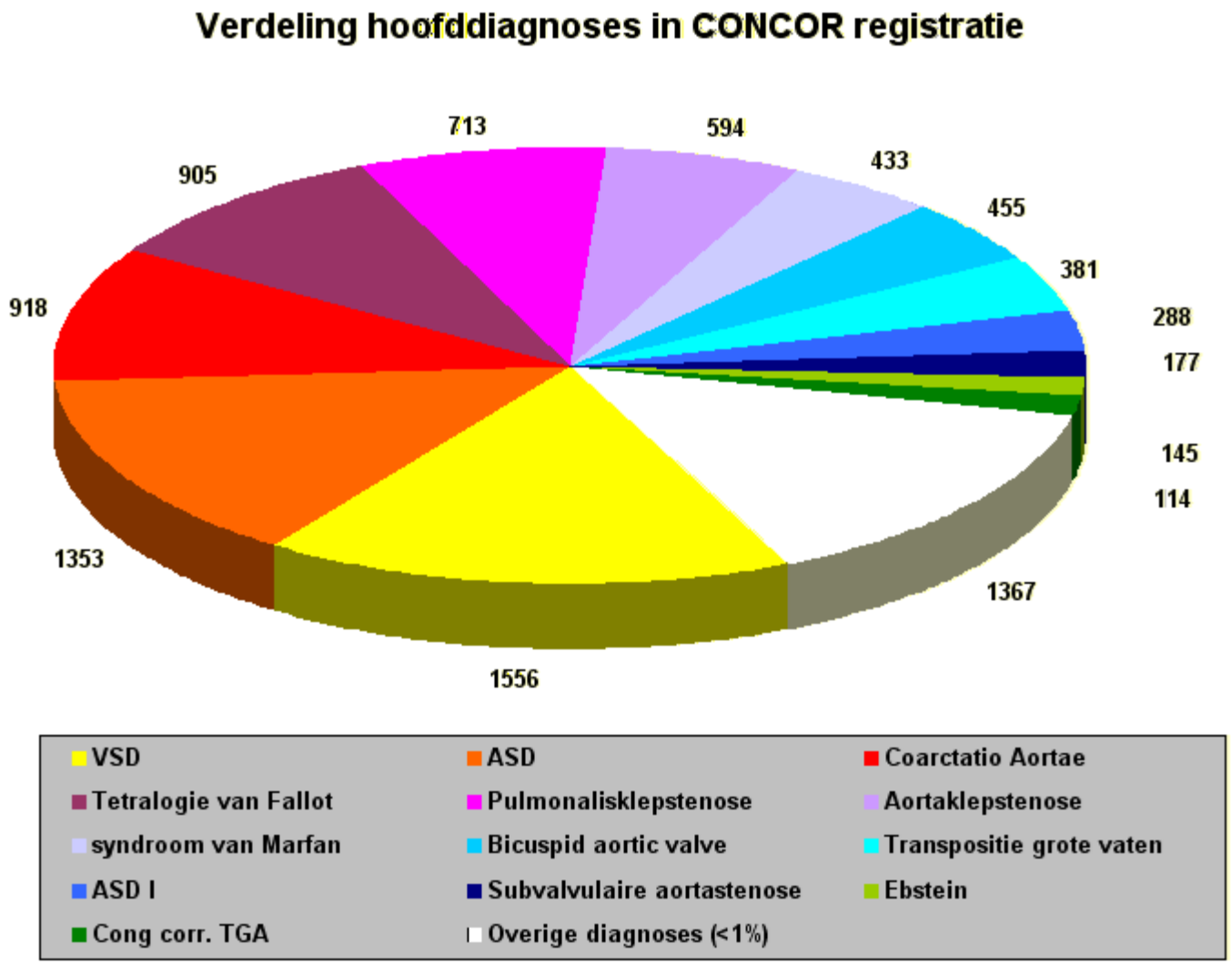
ASD/VSD

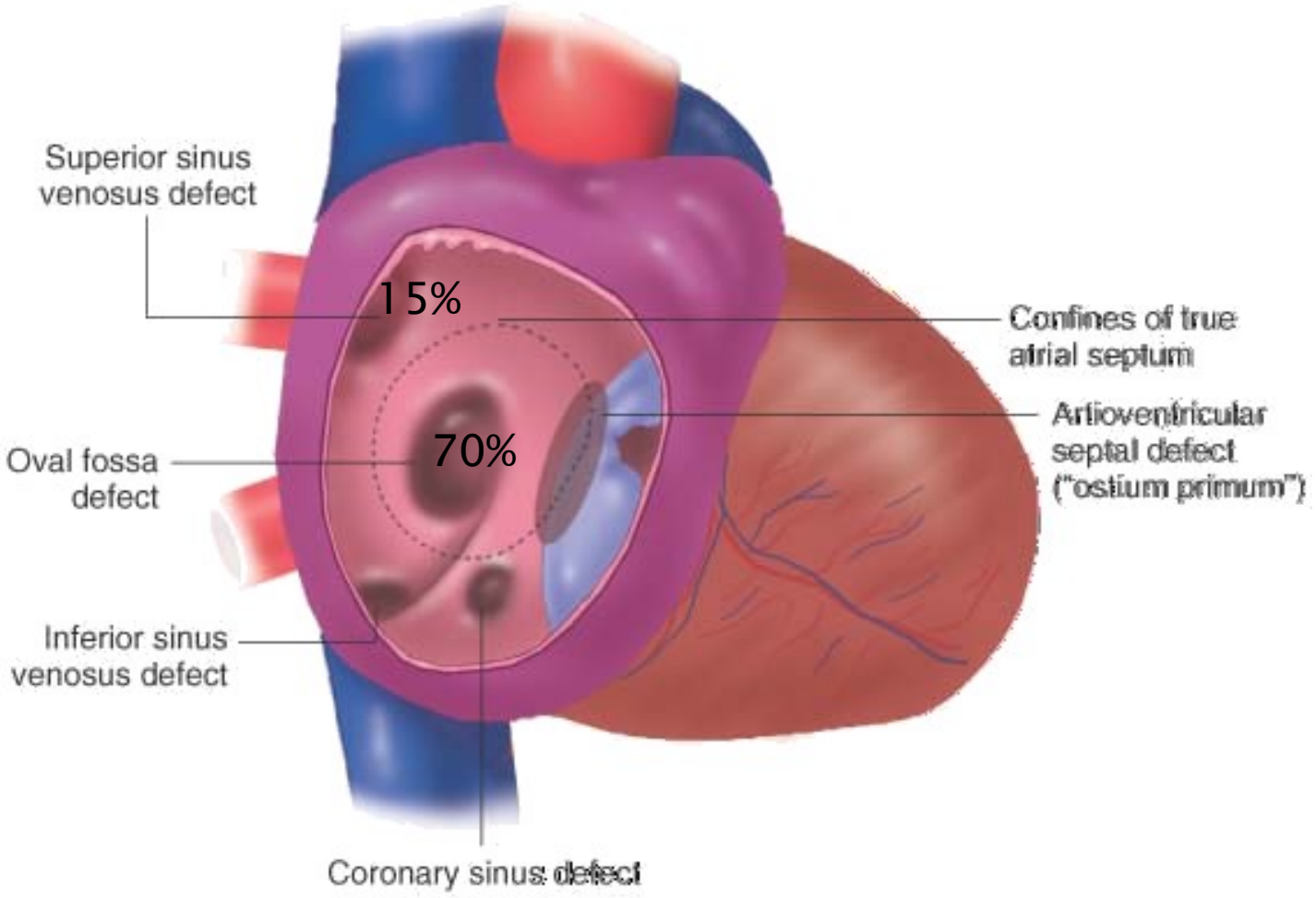
Abnormale shunts

Concor registratie

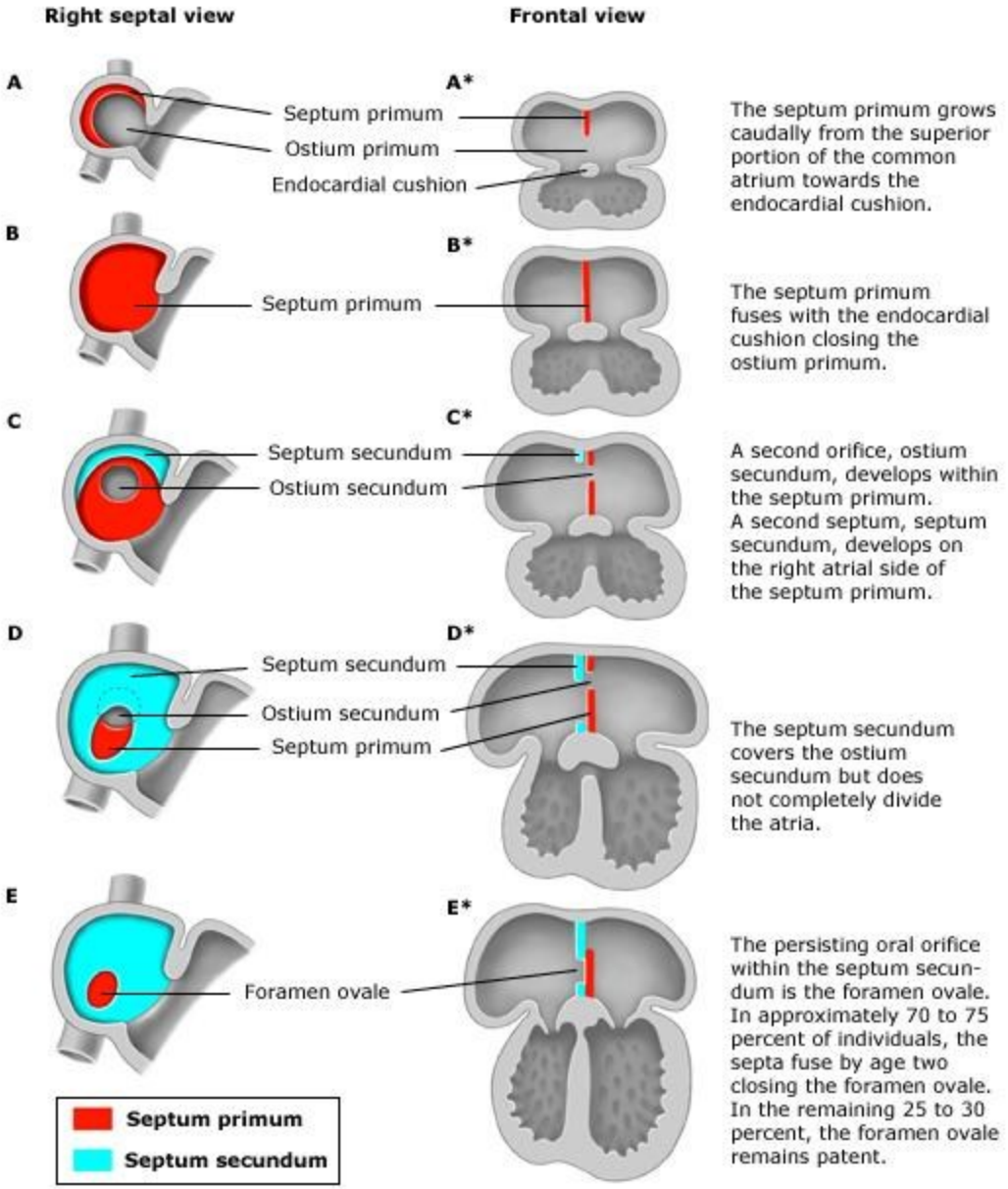


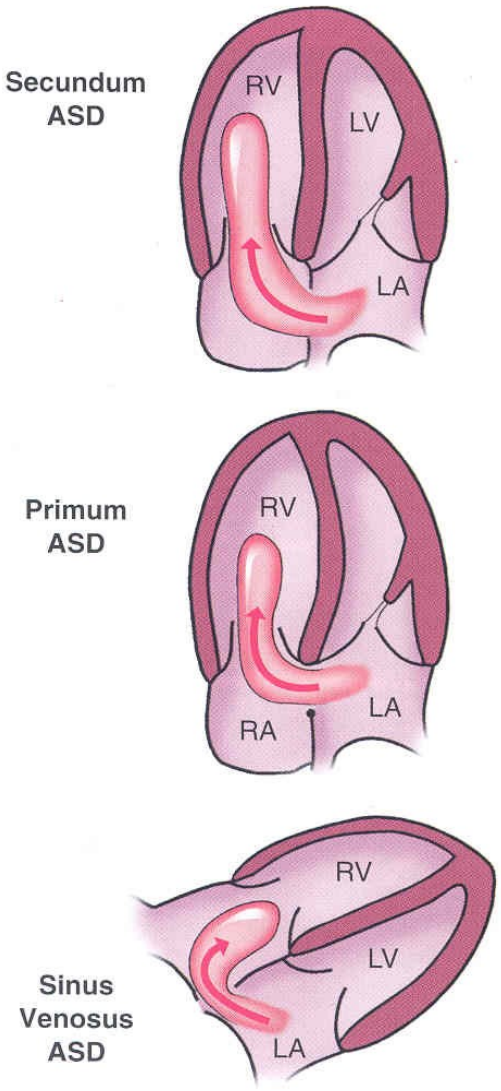
Atriale en Ventriculaire septum defecten

- PFO
- ASD
- AVSD
- VSD



Embryologie




Secundum ASD
RV
LV
LA
Primum ASD
RV
LA
RA
Sinus Venosus ASD
RV
LV
LA

Pathofysiologie

- Geleidelijk ontstaan van Li Re shunt
- ↓longvaat weerstand, ↓RVH
- Volume (over)belasting RV
- Systeem veneuze stuwing
- RV dilatatie
- Afname slagvolume LV – RAAS activatie
- Toename veneuze stuwing
- PHT (10-20%)
- Li-Re shunt ↓
- Equilebratie, Eisenmenger

Klinische presentatie

- Klachten > 30e levens jaar
- Dyspnoe, palpitaties
- Oedeem
- Paradoxe embolieen
- AP (RV ischemie)

Prognose: afhankelijk van onstaan PHT

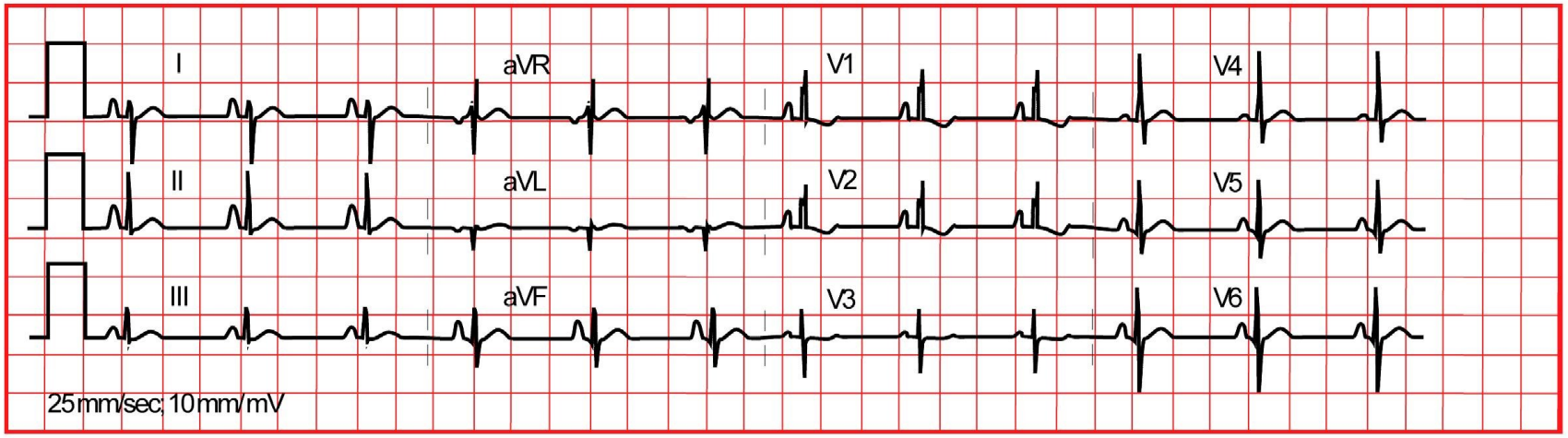
Voorspellen is moeizaam: vrouwen, grote hoogten

LO

- Ejectie geruis over pulmonalis ostium
- Wijde gefixeerde splijting 2e toon
- PHT: luide pulmonale component 2e toon

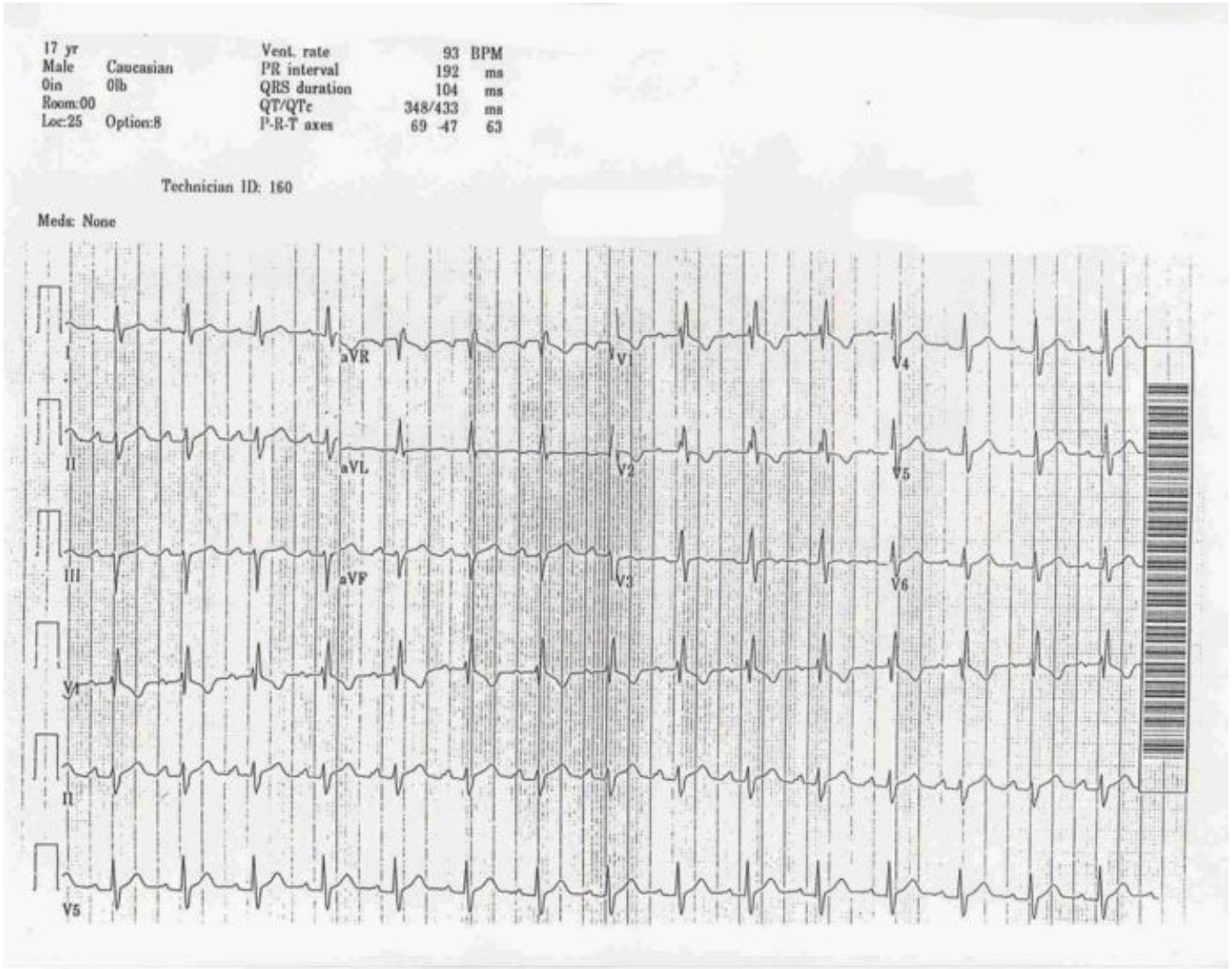
ECG

- ADS 2: RA>, RAD, rSR



ECG

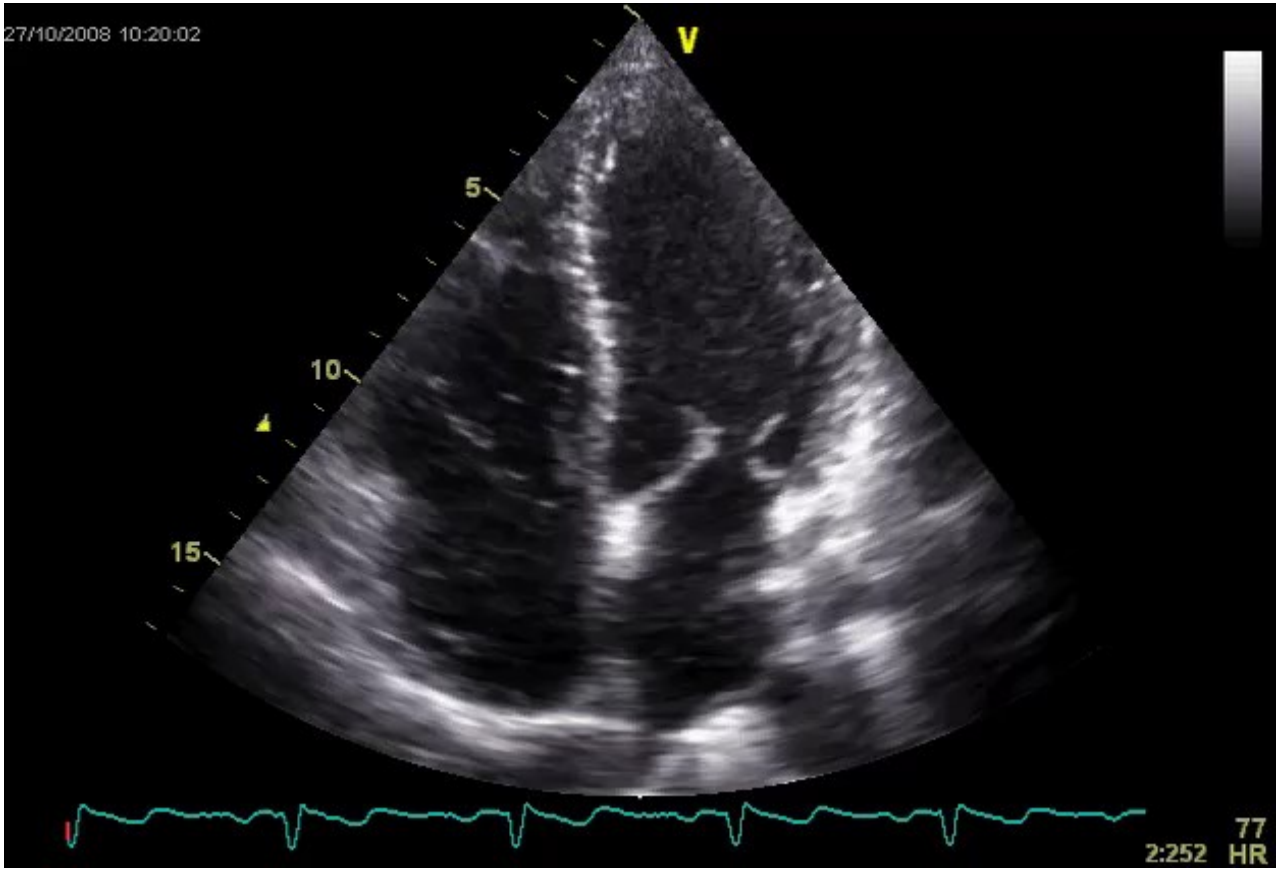
- ASD 1


17 yr
Male
Caucasian
0in
0lb
Room:00
Loc:25
Option:8
Vent. rate 93 BPM
PR interval 192 ms
QRS duration 104 ms
QT/QTc 348/433 ms
P-R-T axes 69 -47 63
Technician ID: 160
Meds: None
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
VI
II
V5

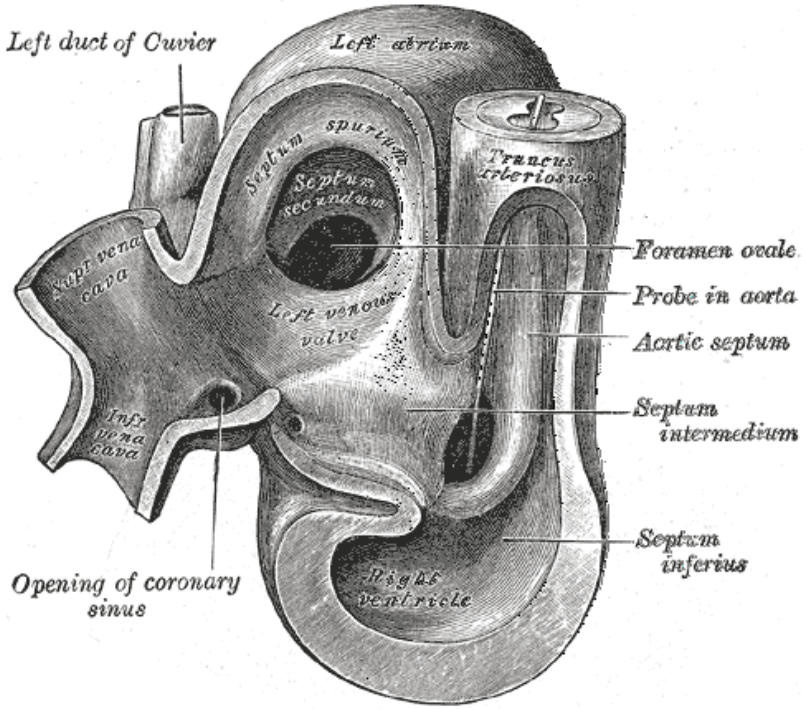
Echocardiografie

- TTE
- TEE
- Plaats/type ASD
- Groote shunt
- Drukken/PHT
- CAG niet meer geindiceerd
- Invasieve drukmetingen slechts bij twijvel PHT

PFO



PFO



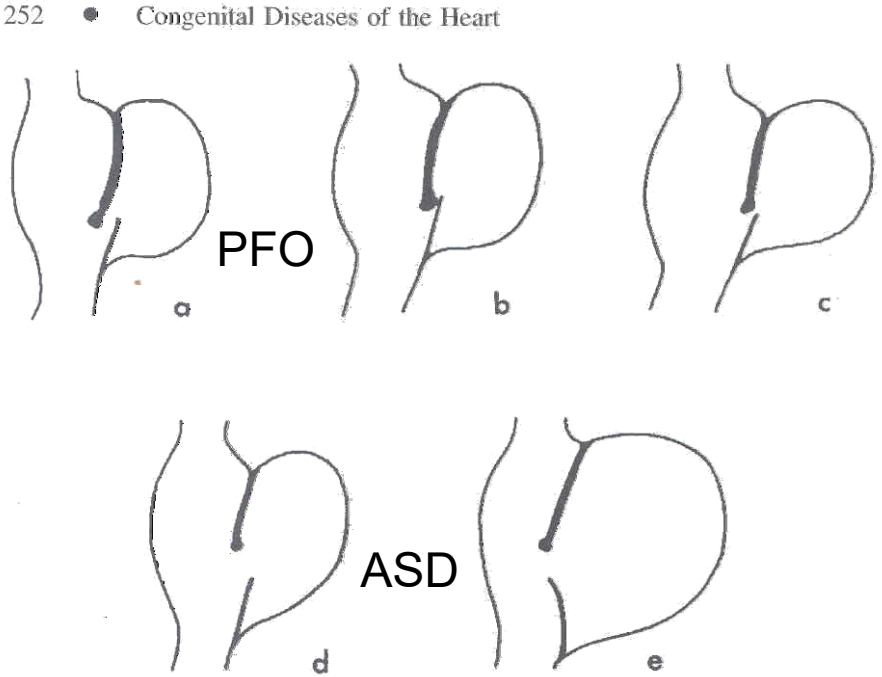
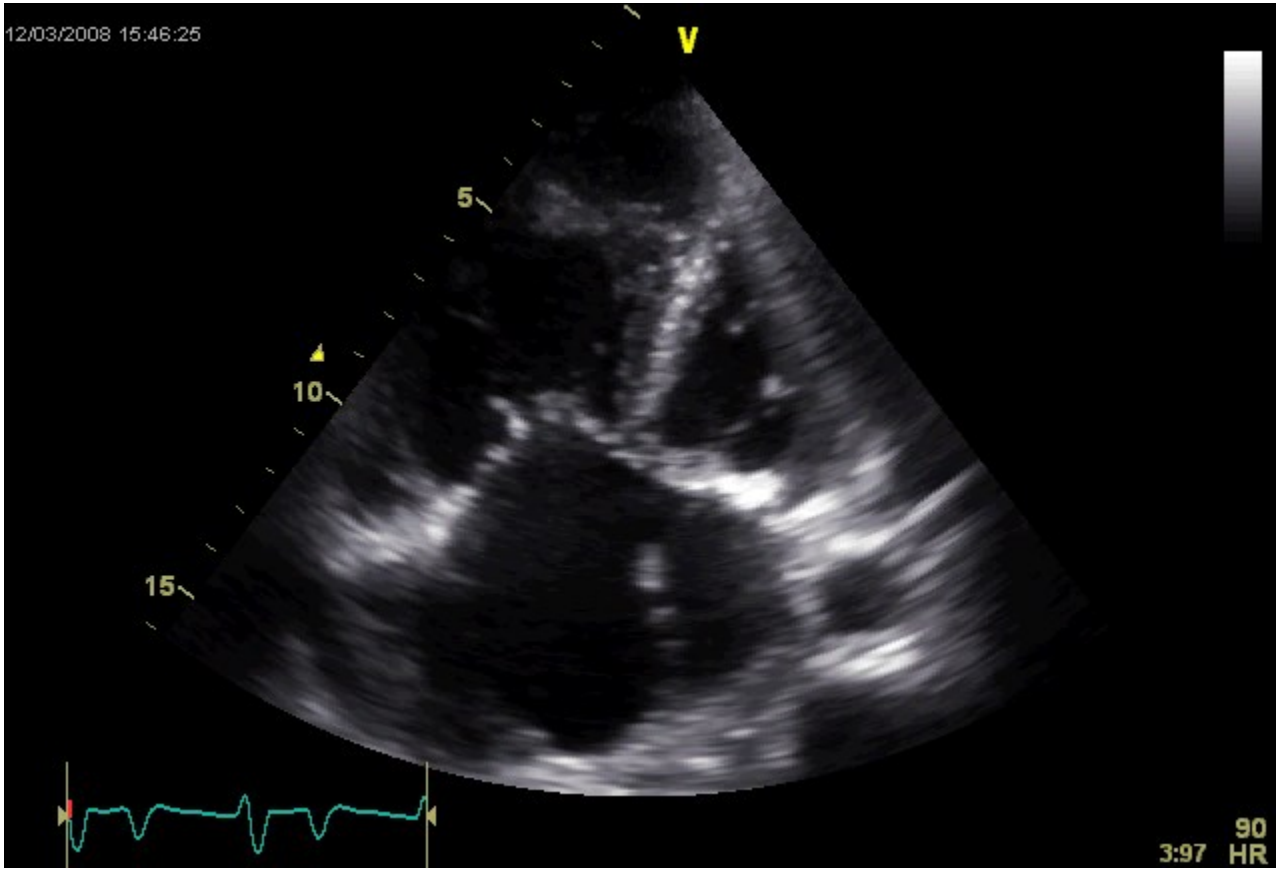


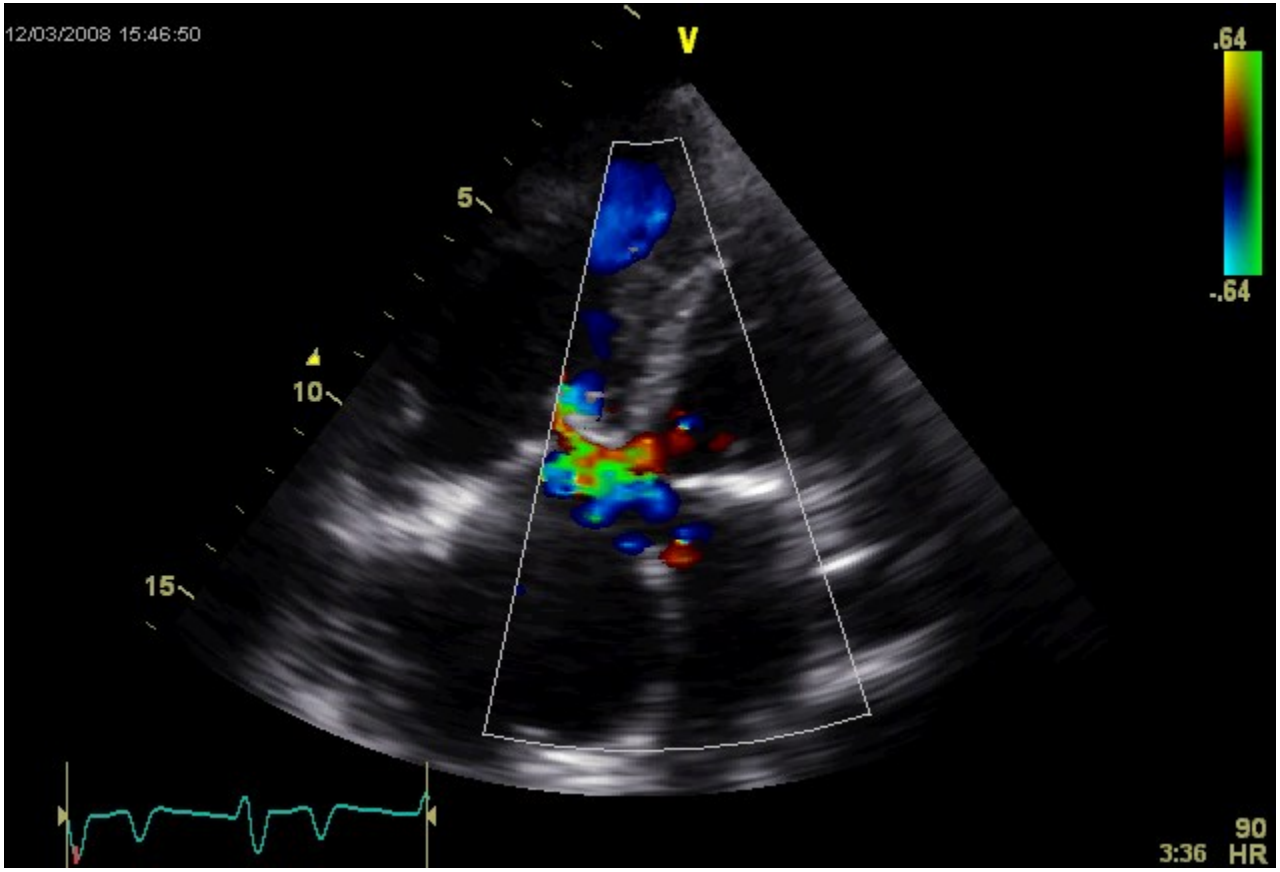
Figure 7-1. Diagrams showing different lengths of the valve of the foramen ovale, resulting in various levels of competence: (a) normal foramen ovale immediately after birth, (b) competent foramen ovale closed, (c) slightly shortened valve with minor patency of the foramen, (d) very short valve giving rise to a fossa ovalis type of atrial septal defect, (e) incompetence of foramen ovale due to bulging and stretching of septum associated with left atrial enlargement.

PFO=incompetente klep (geen volledige fusie) (Re-Li shunt)

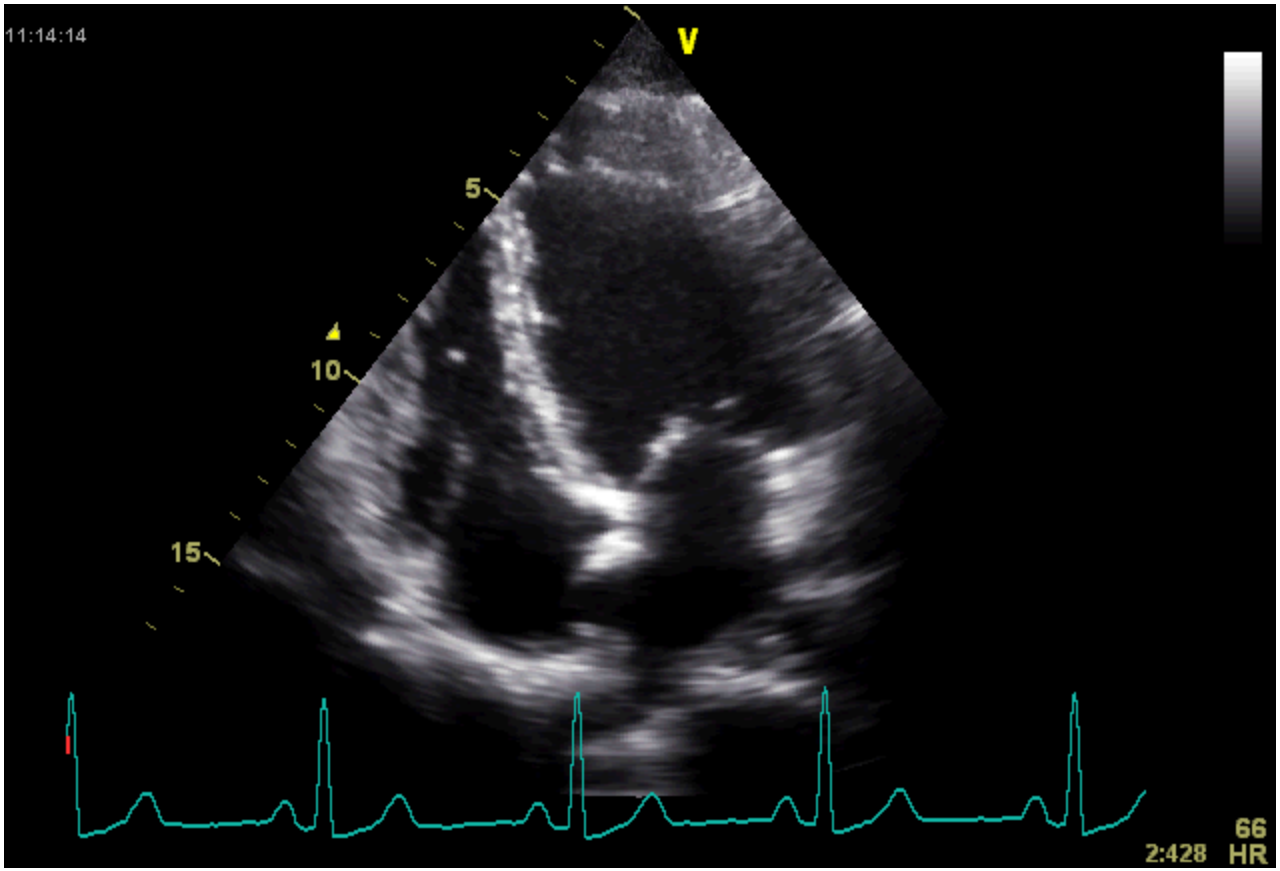
ASD=septaal defect (Li-Re shunt)

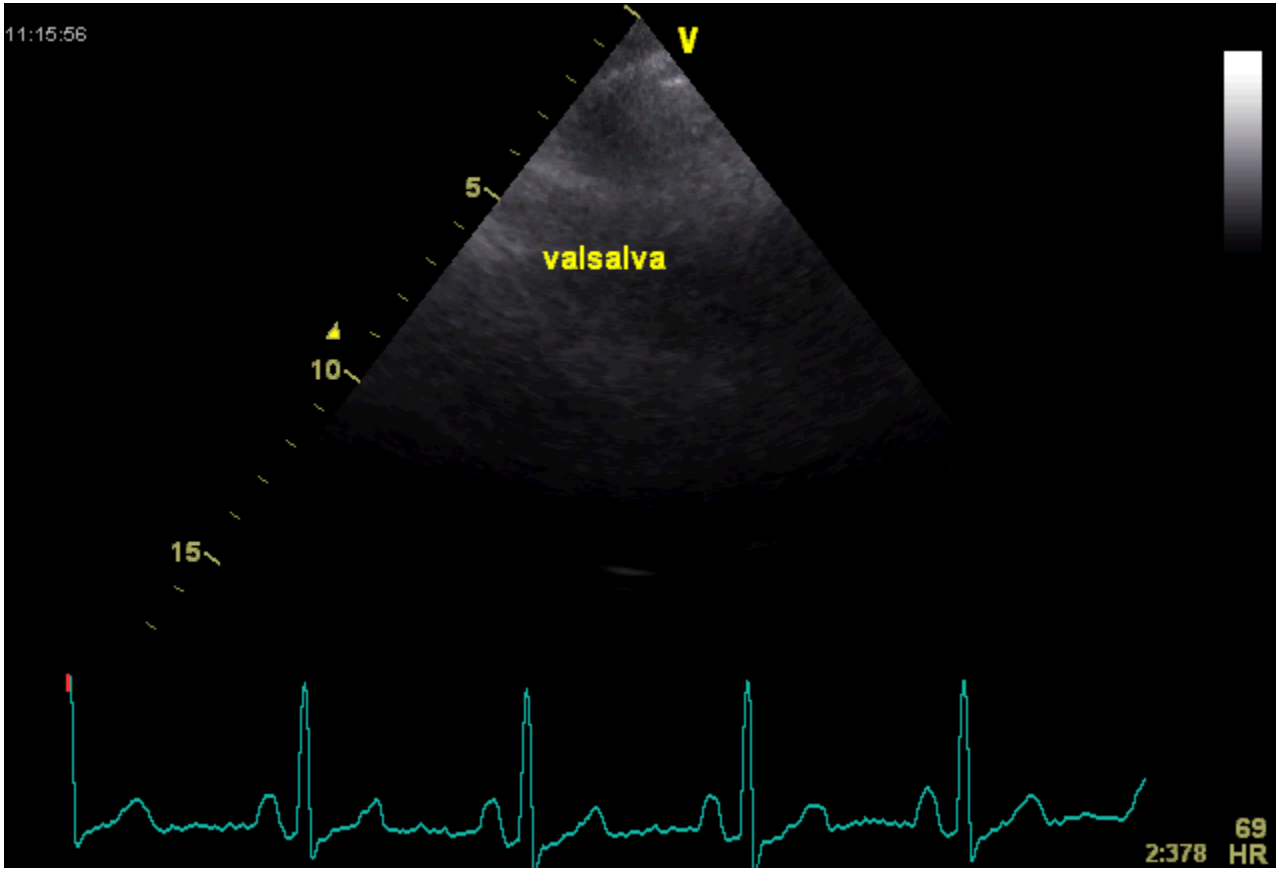
VB 1




12/03/2008 15:46:50
V
.64
-.64
5
10
15
90
3:36 HR

Valsalva?




11:15:56
V
5
valsalva
10
15
69
2:378 HR

Therapie

- Kinderen: shunt van HD betekenins (>1.5:1) → sluiten
- Sluiten <25 jaar geeft goede prognose

- Indicatie sluiten:
  - Klachten
  - HD overbelasting RV
  - PHT
  - Paradoxe embolie

PFO en CVA

- CVA < 50 jaar: 12-33% CEB
- PFO: 30% bevolking. (4-9 mm)
- PFO risicofactor voor CVA (50% vs 15%)
- Paradoxe embolie:
  - Arteriële embolie zonder bron in Li harthelft
  - RE-LI shunt aantoonbaar
  - Veneuze trombose of LE
- Indien geen veneuze embolie: toevallige coïncidentie bij CVA 30%

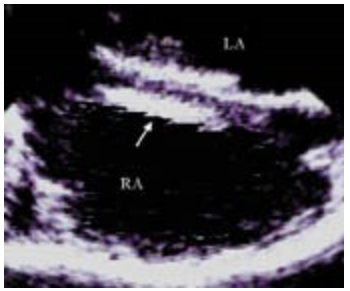
PFO/CVA

- Behandeling controversieel
- Geen guideline
- Onzeker causaal verband
- Empirische therapie
  - ASA
  - OAC (veneuze embolus of recidief CVA)
  - Filter VCI (specifieke indicatie)
  - Sluiting PFO (recidief CVA)

Percutane sluiting

- 1976
- “clamshell”
- <22mm
- Rim > 4 mm

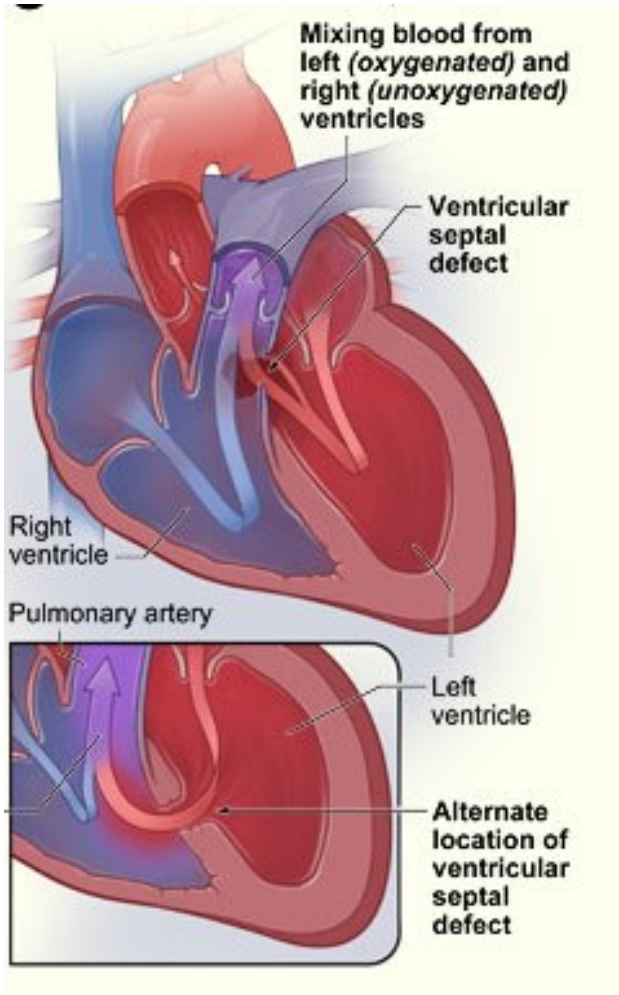
- Geen vergelijk operatief/percutaan



VSD

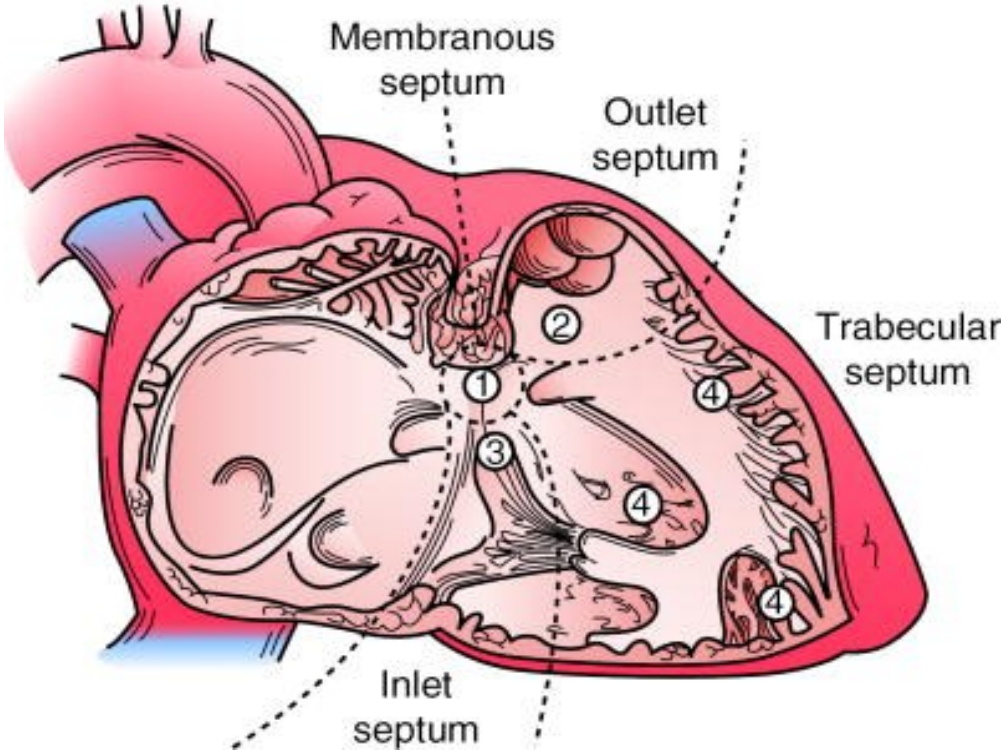
- Meest voorkomende aandoening op kinderleeftijd (30%)
- 50% spontane sluiting

- Differentiatie:
  - Morfologische structuur
  - Grootte



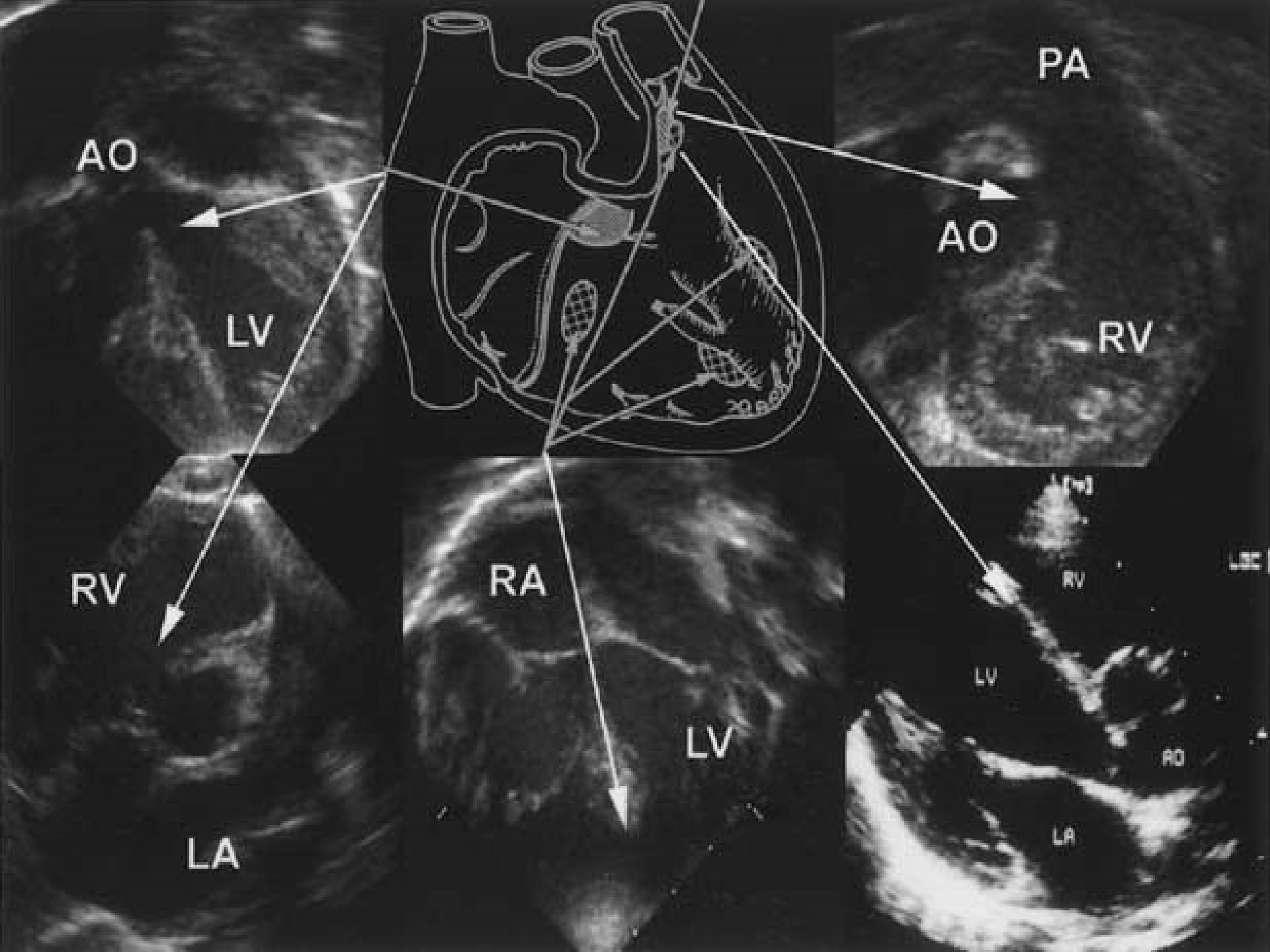
VSD

- Typen
  - Perimembraneus(65%)
  - Musculeus (30%)
  - Subarterieel (5%)

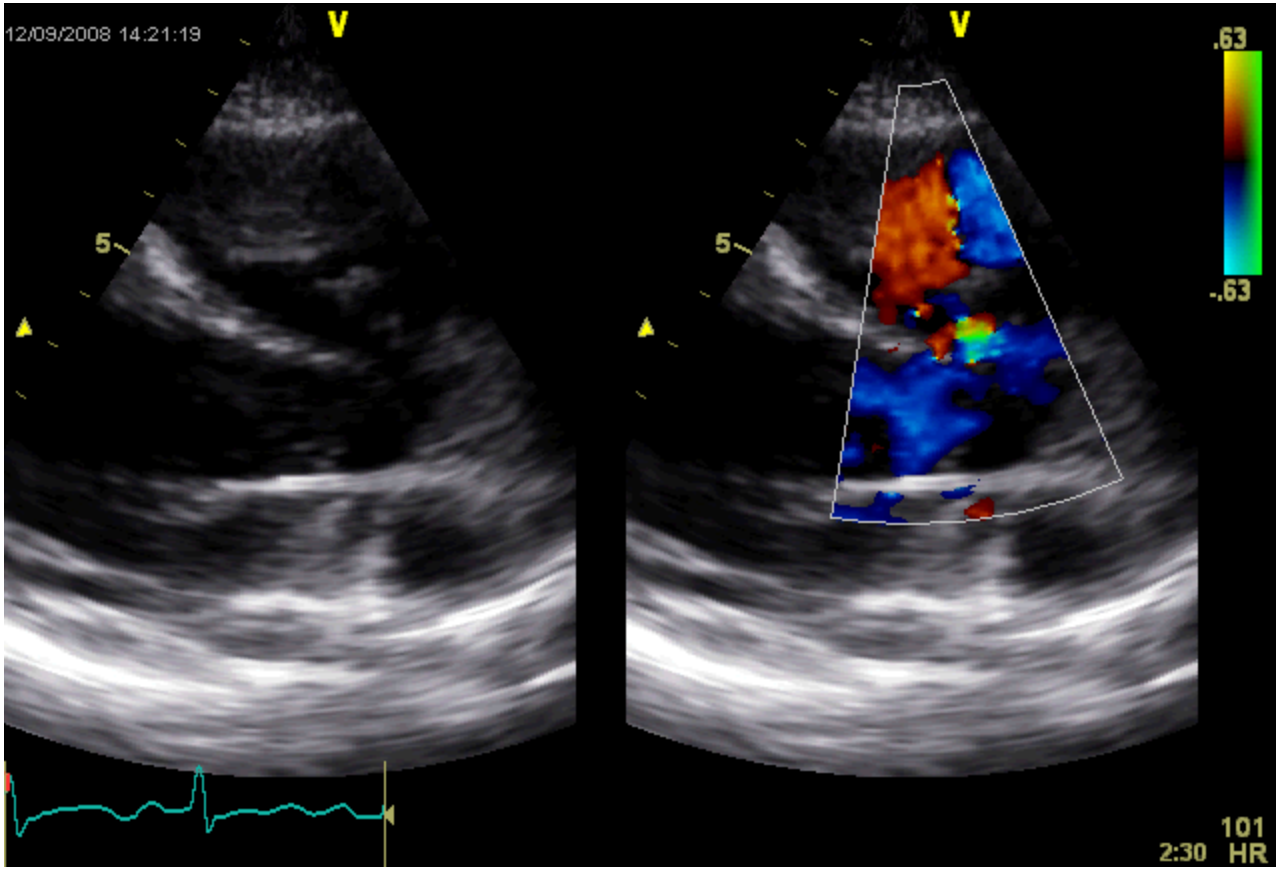


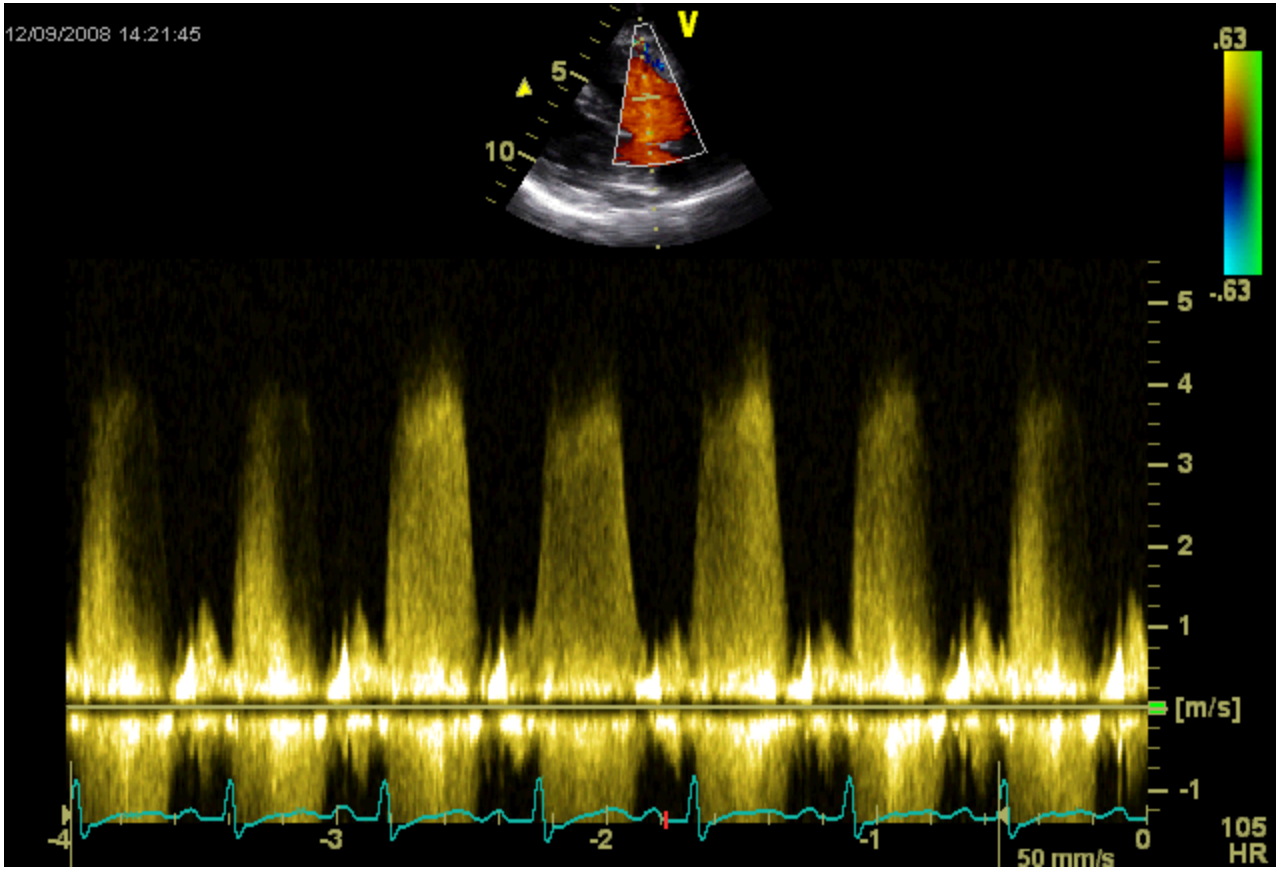
VSD grootte

- Klein/Restrictief (drukscheidend)
- Matig groot
  - (pieksystolisch drukverschil> 20mmHg)
  - Geringe PHT
- Groot (druk equilebratie)
  - PHT/Eisenmenger
  - Bidirectionele shunt

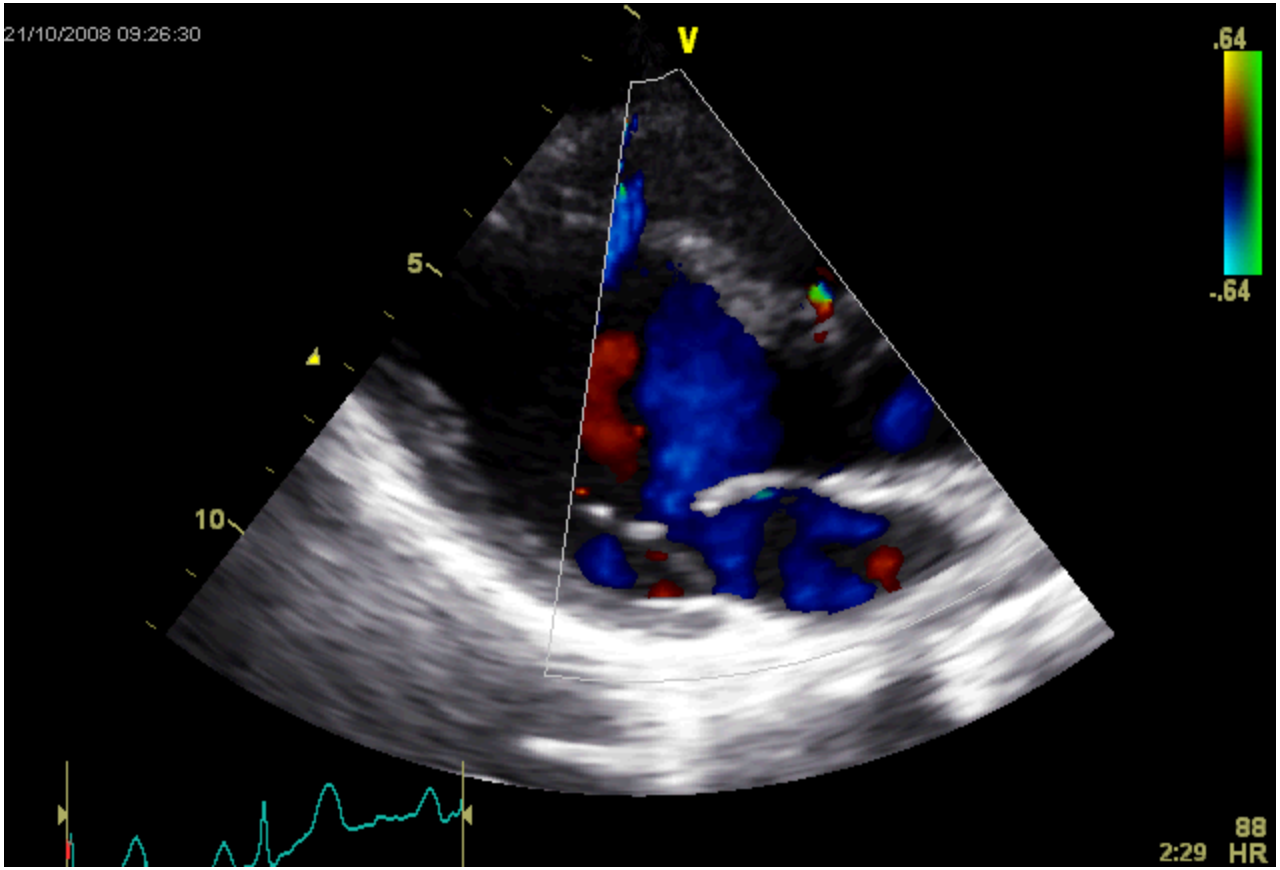

AO
LV
RV
LA
RA
LV
PA
AO
RV
RV
LV
AO
LA

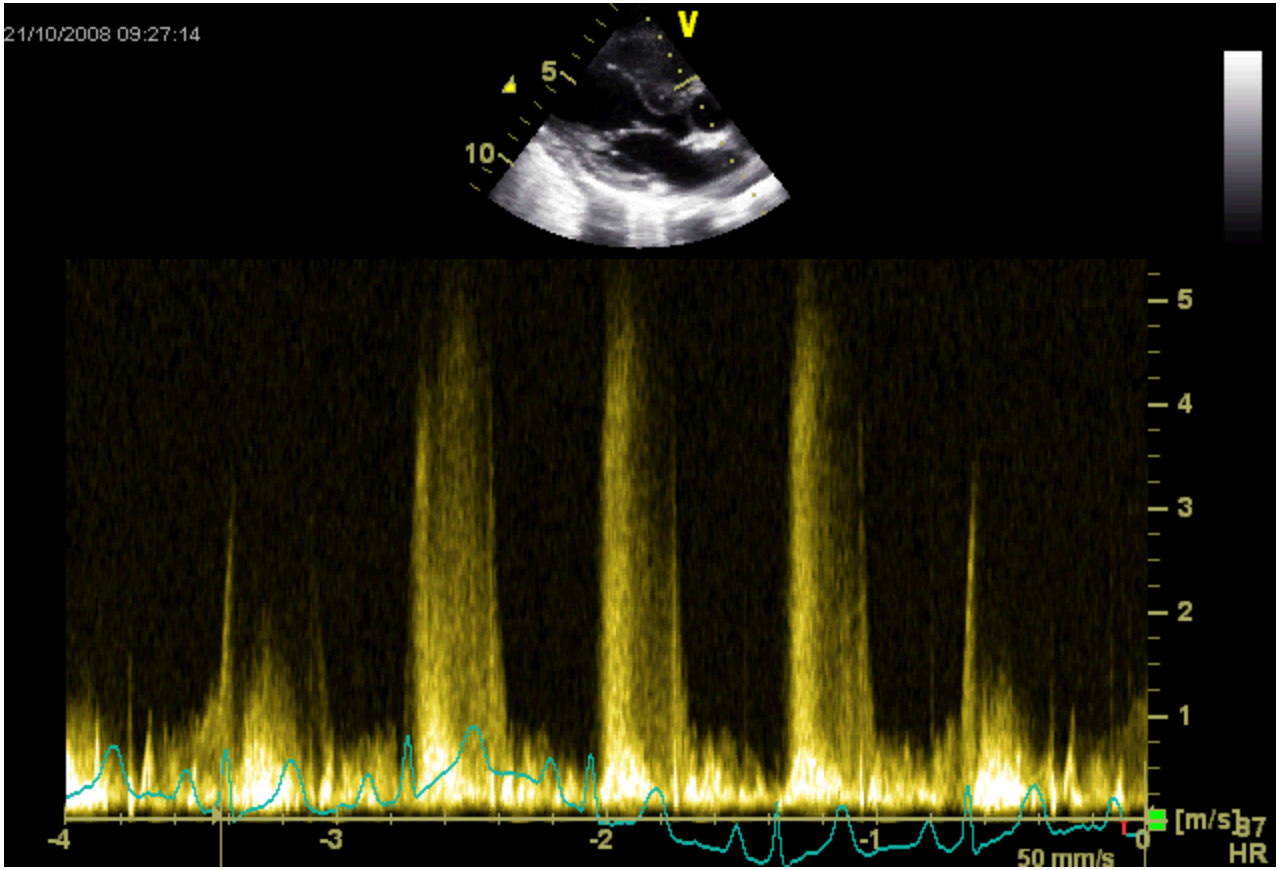
VB1



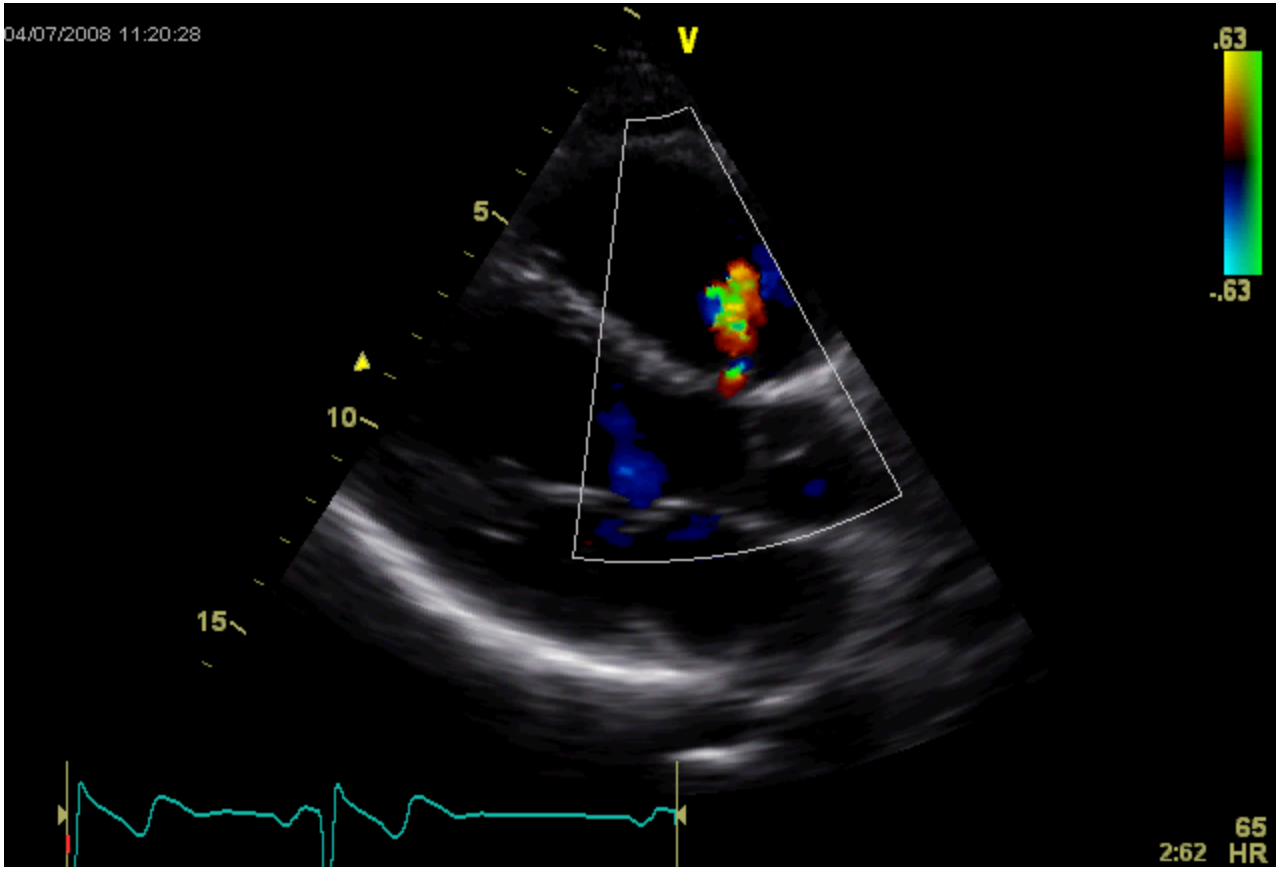

12/09/2008 14:21:45
V
5
10
.63
-.63
5
4
3
2
1
[m/s]
-1
-4
-3
-2
-1
0
50 mm/s
105
HR

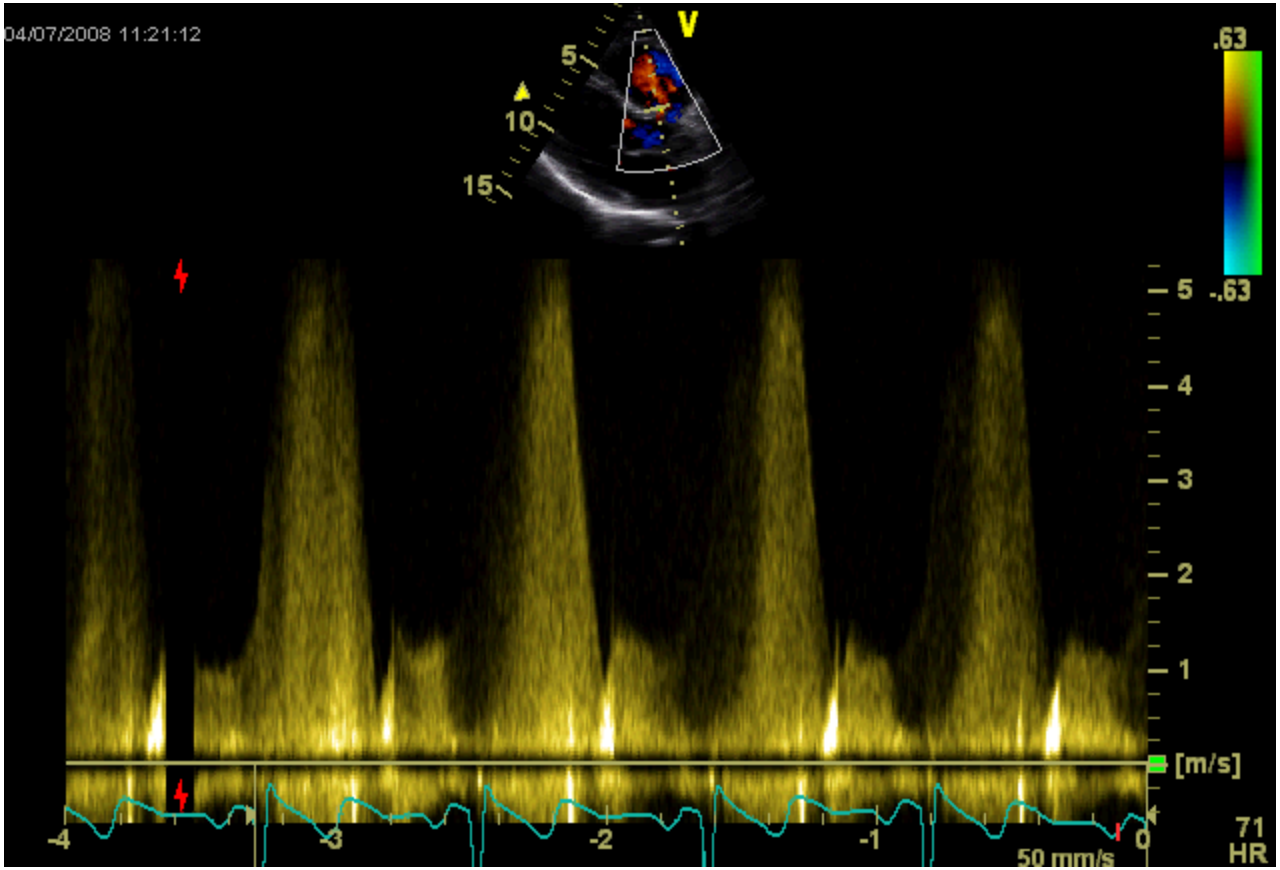
VB2



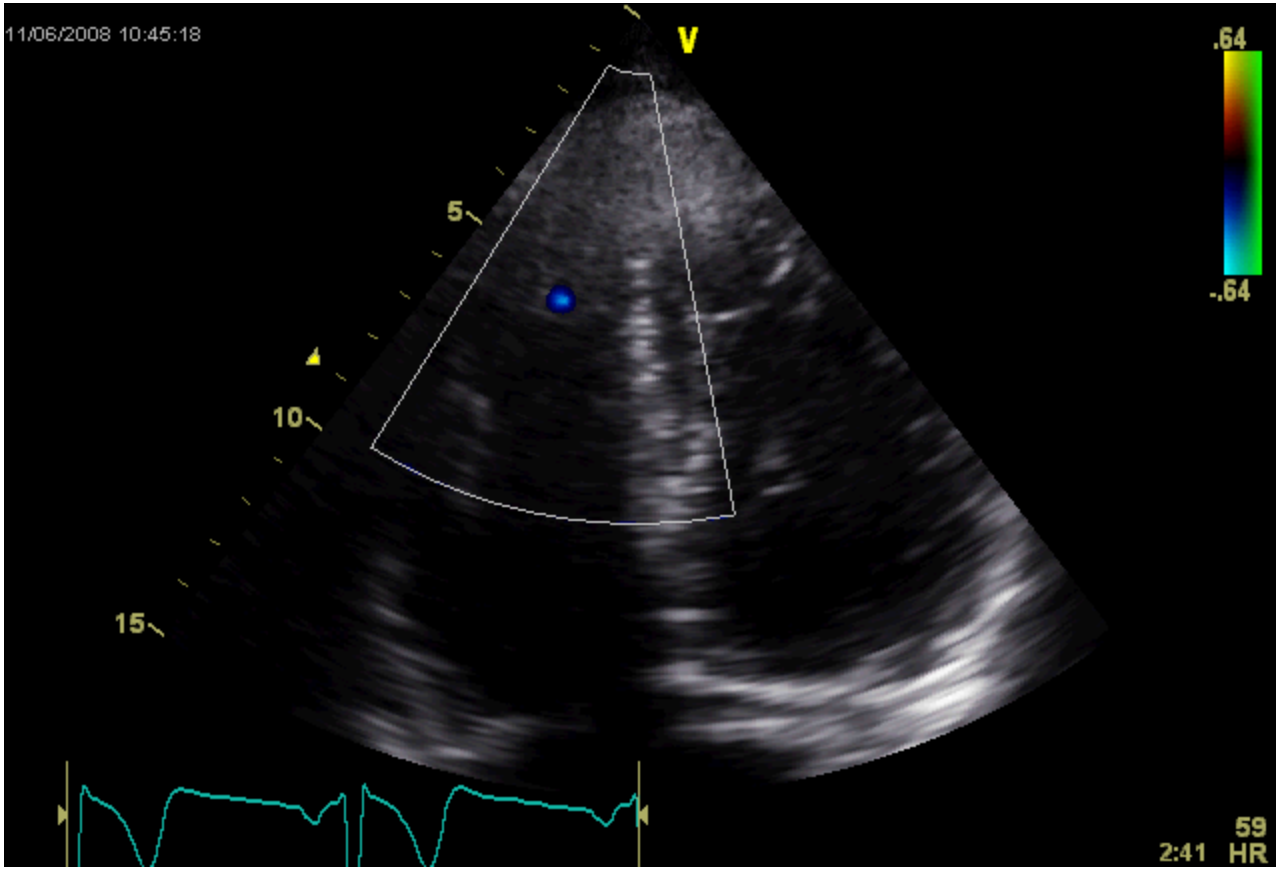

21/10/2008 09:27:14
V
5
10
5
4
3
2
1
-4
-3
-2
-1
0
[m/s]
50 mm/s
HR

VB3

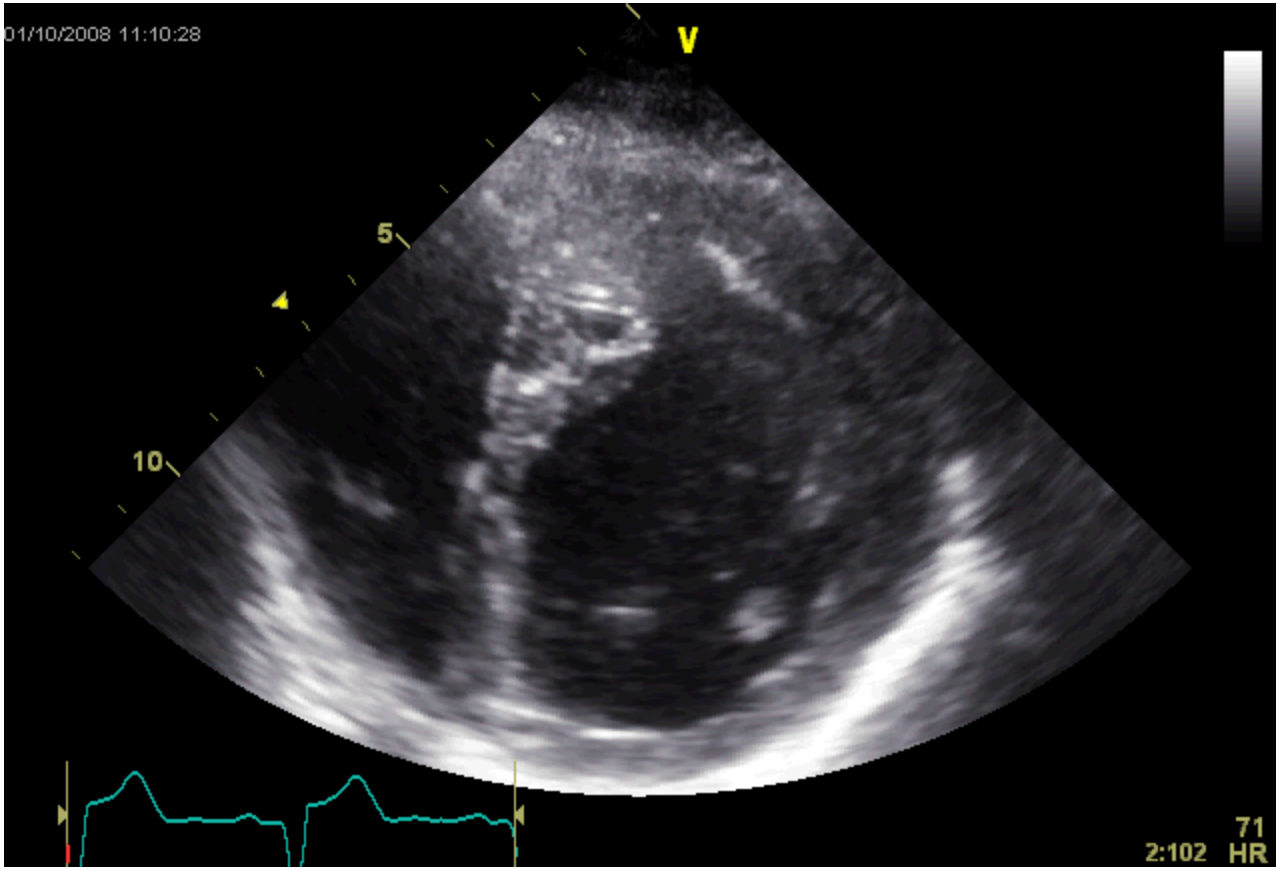


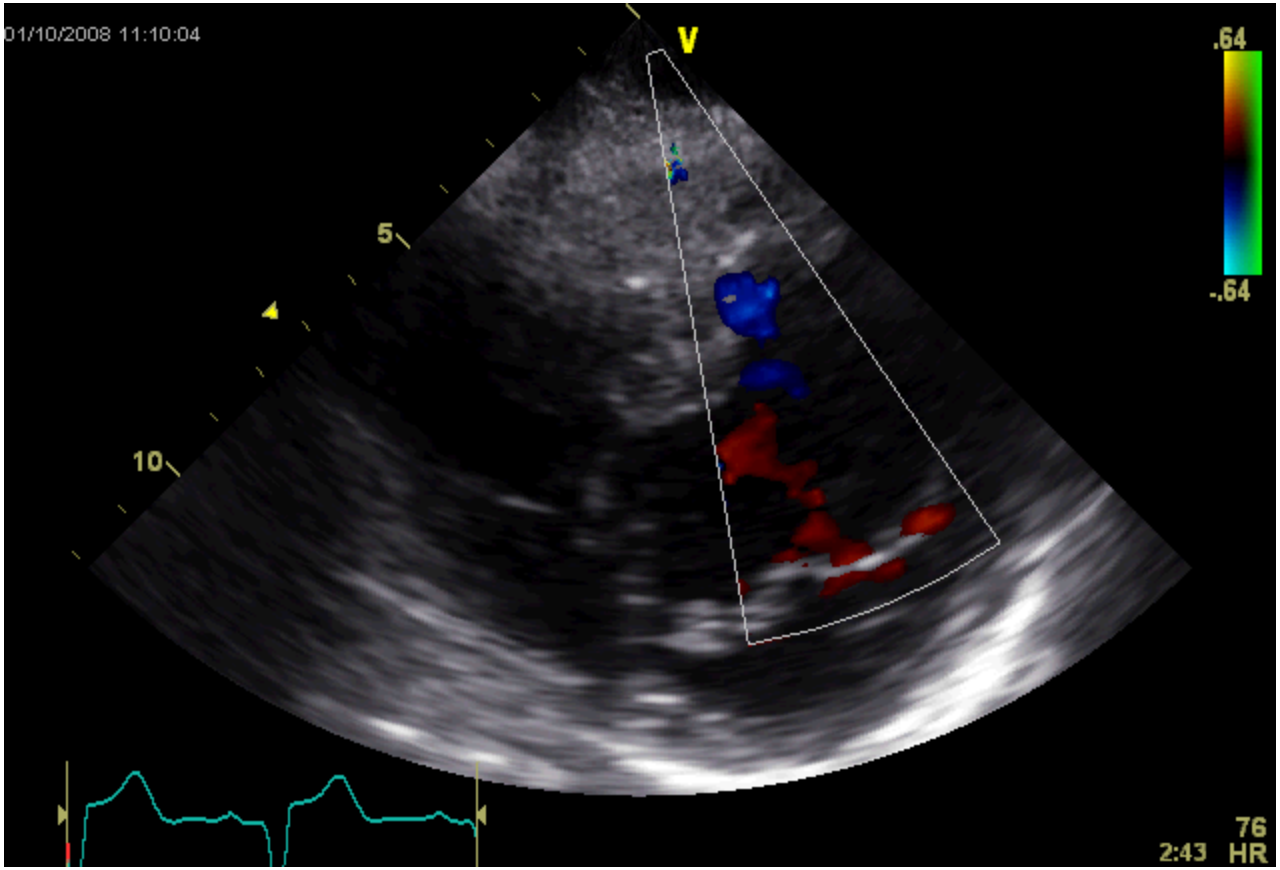

04/07/2008 11:21:12
V
5
10
15
.63
-.63
5
4
3
2
1
[m/s]
-4
-3
-2
-1
0
50 mm/s
71
HR

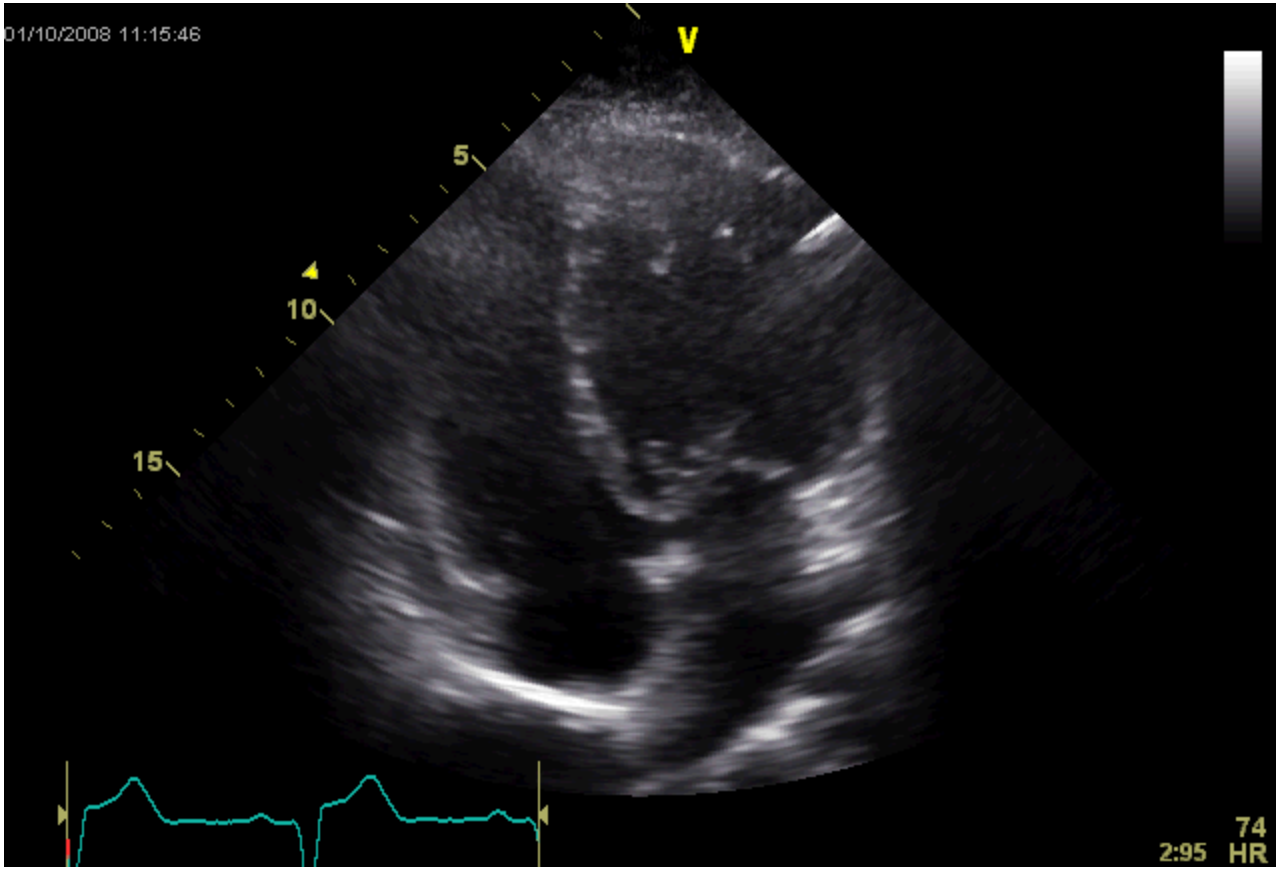
VB4



VB5




01/10/2008 11:10:04
V
.64
-.64
5
4
10
76
2:43 HR


01/10/2008 11:15:46
V
5
10
15
74
2:95 HR

Klinisch beeld

- Kleine defecten: geen klachten
  - Endocarditis
  - CAVE subarteriele lokalisatie
- Matig groot defect
  - 2:1 shunt
  - Dyspnoe d'effort
  - ↓inspannings capaciteit
- Groot VSD
  - Centrale cyanose

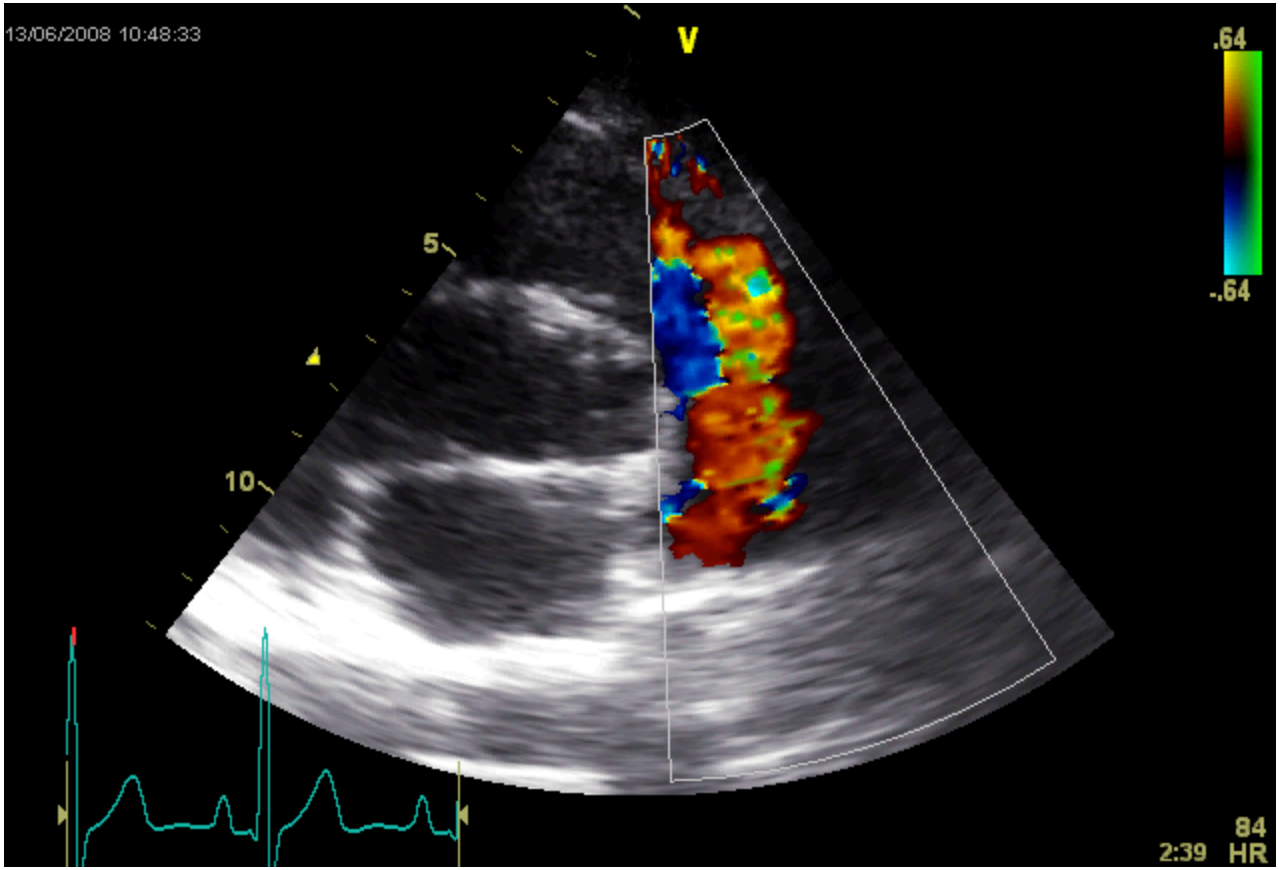
Diagnostiek

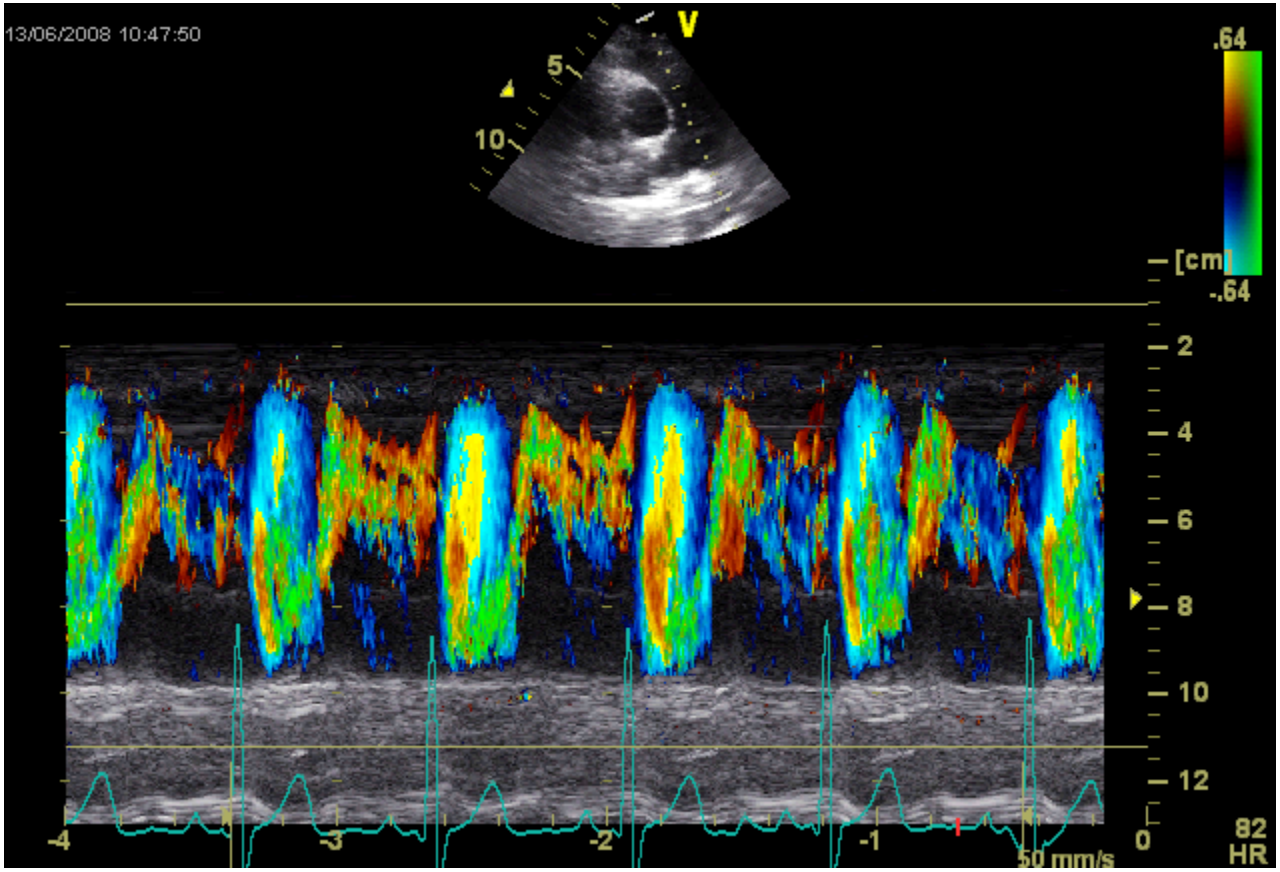
- ECG: LV> en LA>
- Work up: Echo
- Bij twijvel CAG

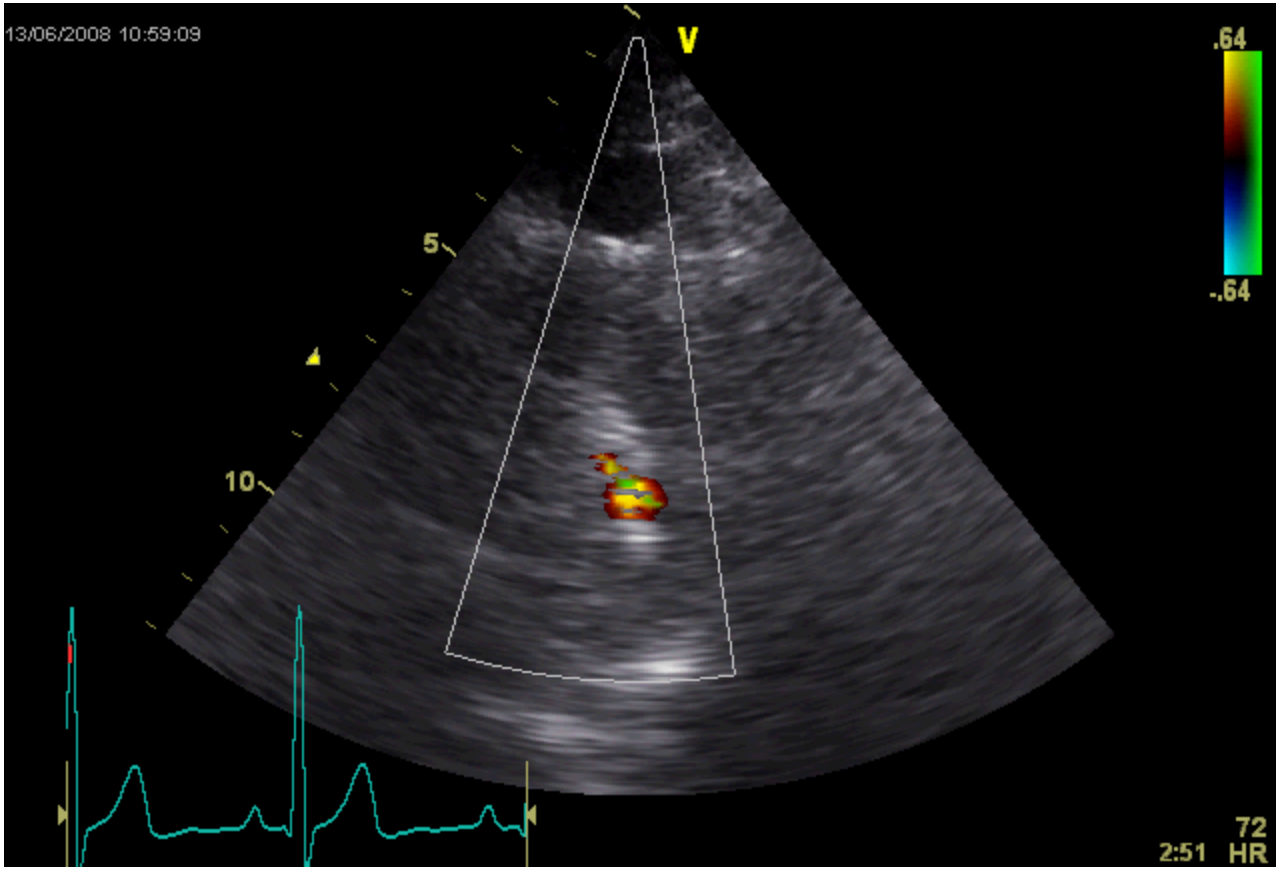
Therapie

- Sluiting:
  - Klein:
    - Endocarditis
    - AoI bij subarteriele lokalisatie
  - Matig Groot:
    - Symptomen
    - Asymptomatisch: >2:1 shunt
    - PHT, LV dilatatie
  - Groot VSD
    - Sluiten
    - Hoog risico bij PHT

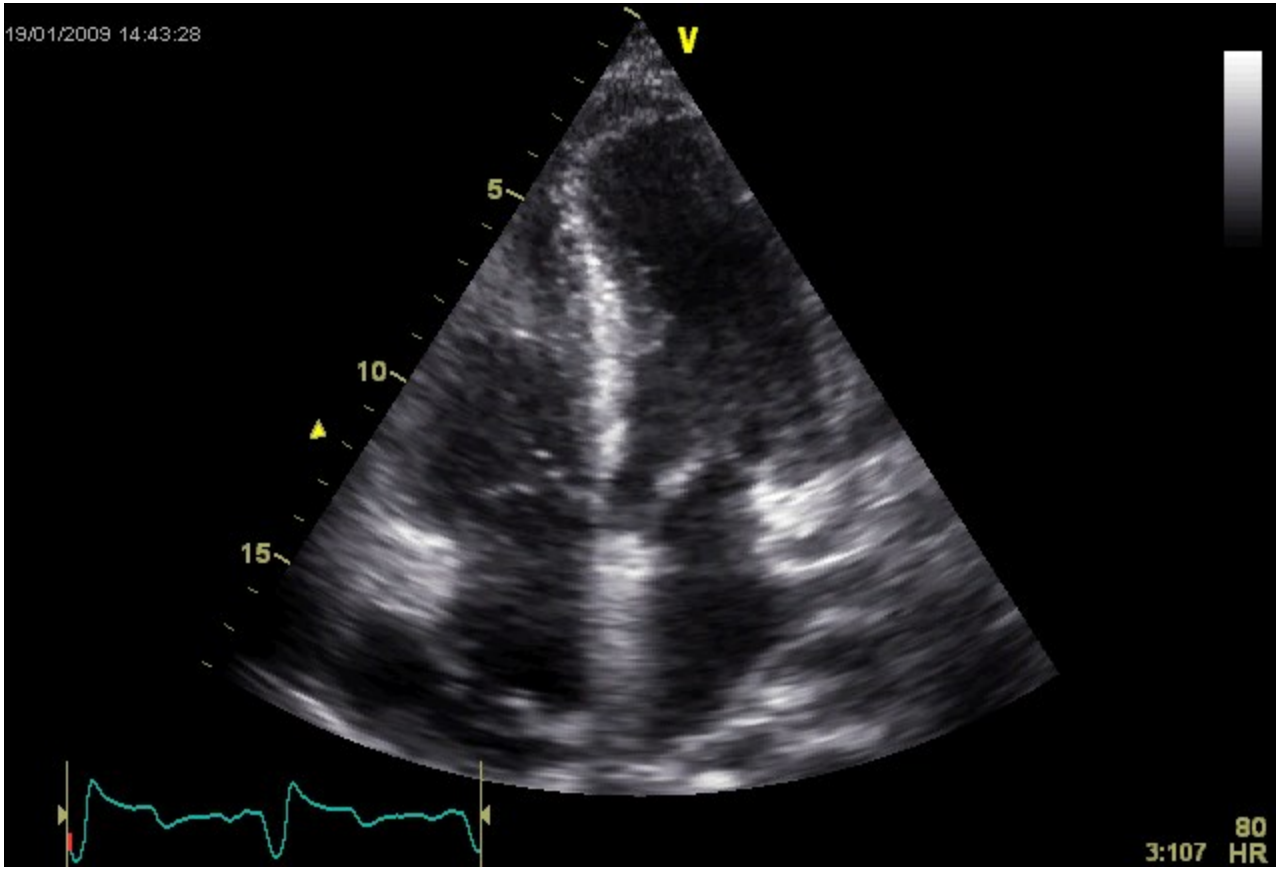
VB alternatieve shunts

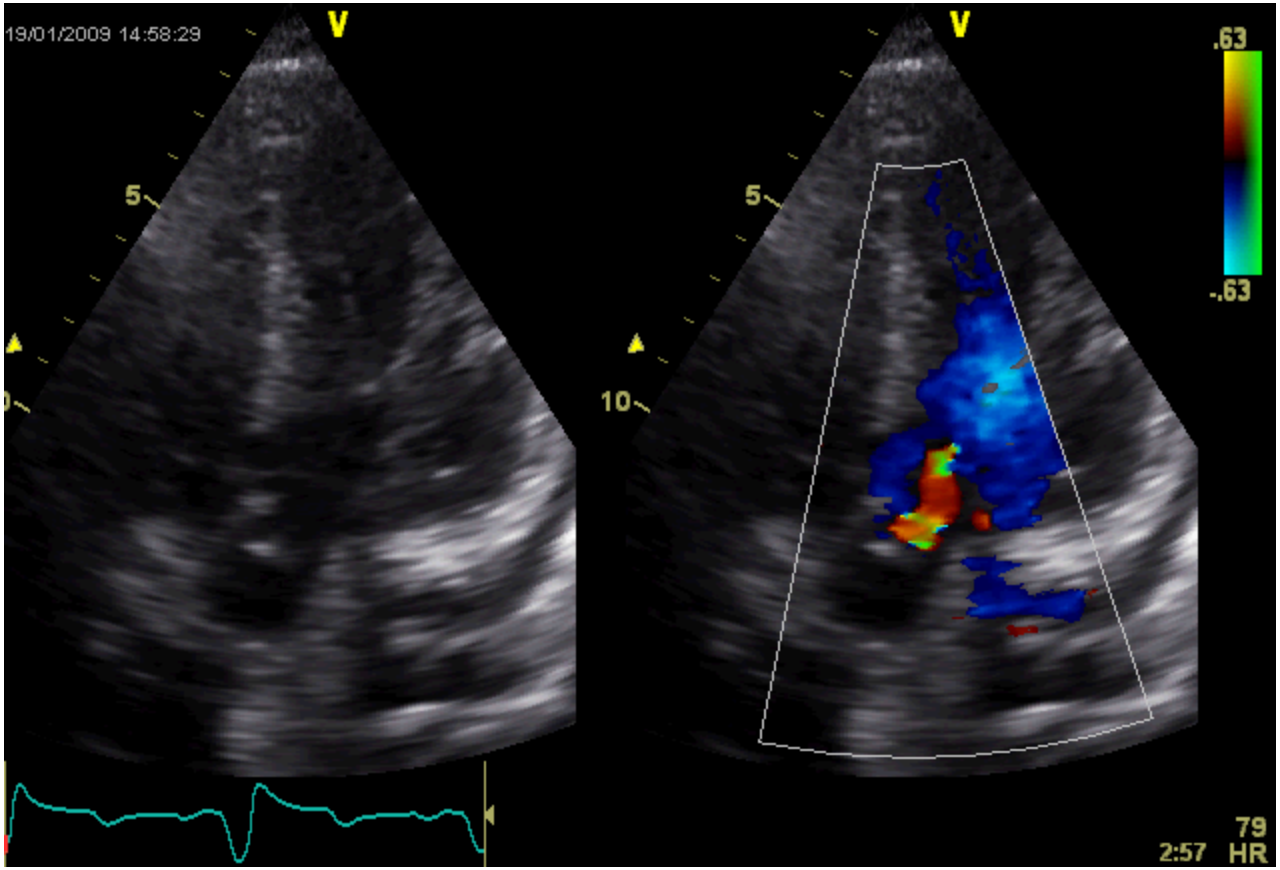


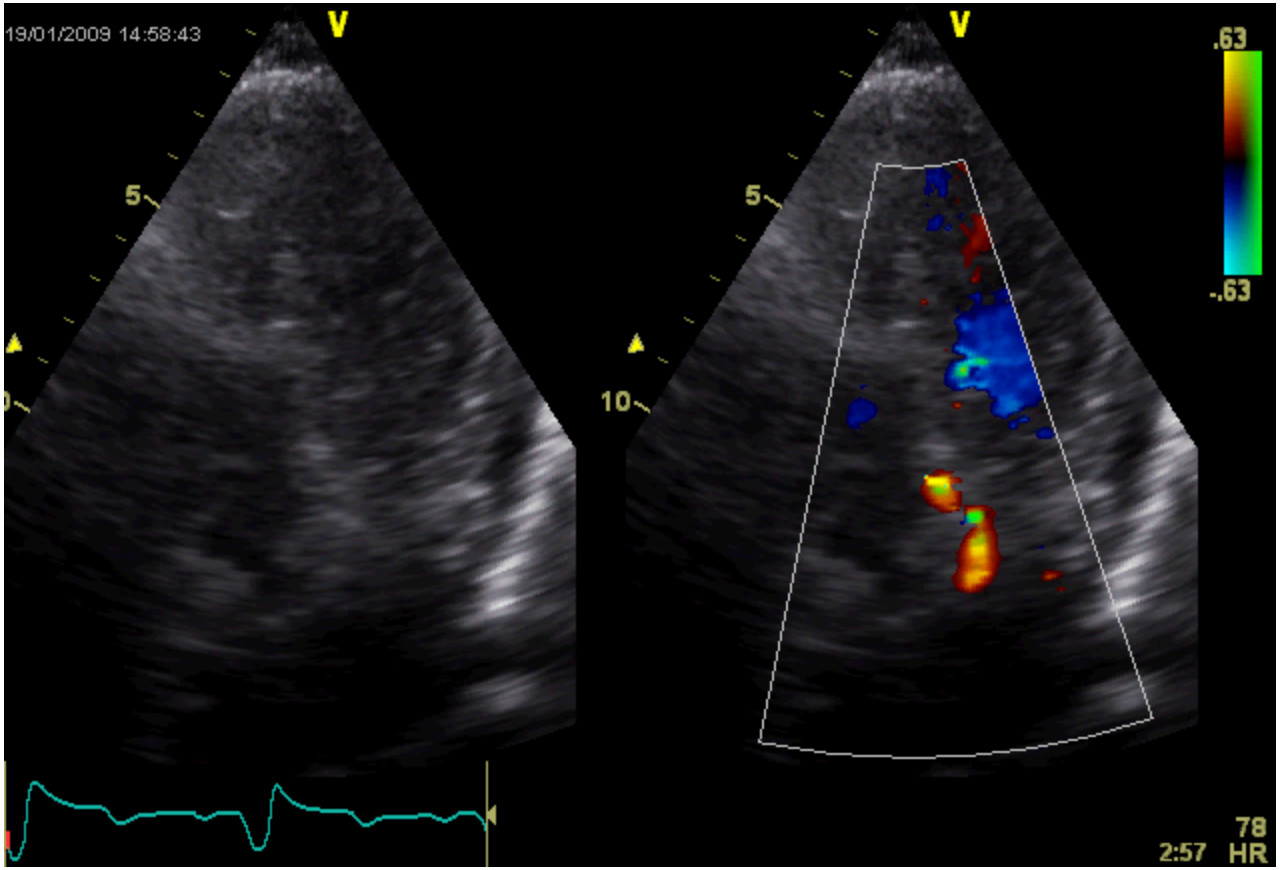

13/06/2008 10:47:50
V
5
10
.64
-.64
[cm]
2
4
6
8
10
12
-4
-3
-2
-1
0
50 mm/s
82
HR


13/06/2008 10:59:09
V
.64
-.64
5
10
72
2:51 HR

Status na Morrow




19/01/2009 14:58:29
V
5
V
5
10
.63
-.63
79
2:57 HR


19/01/2009 14:58:43
V
5
V
5
10
.63
-.63
78
2:57 HR