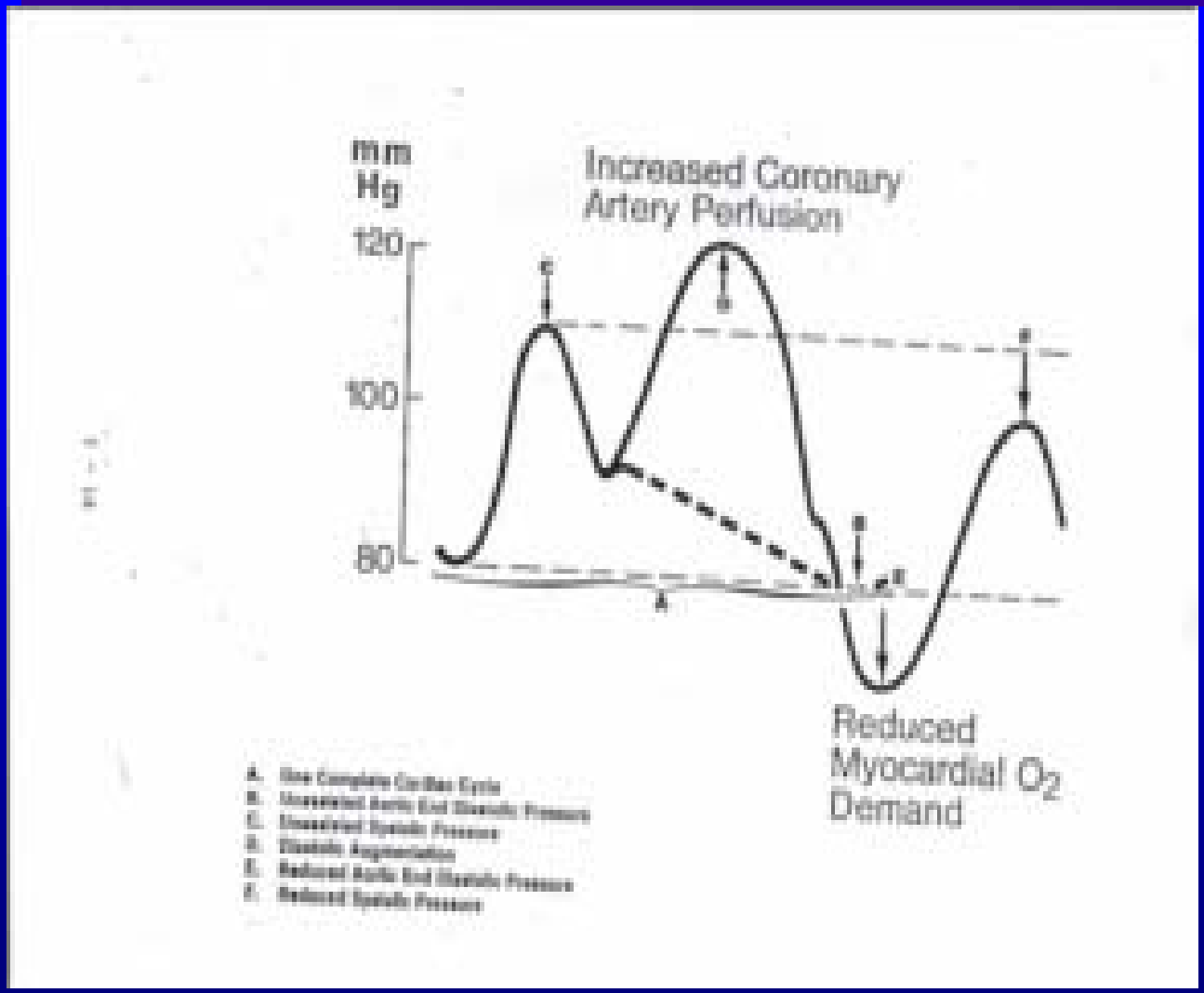




1 - 15

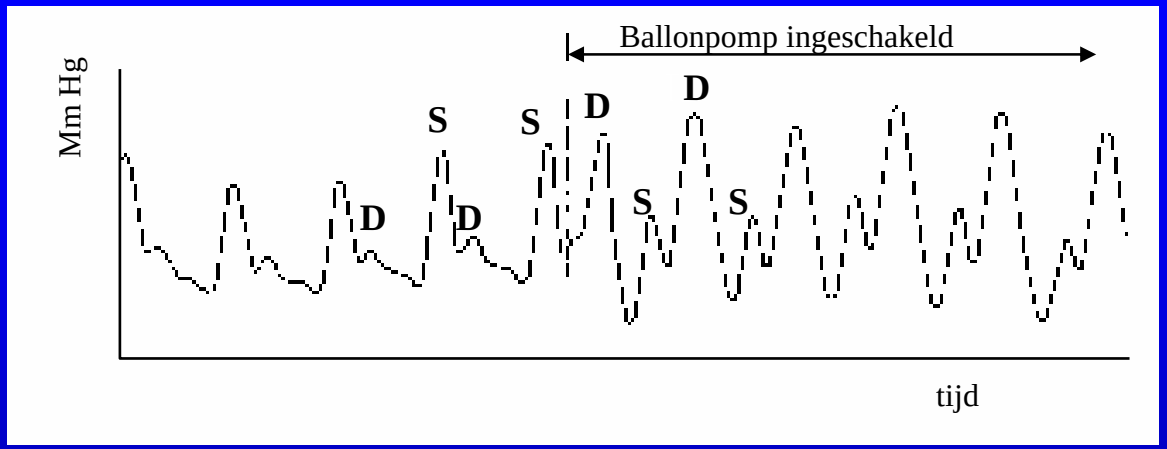
# IABP



# IABP

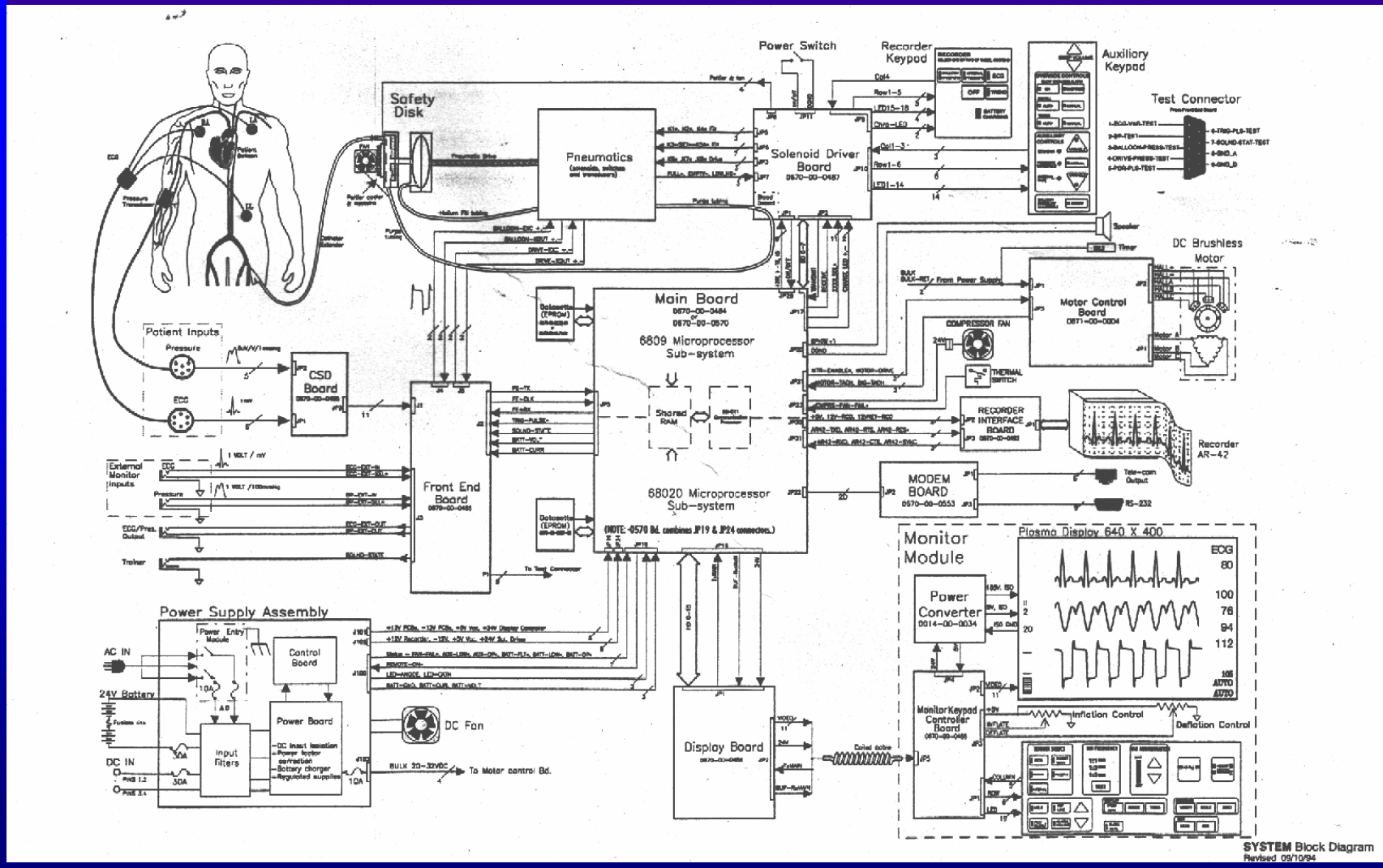

mm Hg
120
100
80
Increased Coronary Artery Perfusion
Reduced Myocardial $O_2$ Demand

# IABP



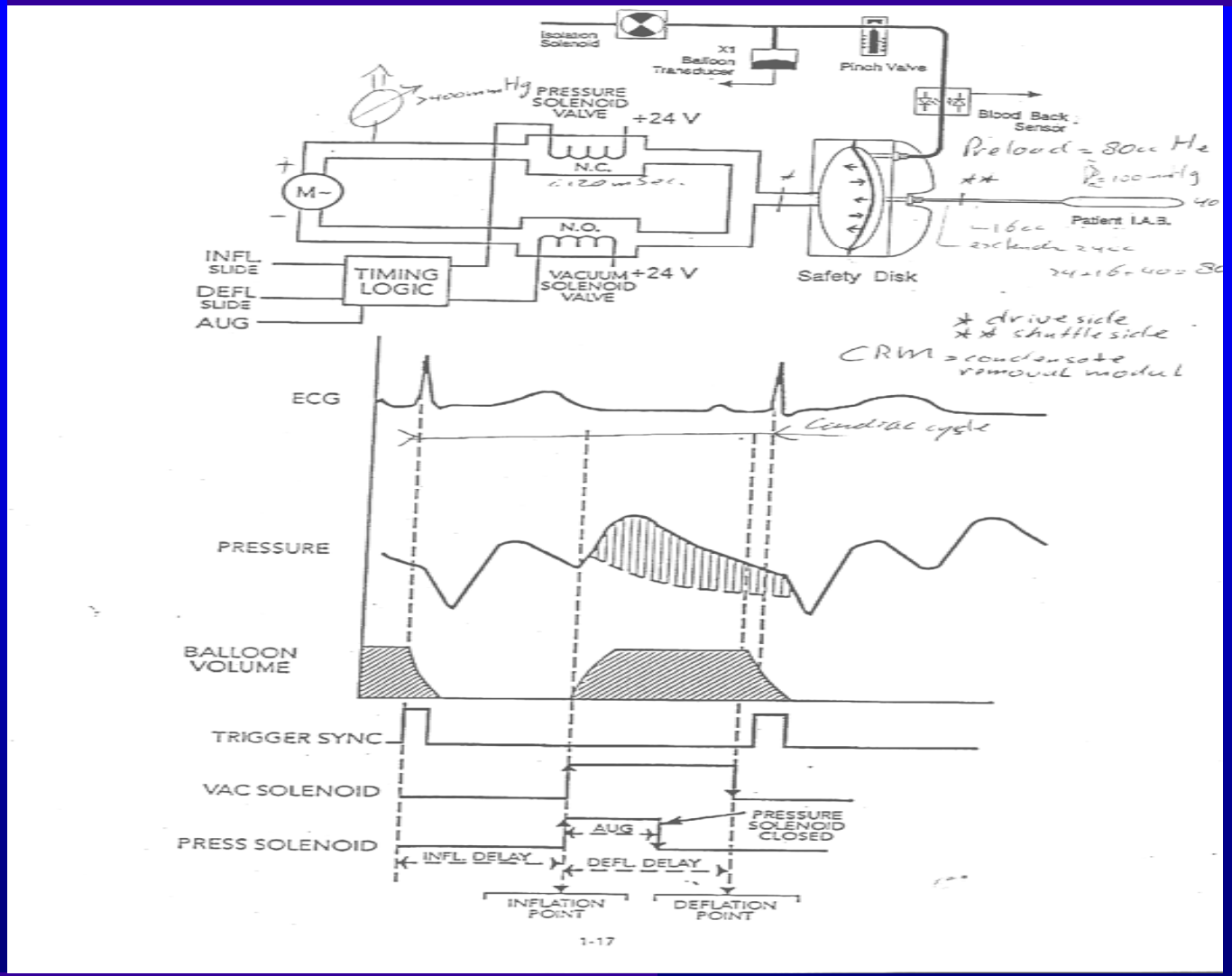

Systole en diastole druk met en zonder ballonpomp

# De Techniek

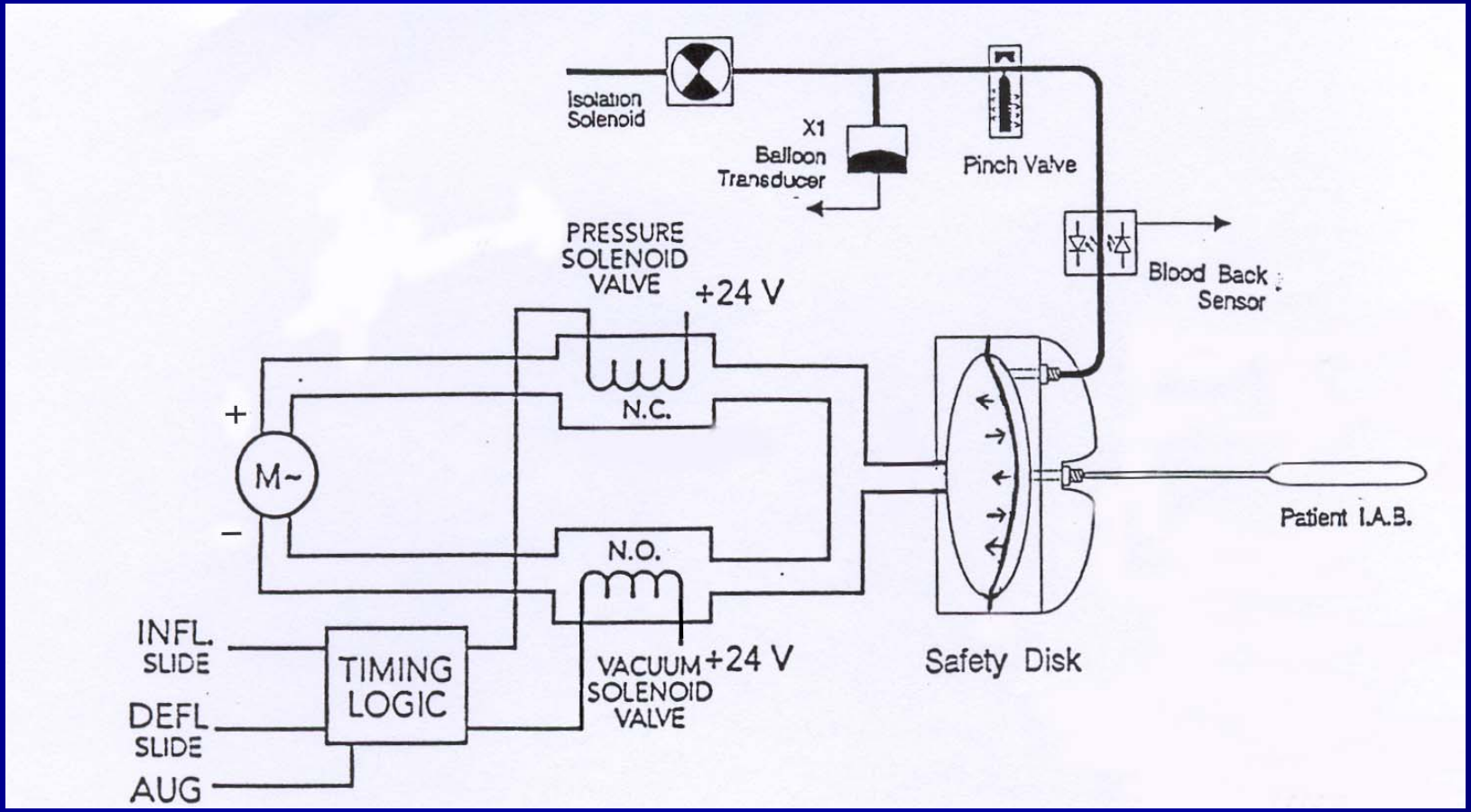



SYSTEM Block Diagram
Revised 09/10/94

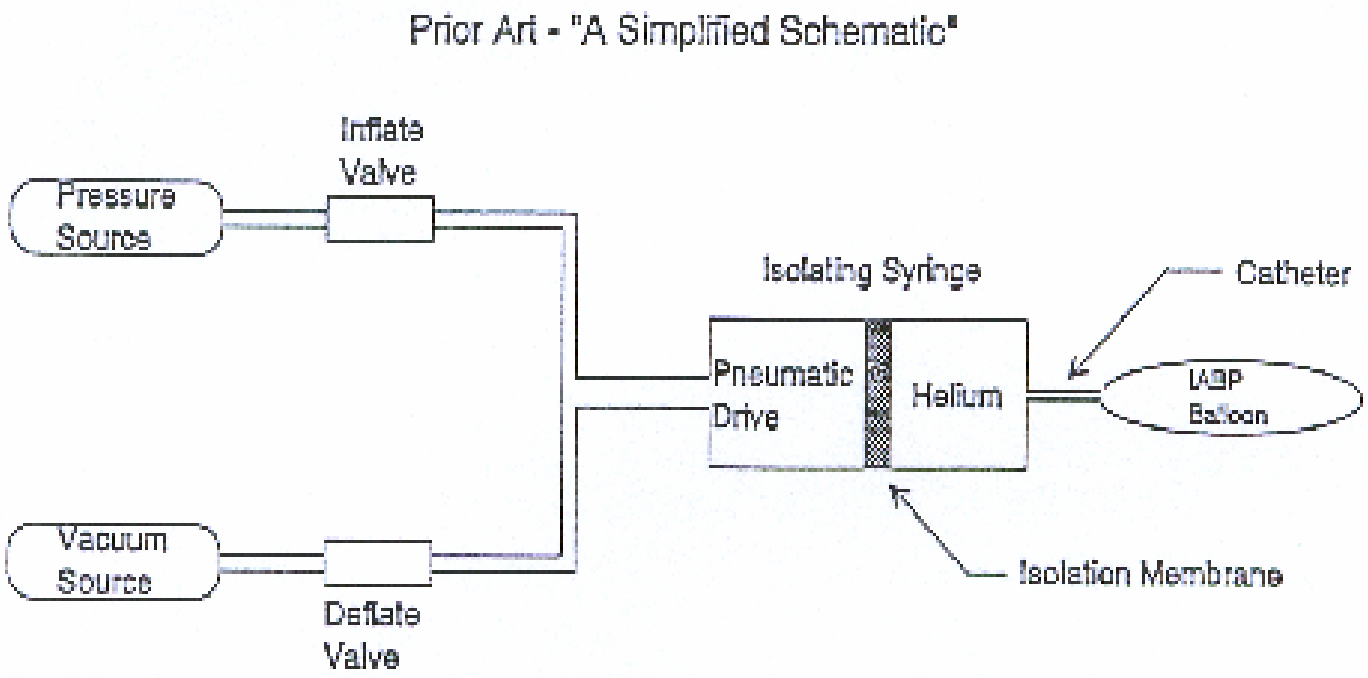
# De Techniek in details



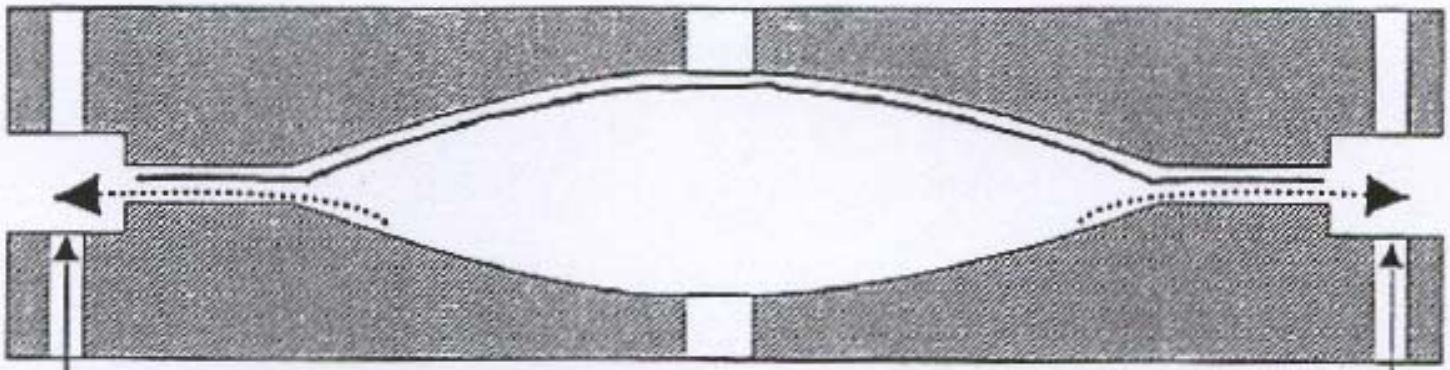
# Het blokschema



# Simpel blokschema



# De Safety-Disk



Bolt holes are placed outside of membrane radius to insure potential drive pressure leaks are vented to atmosphere, not across the isolation barrier.

# De Techniek



# De Techniek



# De Techniek



# De Techniek



# De Techniek



# IAPB



# De Techniek

