

Semmelweis Egyetem  
KARDIOLÓGIAI  
KÖZPONT



## Felnőttkorú Veleszültett Szívbeteggek IV. Fóruma

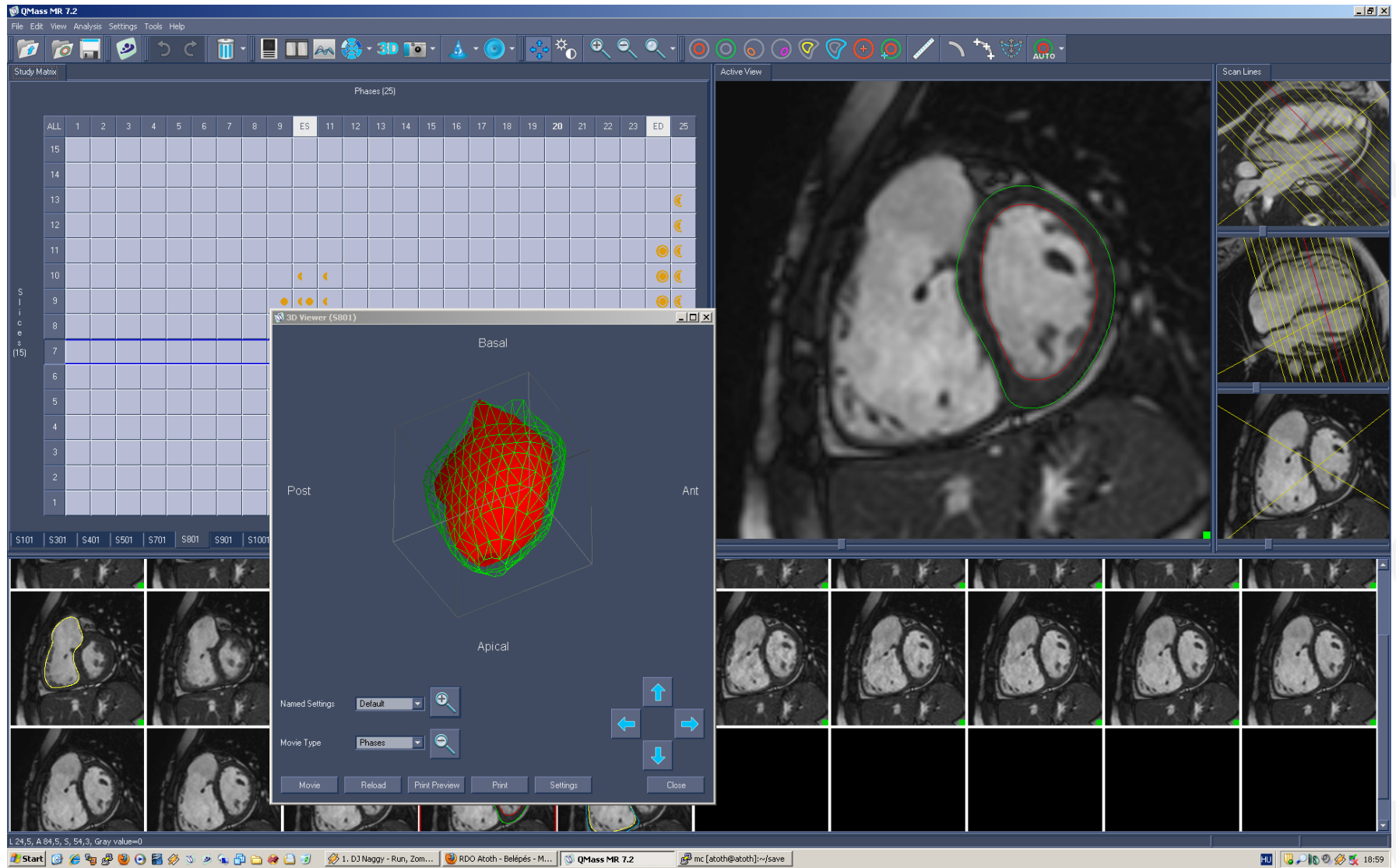


*Tóth Attila*  
*egyetemi tanársegéd*

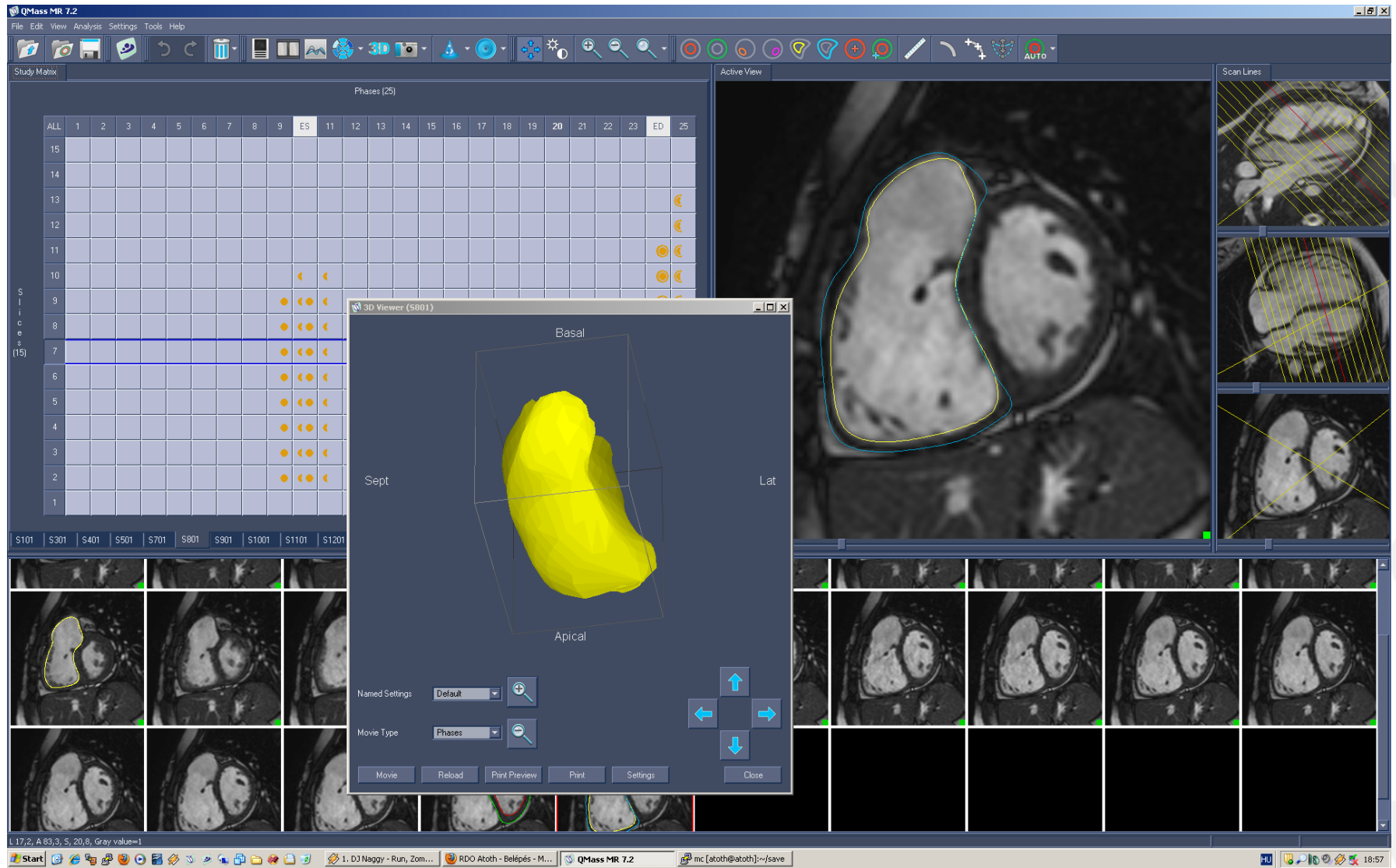


## Röviden a szív MR-ről

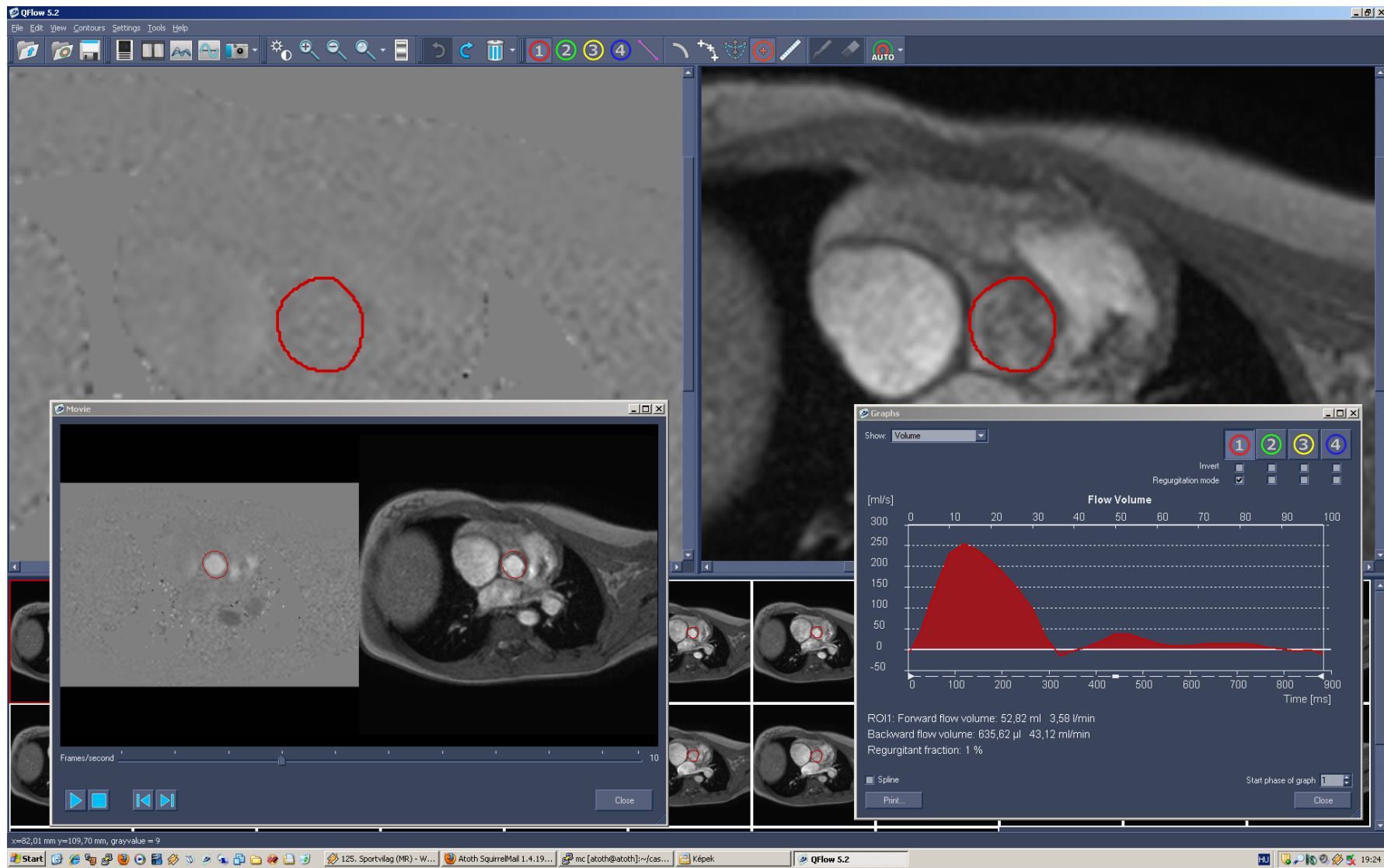
# Bal kamrai kvantifikáció



# Jobb kamrai kvantifikáció

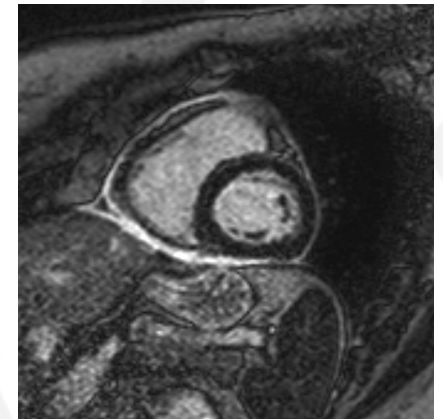
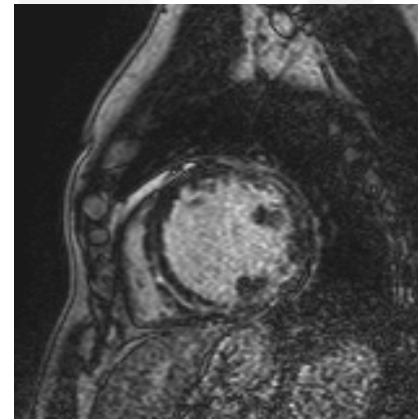
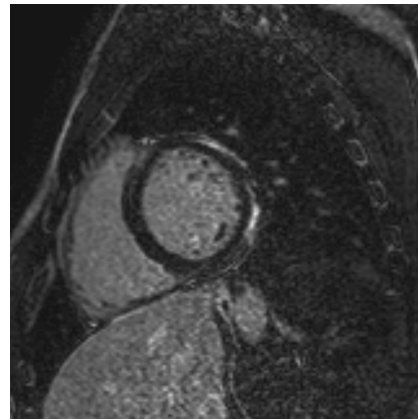
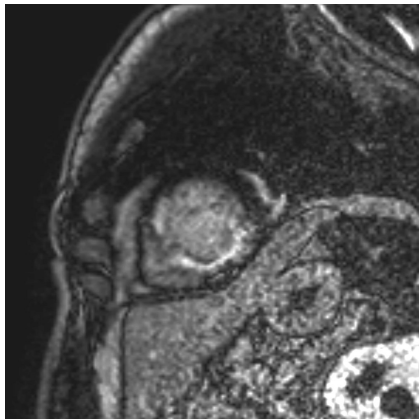
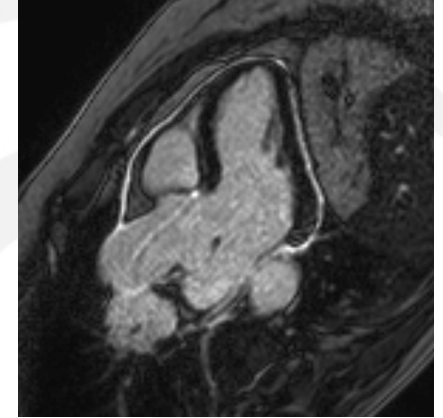
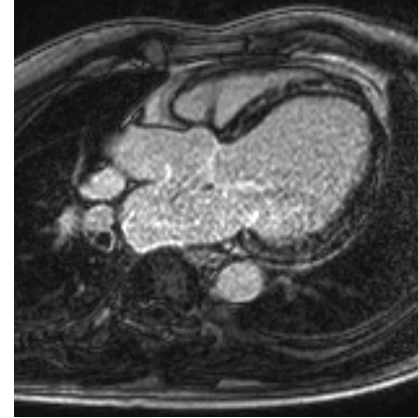
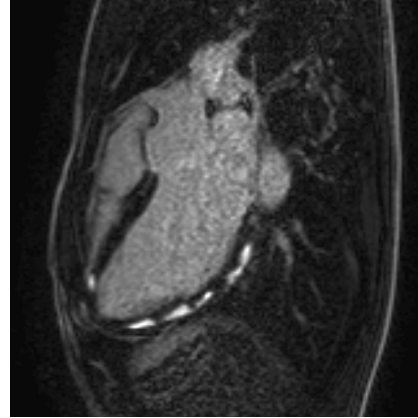
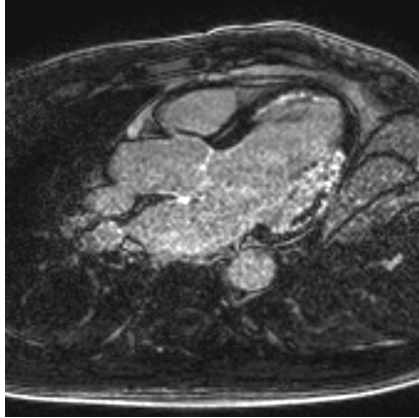


# Aorta billentyű áramlás mérés

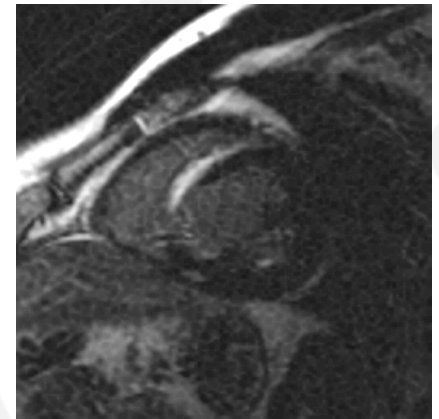
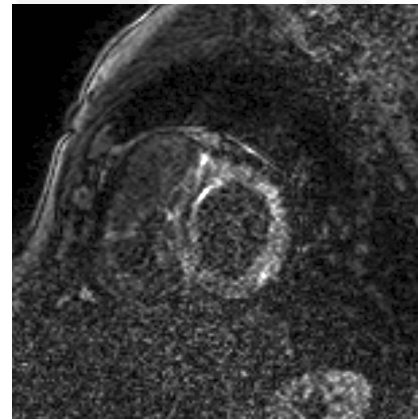
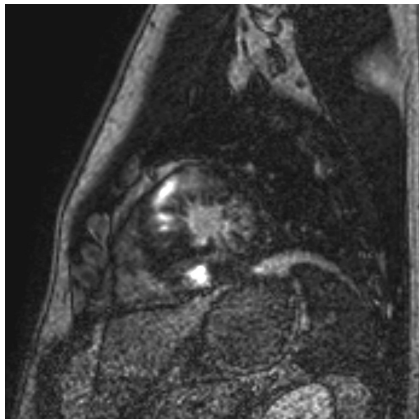
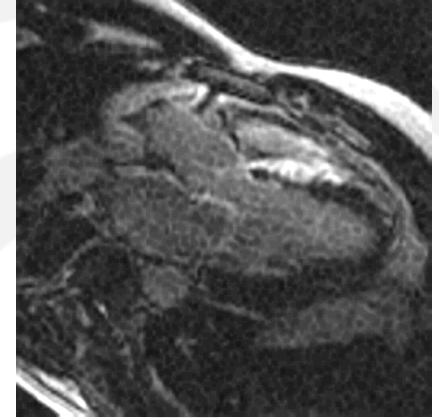
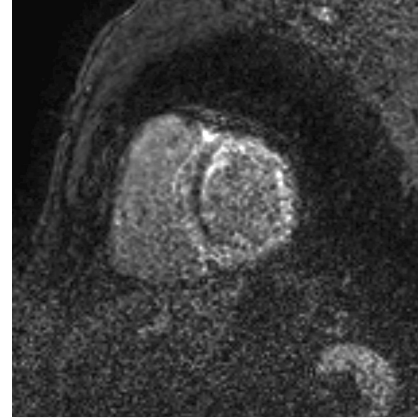
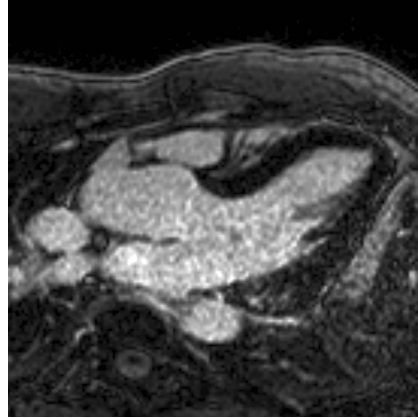
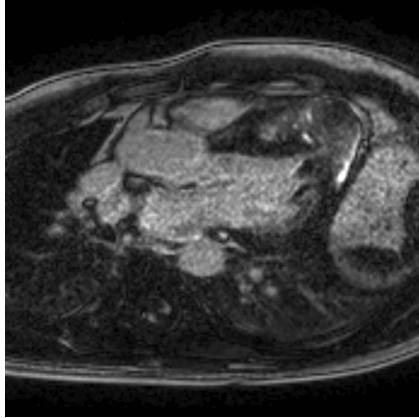




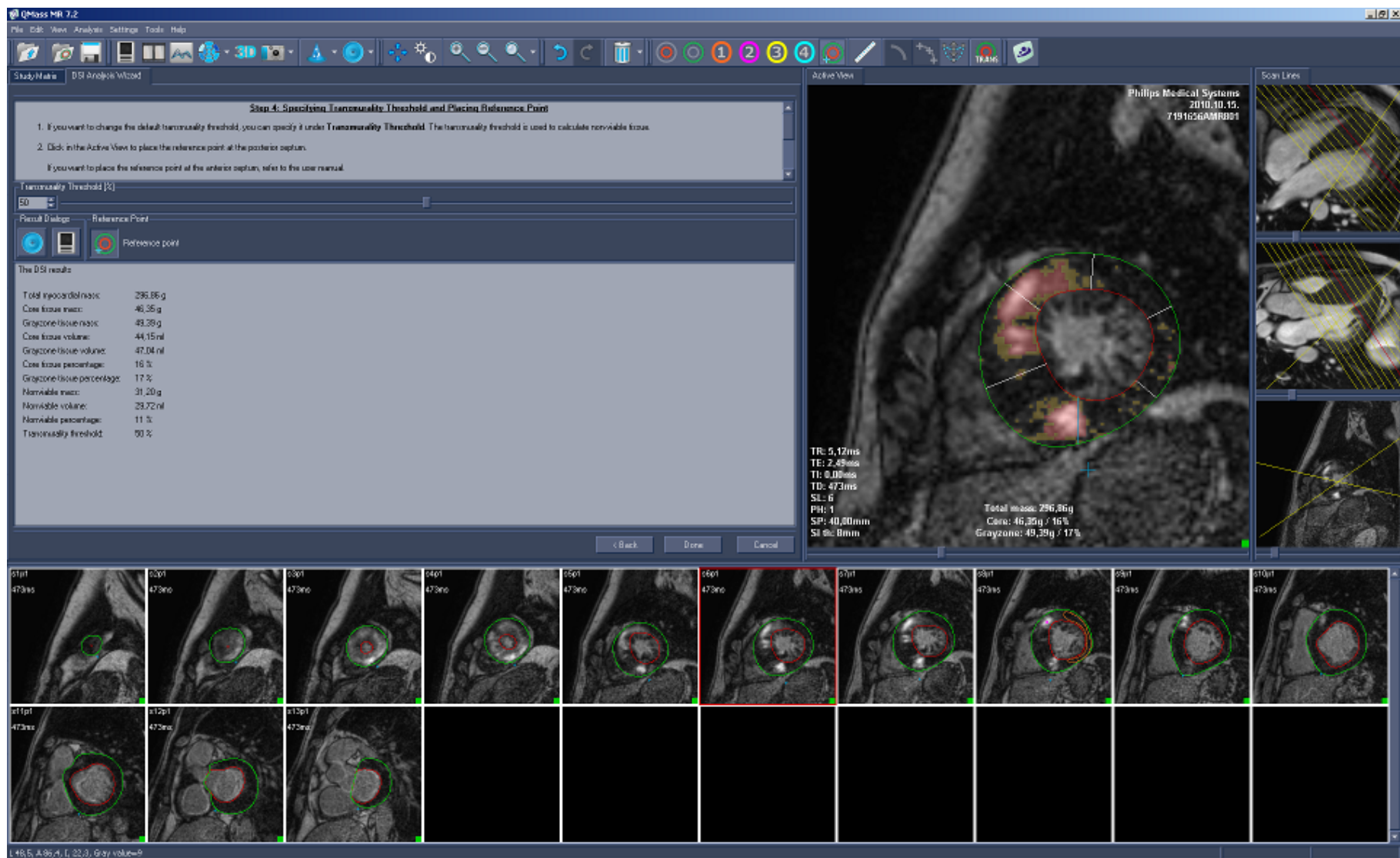
# Késői halmozás formái



# Késői halmozás formái



# Kóros szívizom túltengés





1931 11 18 F  
 SURVEY\_BFFE FOV 450  
 2009 11 02,11:45 Slice 13/21

## Planscan

Geometry: **Navigator A**

Delete

Copy

☒ Volume ☒ Stack ☒ Slab



☐ All midplanes

☐ 3PPS

System Ready

21

HC Screen

HC Case

Compose

Compose



Scan: 3



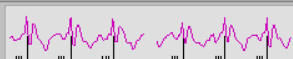
More...

All

View

Window

RAL



VCG+Resp

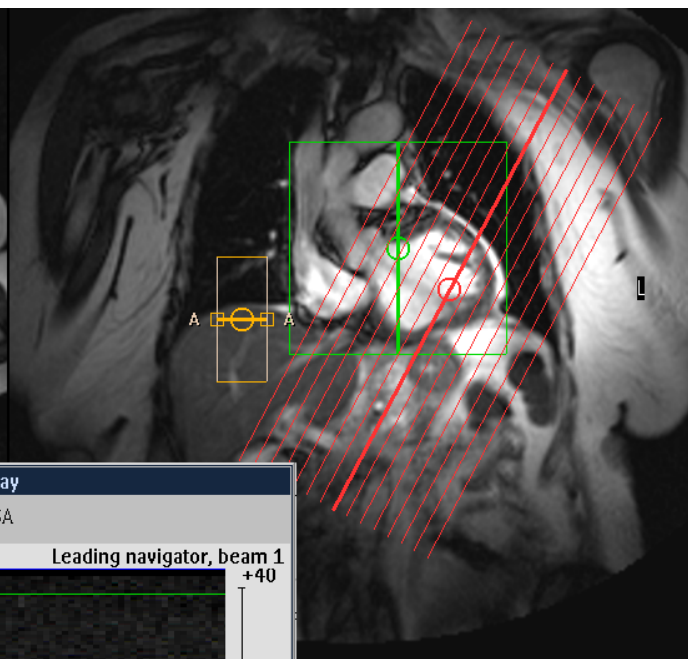


5 s



79

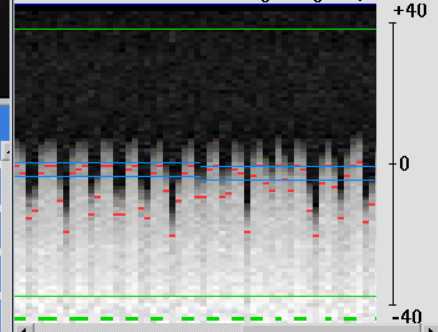
IRTFE\_3D\_NAV SA



## Navigator Display

IRTFE\_3D\_NAV SA

Leading navigator, beam 1



Save

Hide

Respiratory compensat... no

Navigator respiratory c... gate and track

type lead

gating window 5

gating level drift continuous

scale factor 0.6

length 75.55

coil/element 2

Flow compensation no

ScanAlign Cancel Proceed

postproc offc/ang conflicts

Total scan duration 02:00.0

Rel. signal level (%) 100

Act. TR/TE (ms) 3.9 / 1.16

ACQ matrix M x P 188 x 171

ACQ voxel MPS (mm) 1.60 / 1.75 / 8.00

REC voxel MPS (mm) 1.25 / 1.25 / 8.00

Scan percentage (%) 91

TFE shots 79

TFE dur. shot / acq (ms) 162.8 / 116.4

TFE shot interval (beats) 1

Min. TI delay 56.2

Entered heartrate 80

Trigger delay max. / act... 675.0 / 566.0

Max. heart phases 3

Act. WFS (pix) / BW (Hz) 0.710 / 305.7

Min. WFS (pix) / Max. B... 0.152 / 1426.8

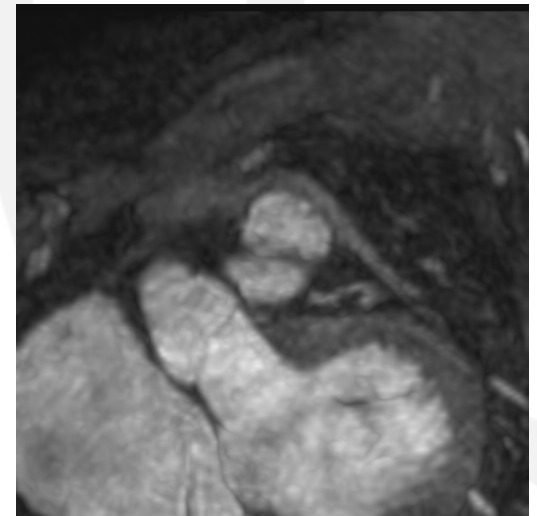
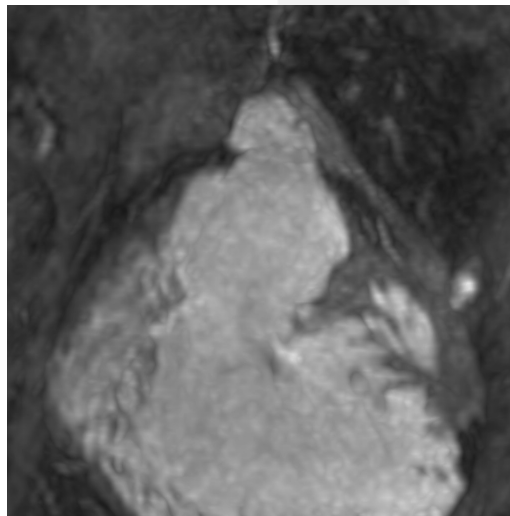
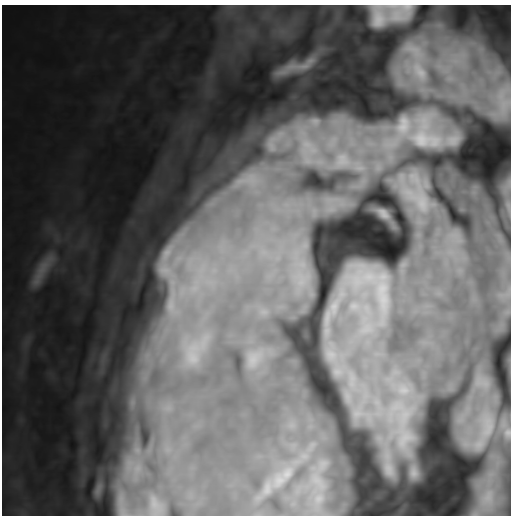
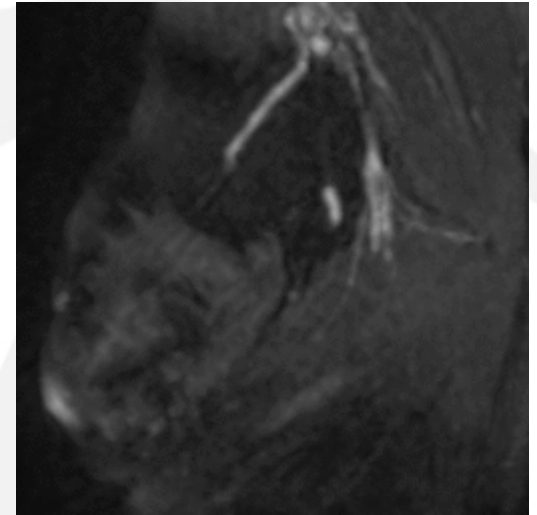
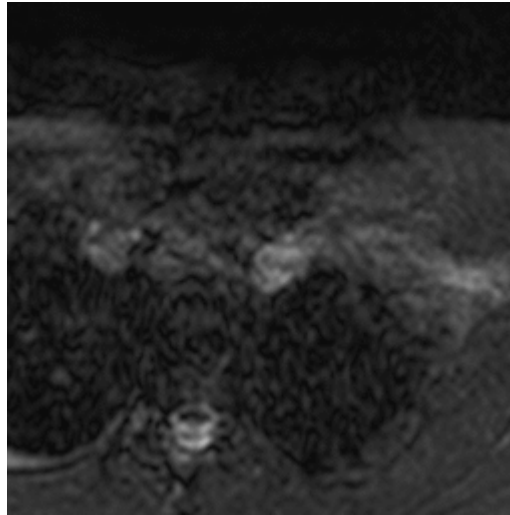
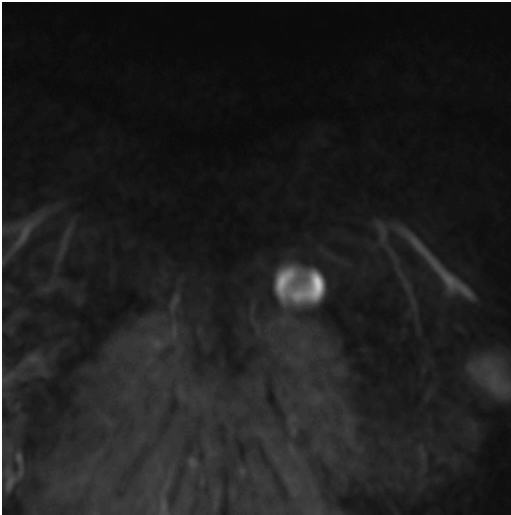
SAR / whole body < 8% / 0.3 W/kg



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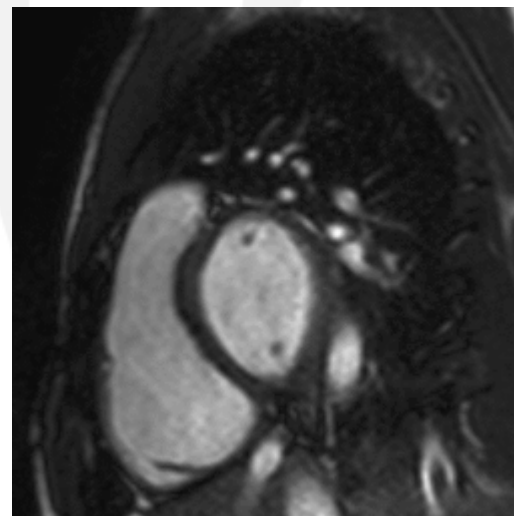
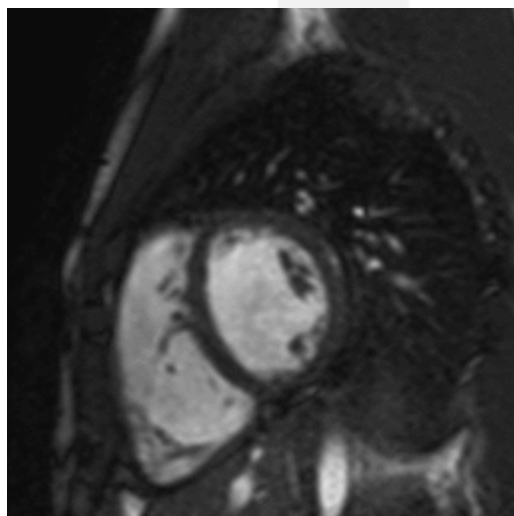
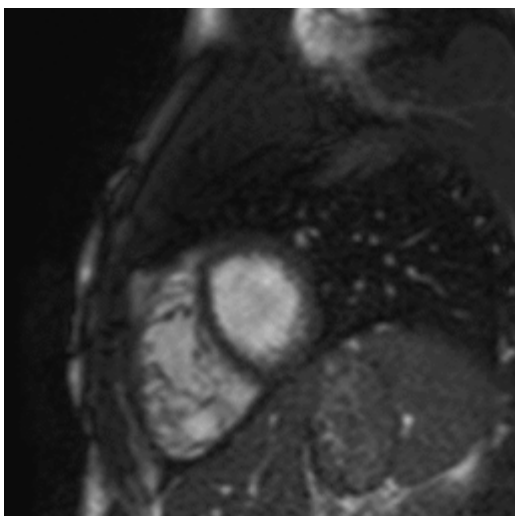
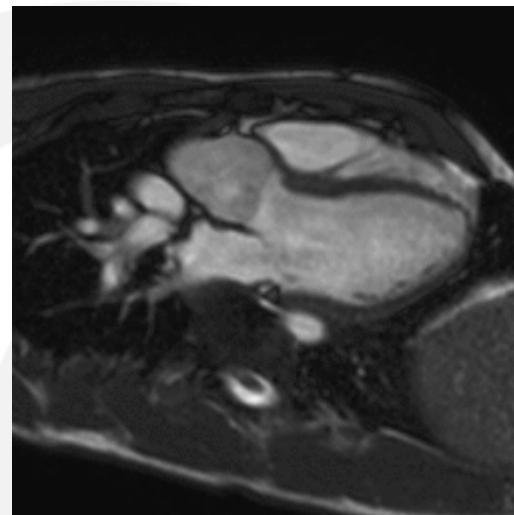
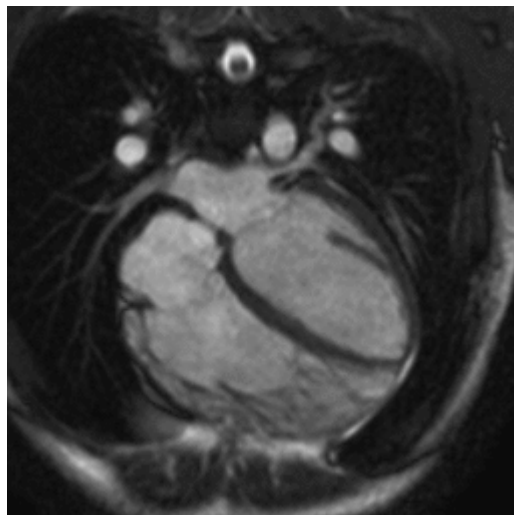
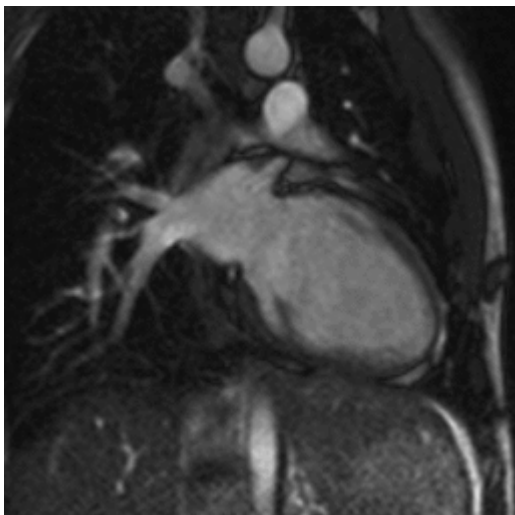
Navigatoros rekesz követés

# Kontrasztanyag adás nélküli MRA

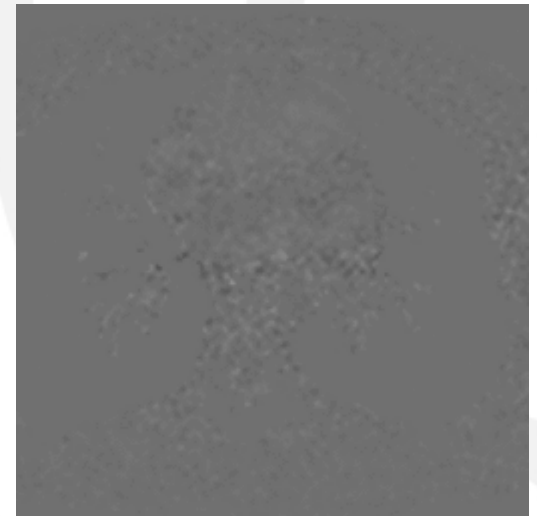
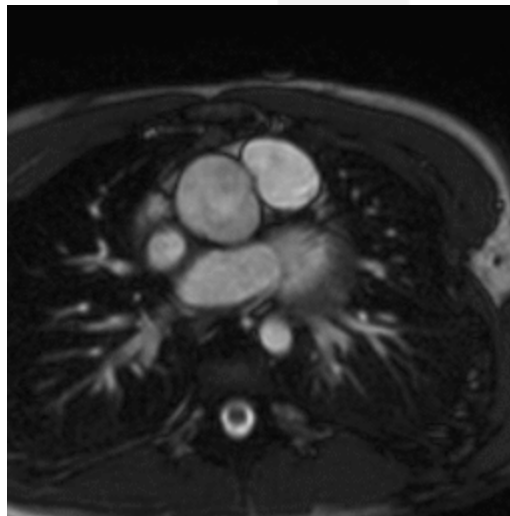
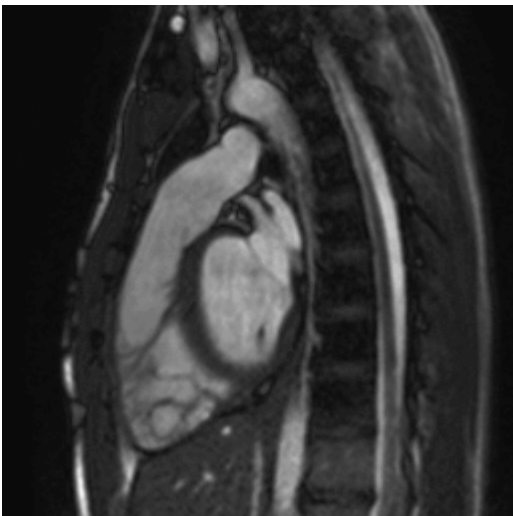
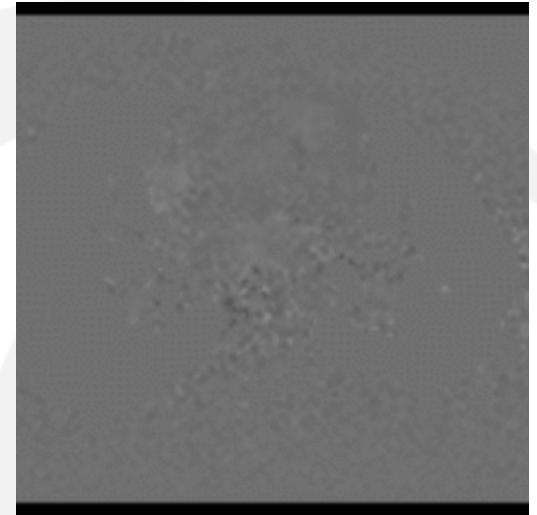
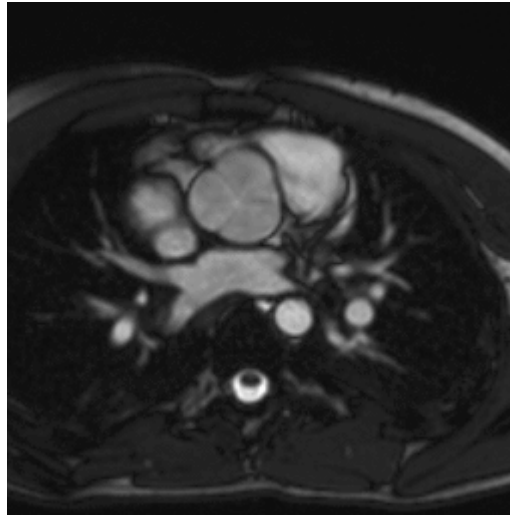
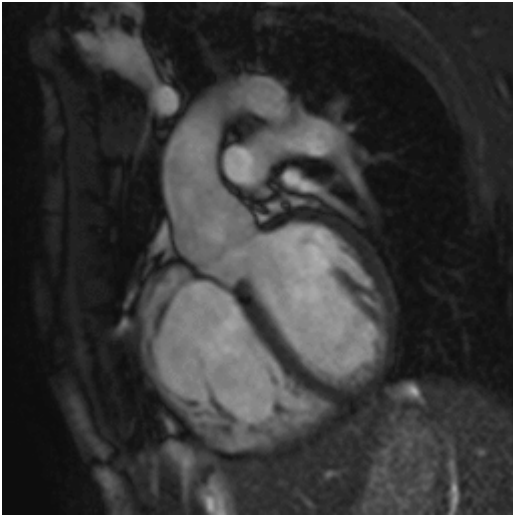




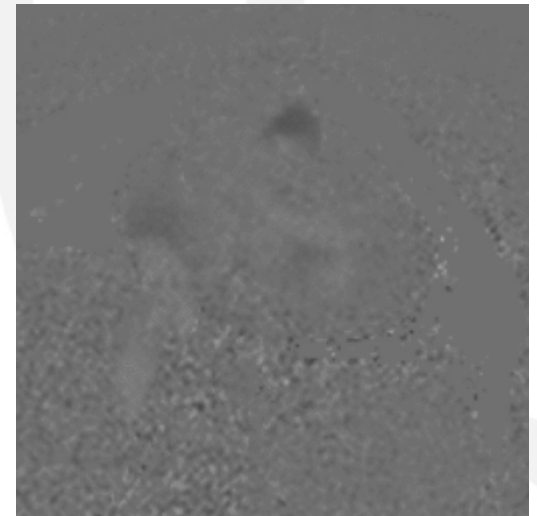
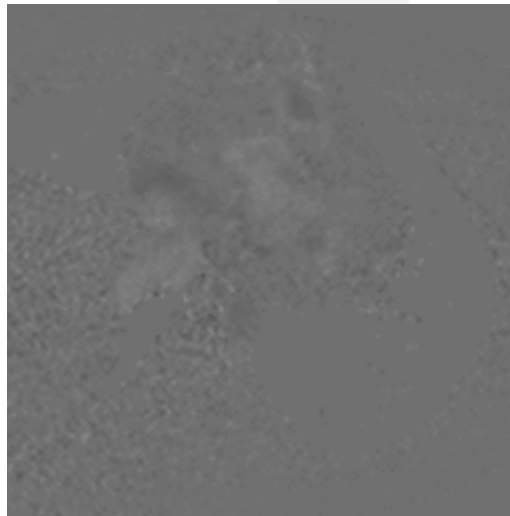
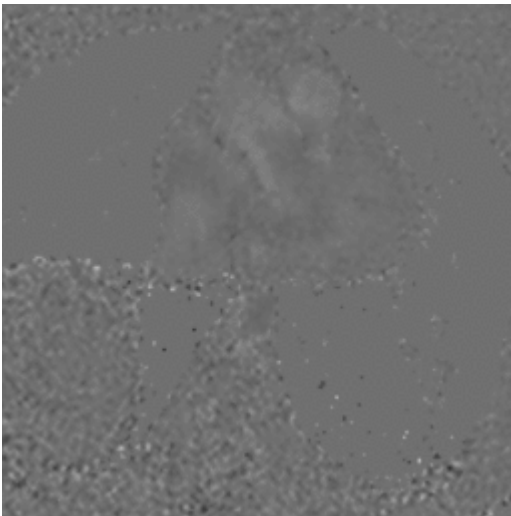
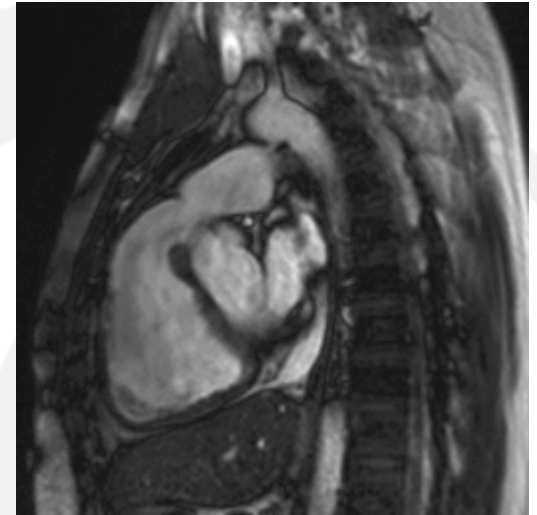
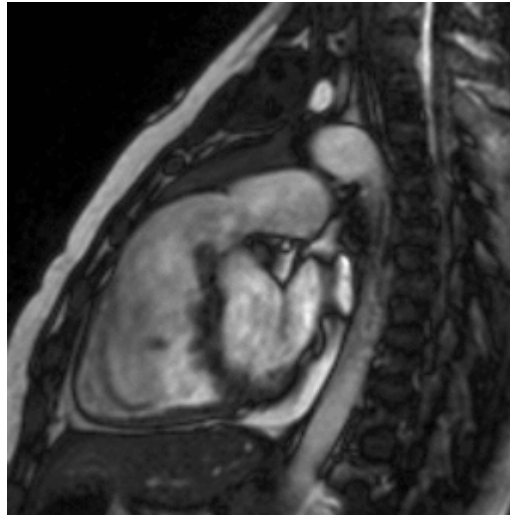
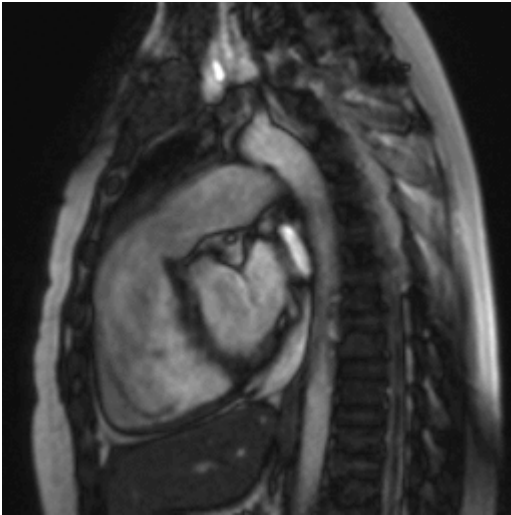
# Közepesen tágabb jobb kamra



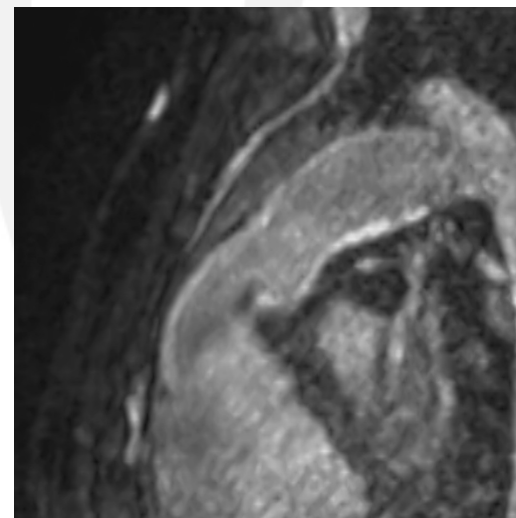
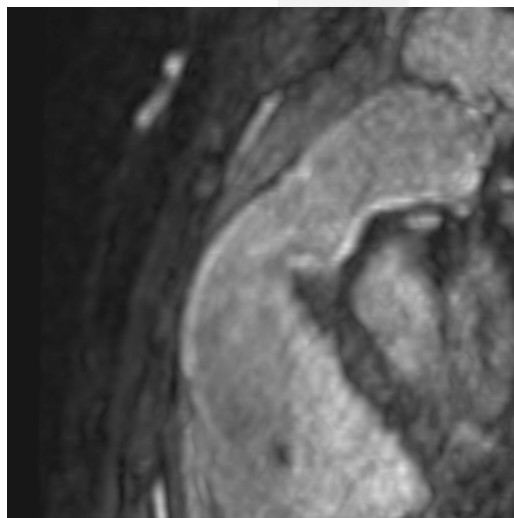
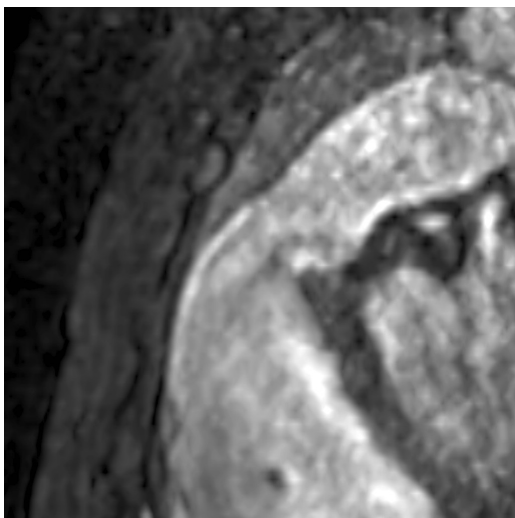
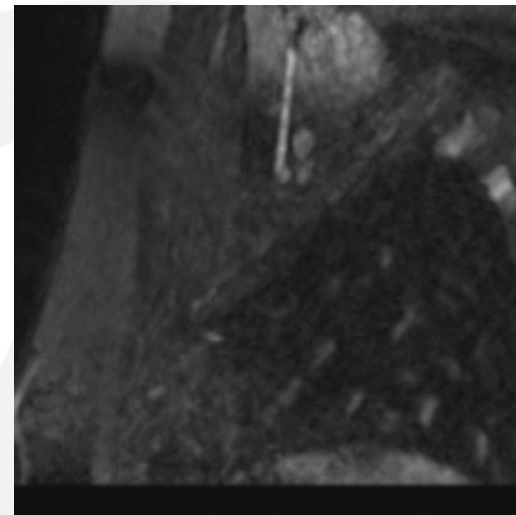
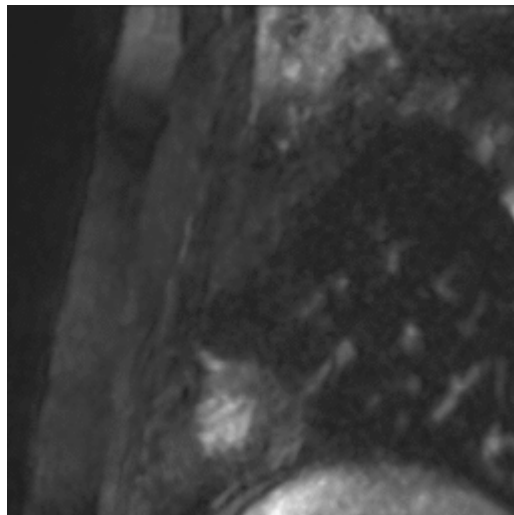
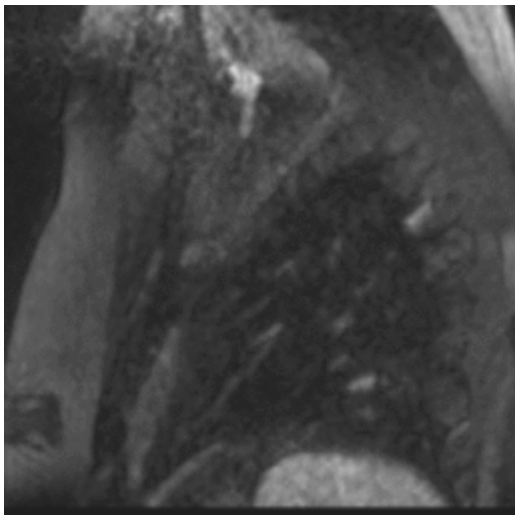
P: 150 9 36, A: 97 4 4, Qp/Qs: 1.02



PA: Rf 45-44-44 Vm 249-256-274

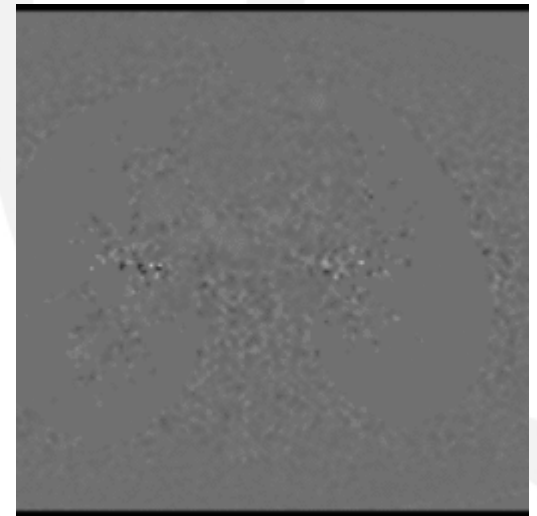
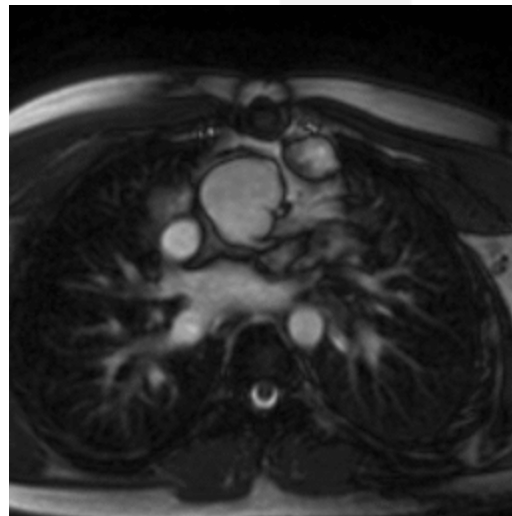
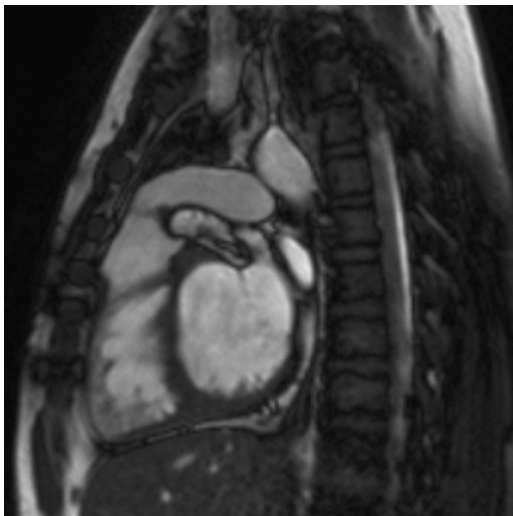
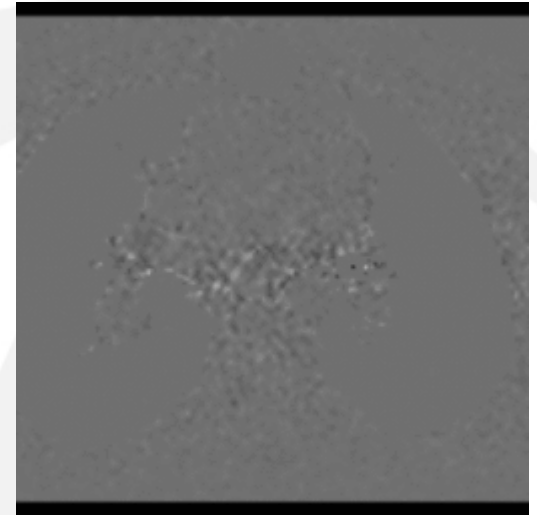
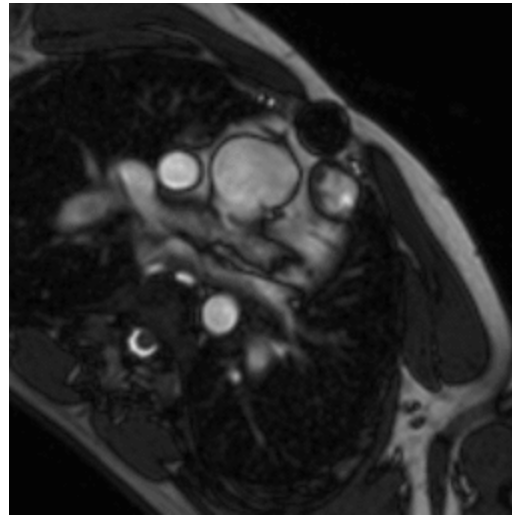
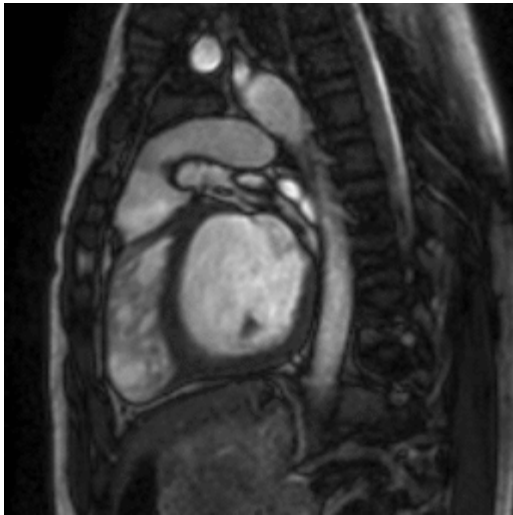


# 3D NAV MRA összevetés

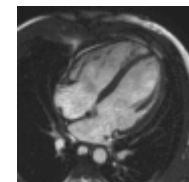




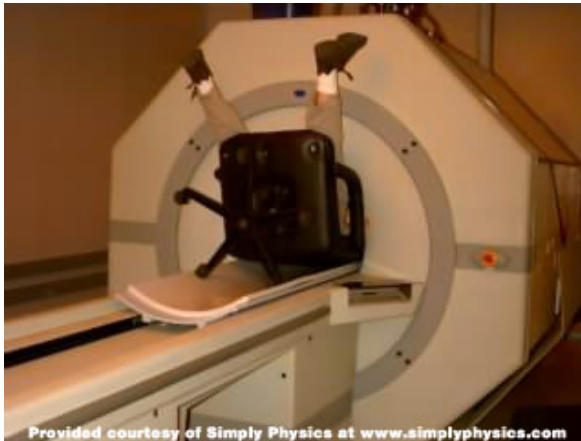
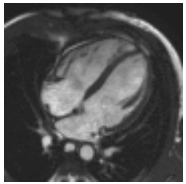
P: 232-247 22-24 2-2, Qp/Qs: 1.00



# Az MR veszélyes lehet

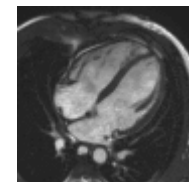


# A sérülés lehetősége fennáll



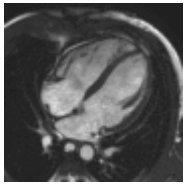


- MR-compatibilis infúziós állvány
- Ledokkolható asztal – evakuálás

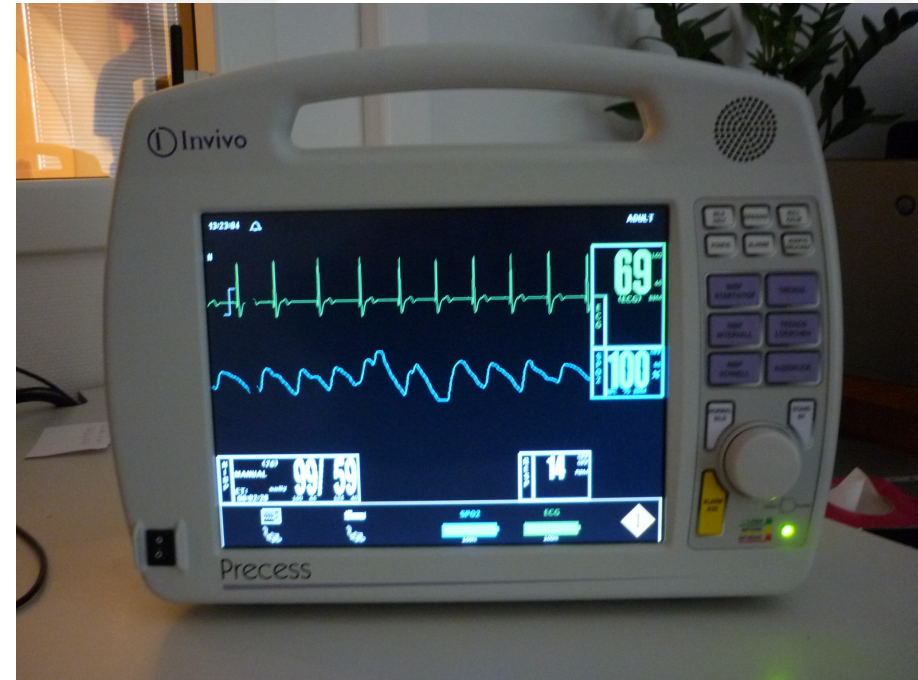
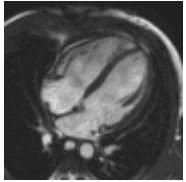




- MR-kompatibilis beteg monitor
- SpO2, RR, ETCO2, ECG

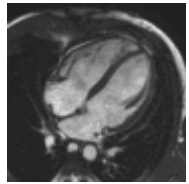


- Invivo Precess beteg monitor
- Vezetéknélküli kommunikáció





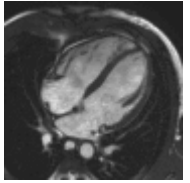
- Két fektető ágy a vizsgáló mellett
- MR-kompatibilis lélegeztető gép





# Team munka





# Köszönet

- Prof Merkely Béla, Prof Simor Tamás
- Prof Hüttl Kálmán, Balázs Gyuri
- Vágó Hajni
- Asszisztenseink
- GOKI-s kollégák



# 3D NAV MRA

