

# Mitrální chlopeň od “A” do “Z”.

Januška J, Hudec M, Branny P, Urban M, Dorda M, Gajdušek L, Poloczek M<sup>o</sup>, Škňouřil L

Kardiocentrum Třinec Podlesí

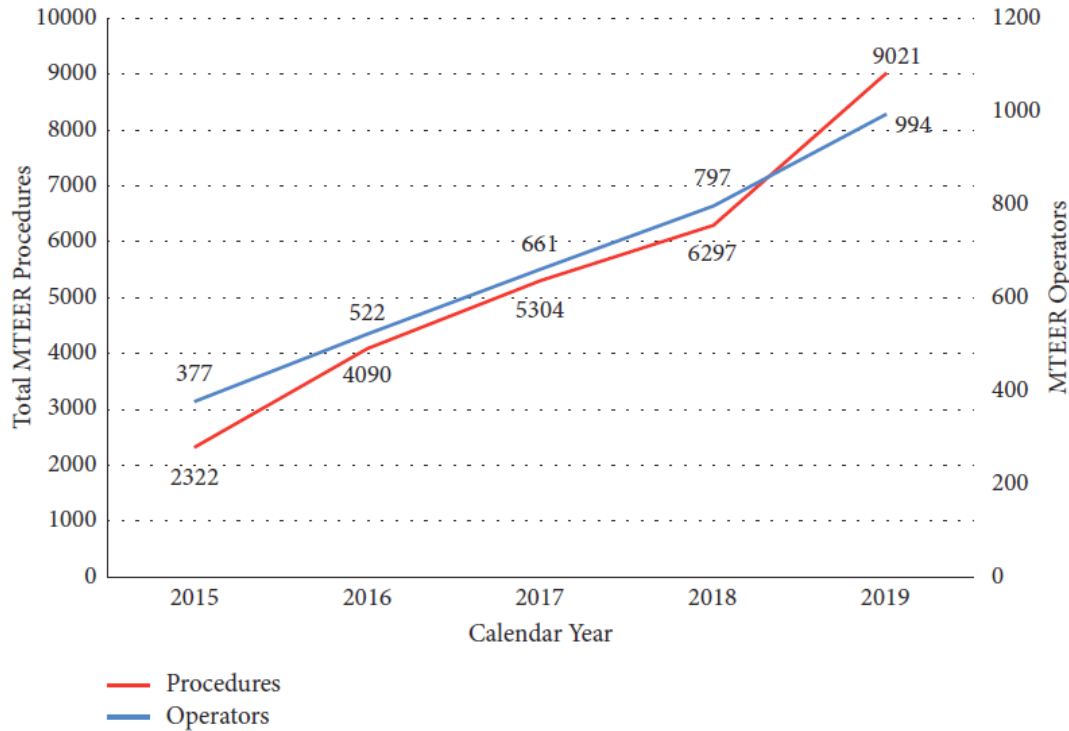
<sup>o</sup>Fn Brno Bohunice

# Intervenční chlopně ČR

	TAVI	TMVI	Pulm	TEER Mi	Tri
2021	1326	45	9	154	21
2022	1633	45	12	187	32

# TEER

- Medicare, Medicaid 124 mil t.j. 72/mil. 3/mil



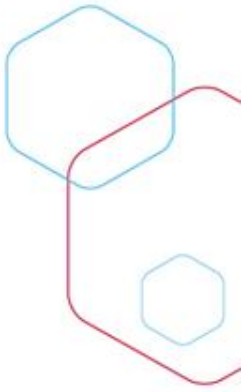
- Česká republika 2022 t.j. 19/mil. 2/mil

# Hearth team

- Indikující kardiolog
- Dva eventuálně více intervenčních kardiologů
- Anesteziolog
- Dva kardiochirurgové
- Echokardiografista
- Vhodný specialista na přidružené onemocnění
- Studijní sestra

# Data source

- Obrazová dokumentace
- Písemná dokumentace
- Doporučení a simulace firmy
- Simulace, 3D printing, VR, AR
- “Přítel na telefonu” (videokonference)



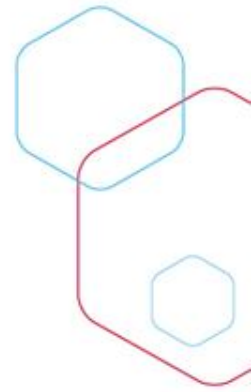
# Intervence na mitrální chlopni

- Balónková valvuloplastika (Mi stenóza)
- Resynchronizace, Ablace FiS
- Katetrizační plastika (Transcatheter edge-to-edge repair)
- Reziduální regurgitace, PVL, perforace
- Implantace chlopně (Valve in Valve)

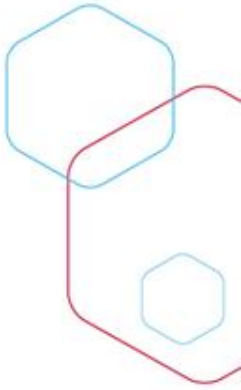
# Resynchronizace



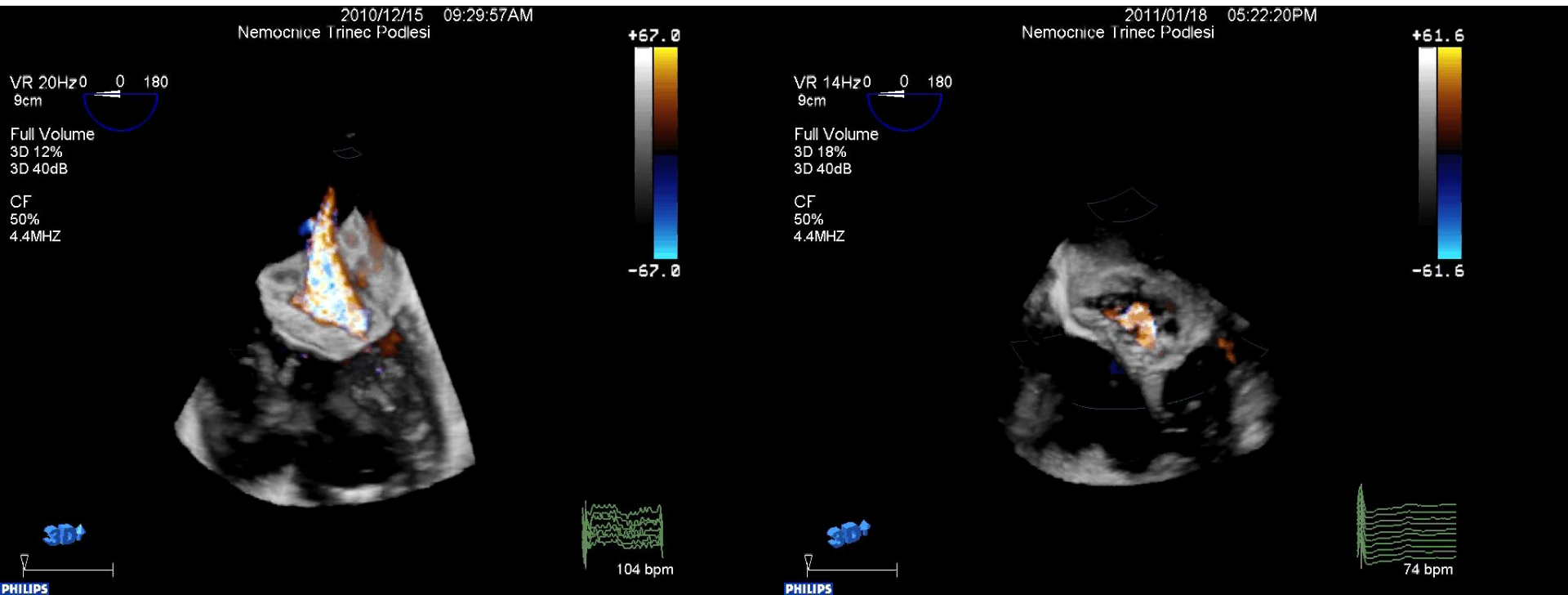
# Resynchronizace



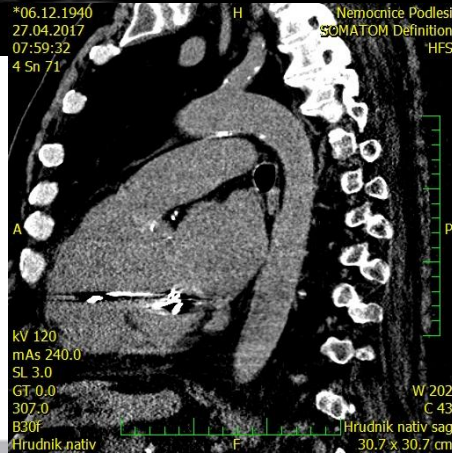
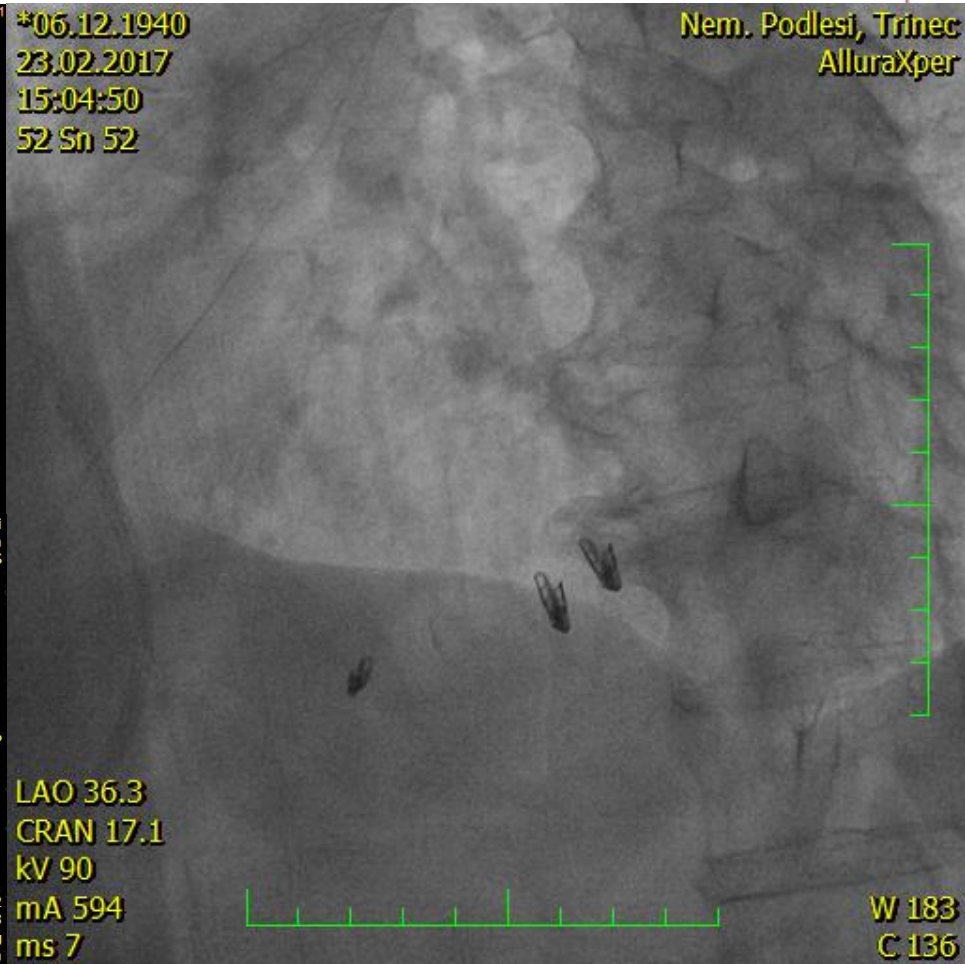
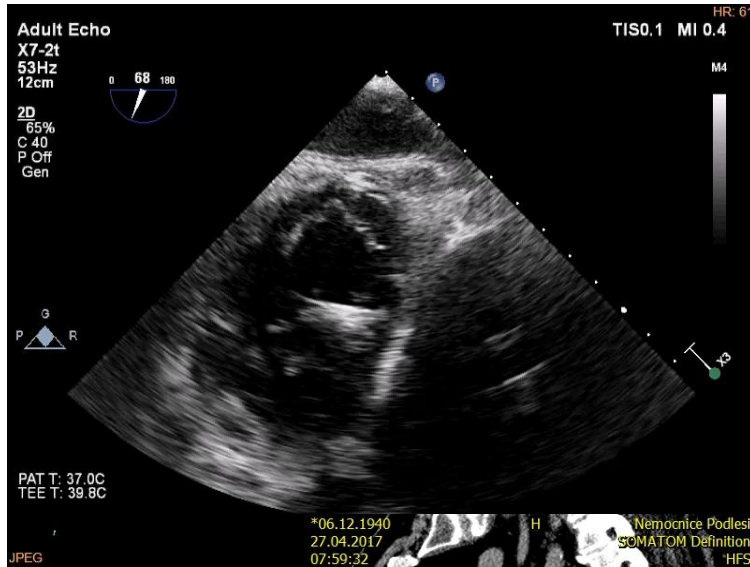




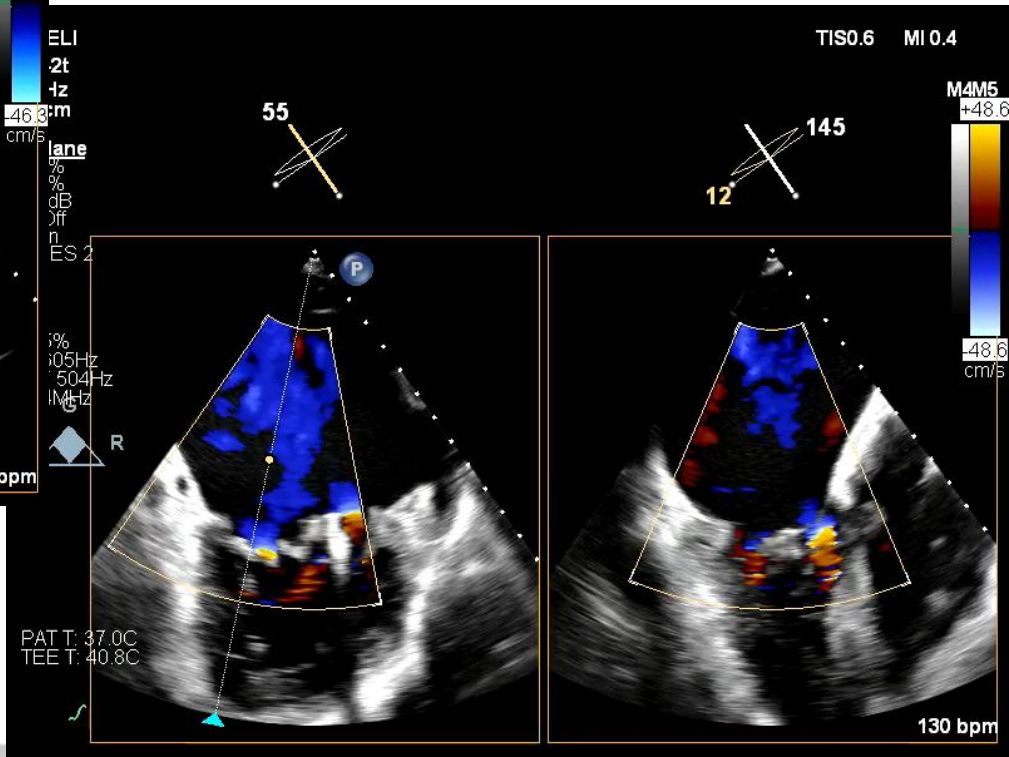
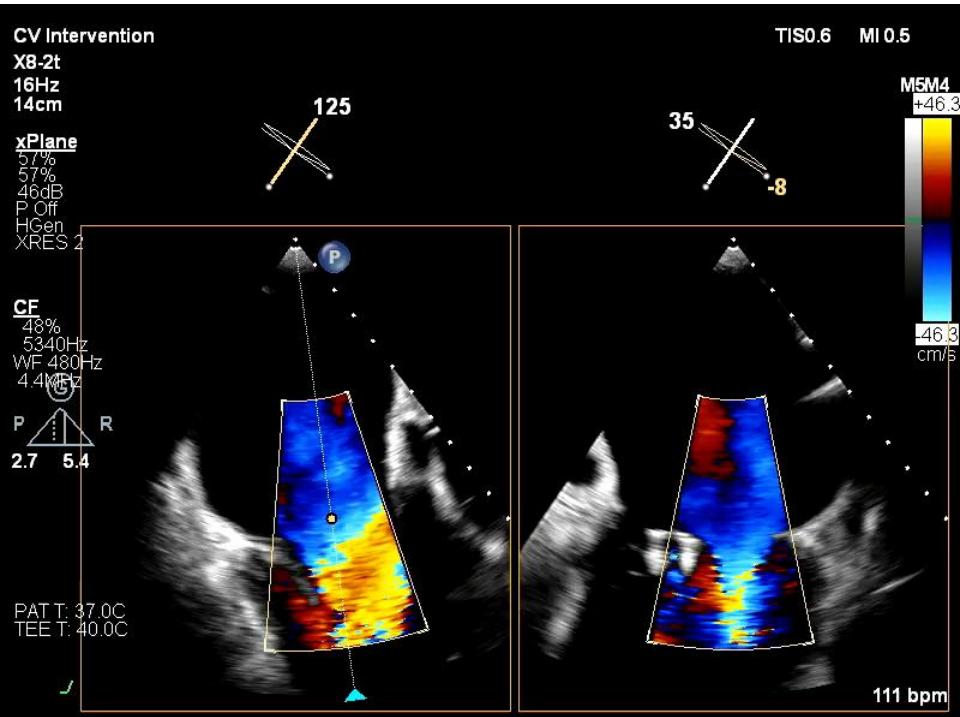
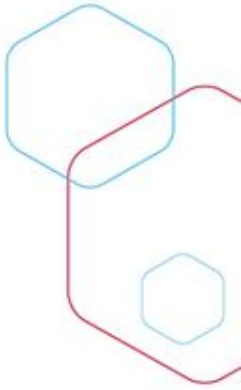
# TEER dilatační KMP s nízkou EF



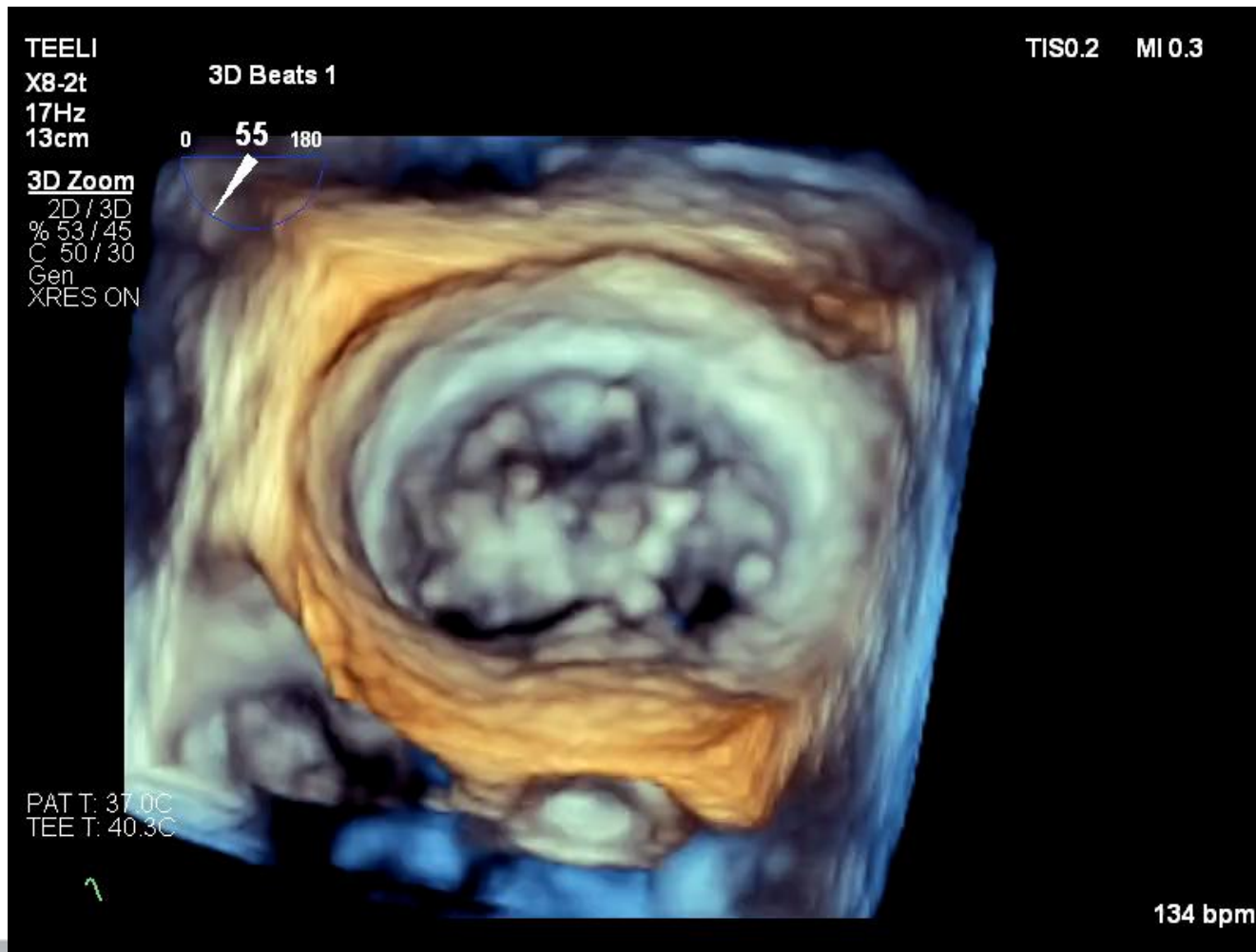
# TEER současná Tri regurgitace



# TEER Barlow disease

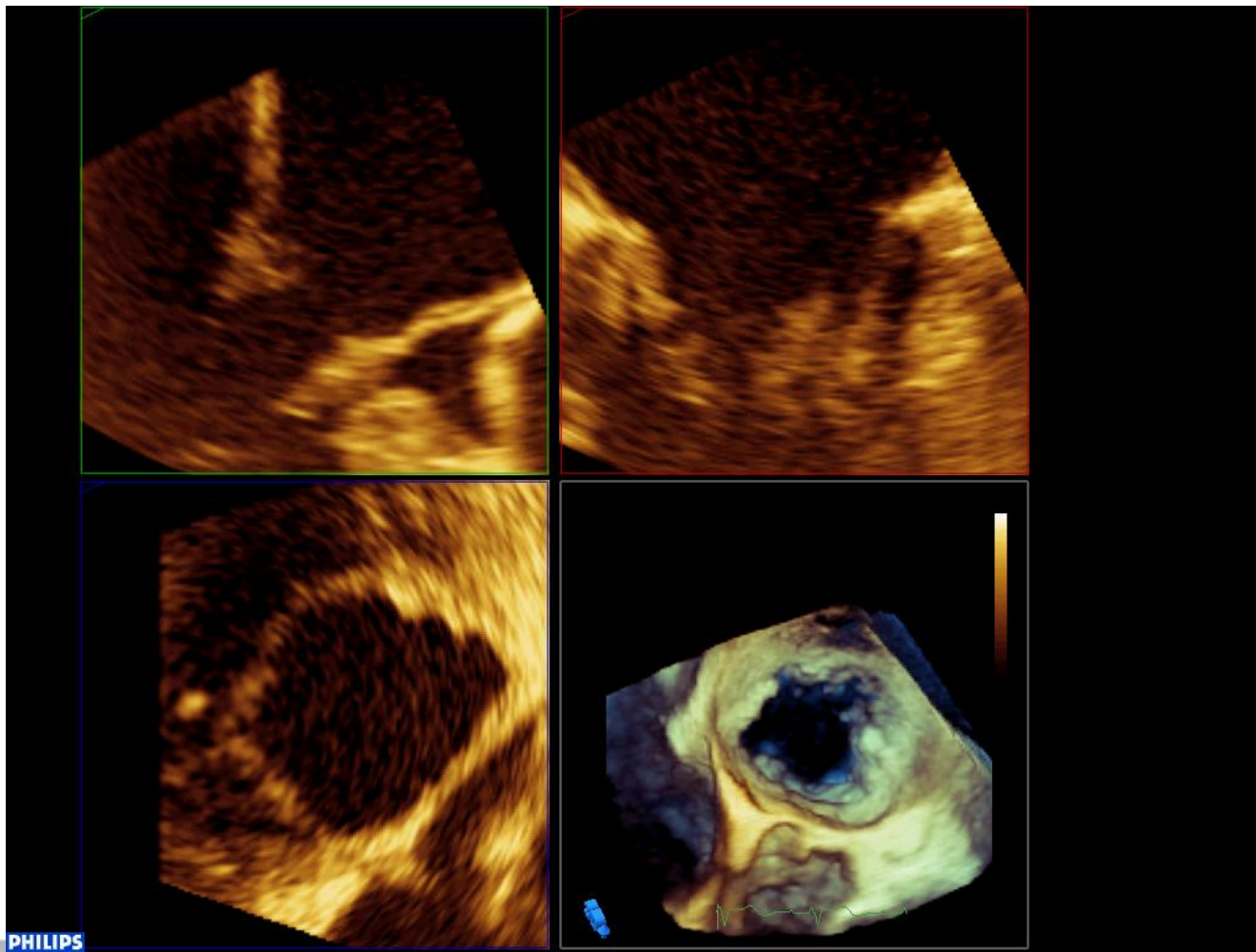


# TEER Barlow disease

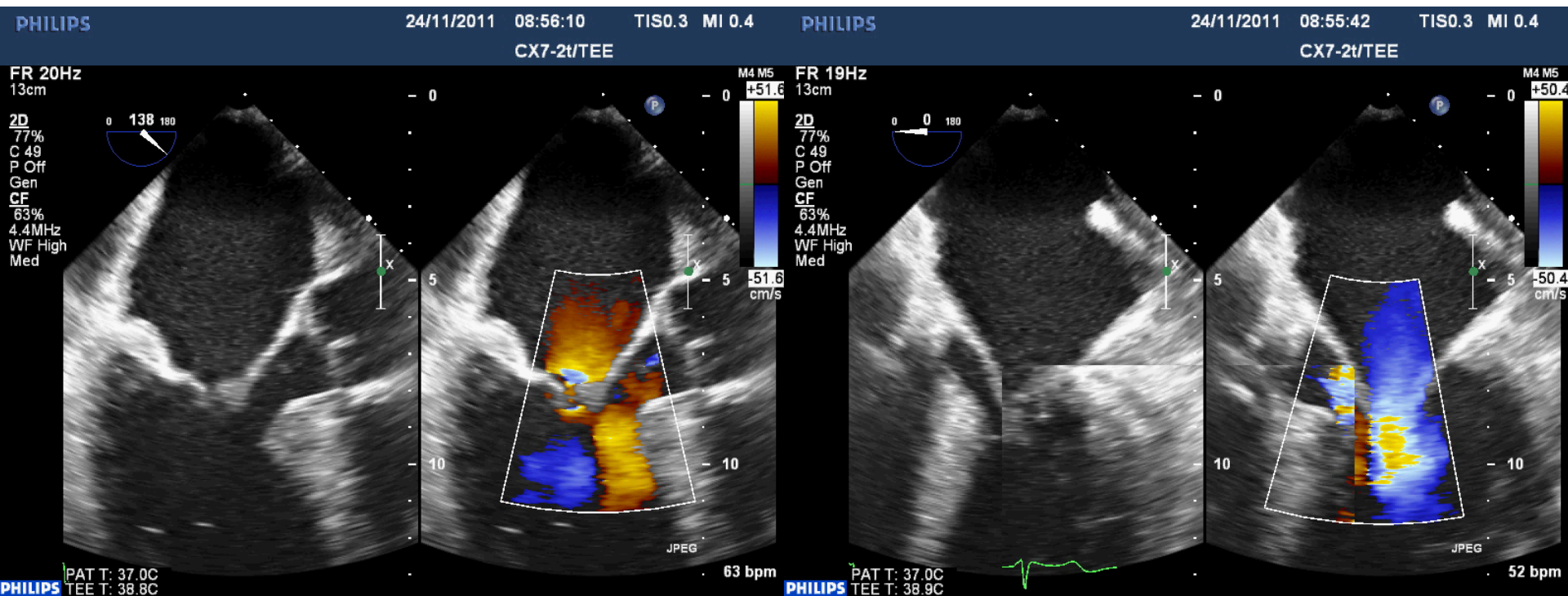
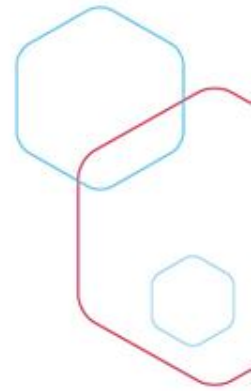




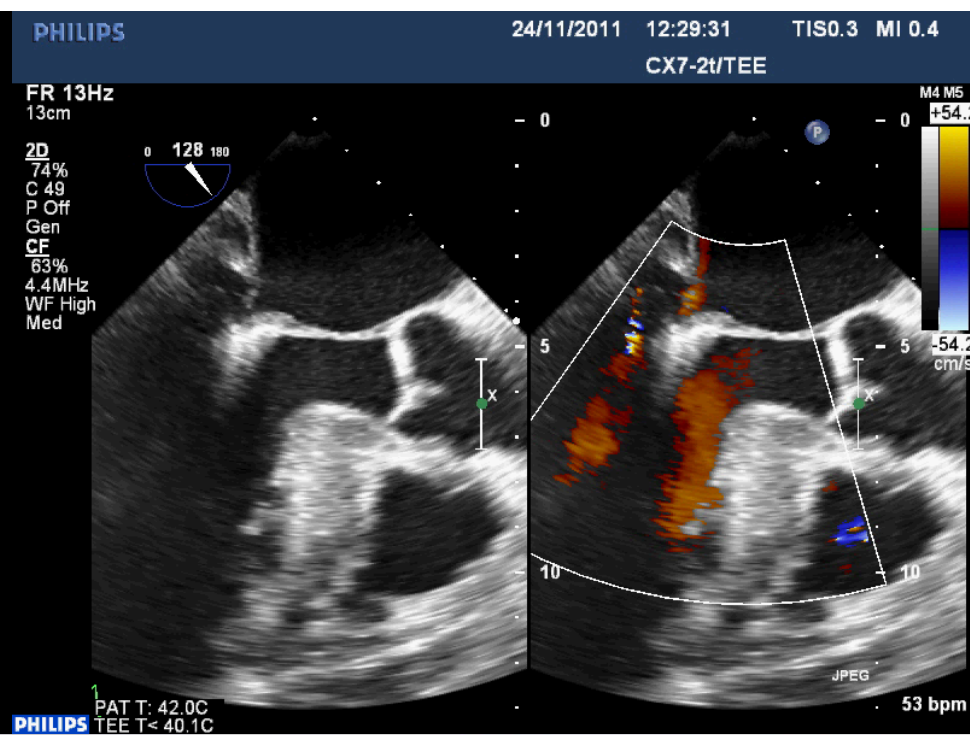
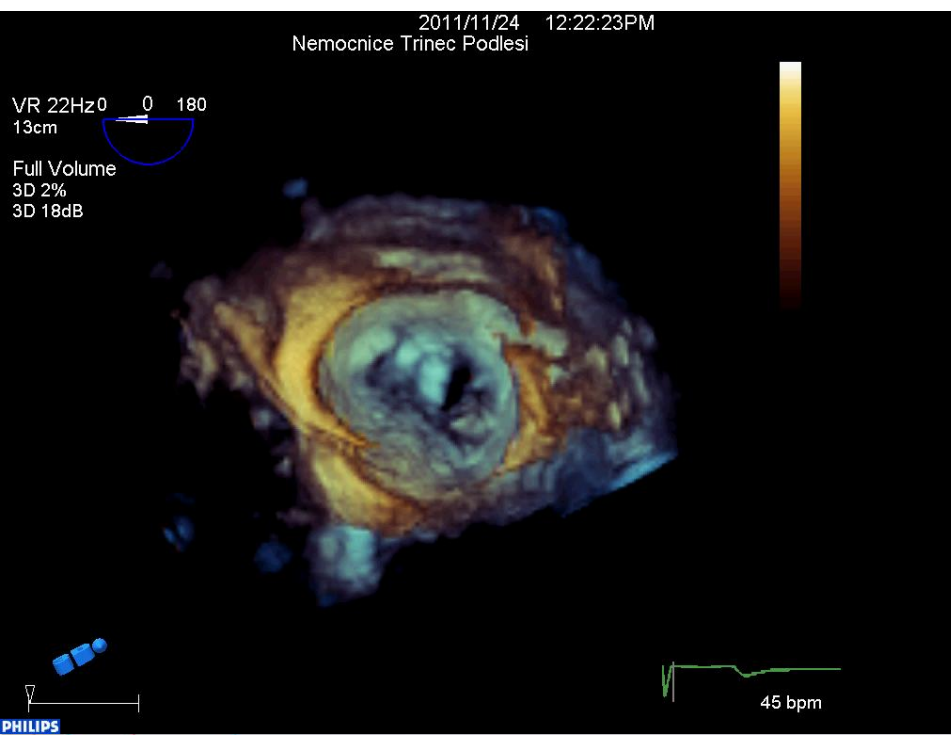
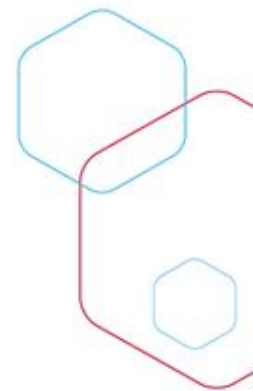
# TEER HOCM a prolaps

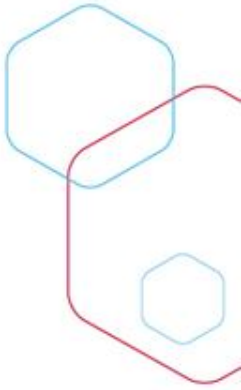


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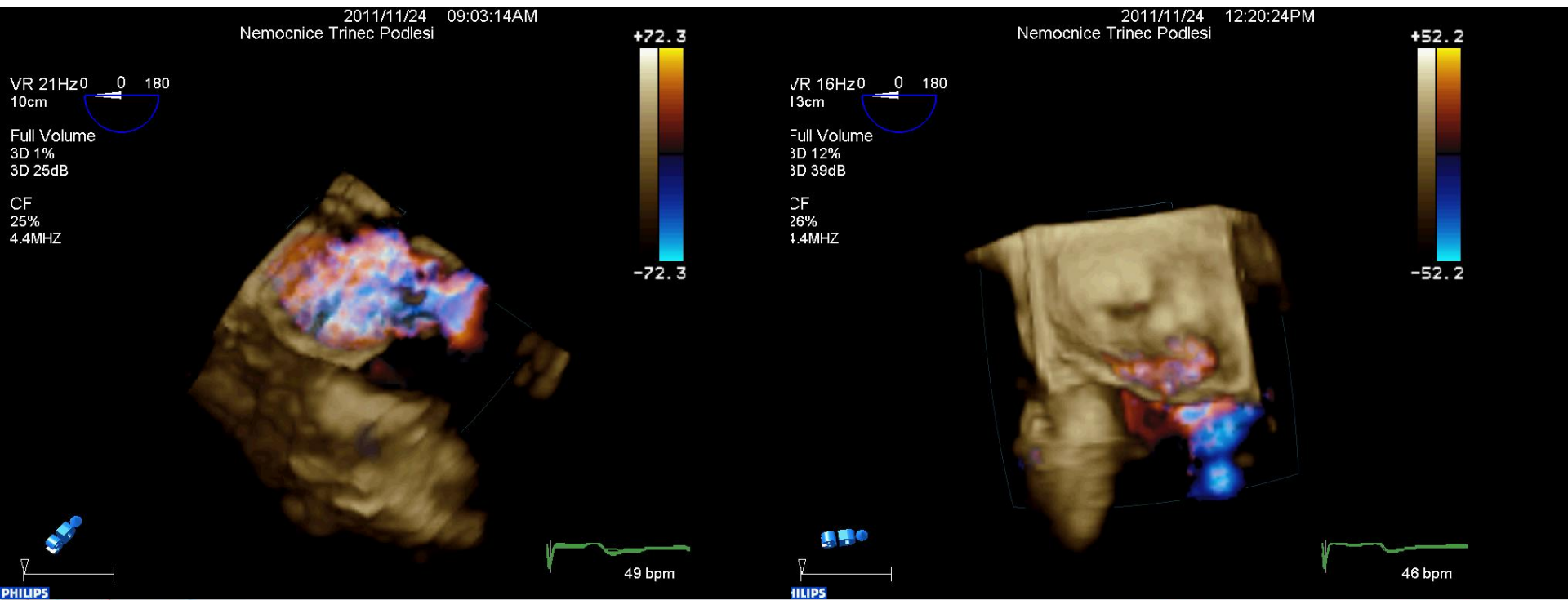


# TEER HOCM a prolaps



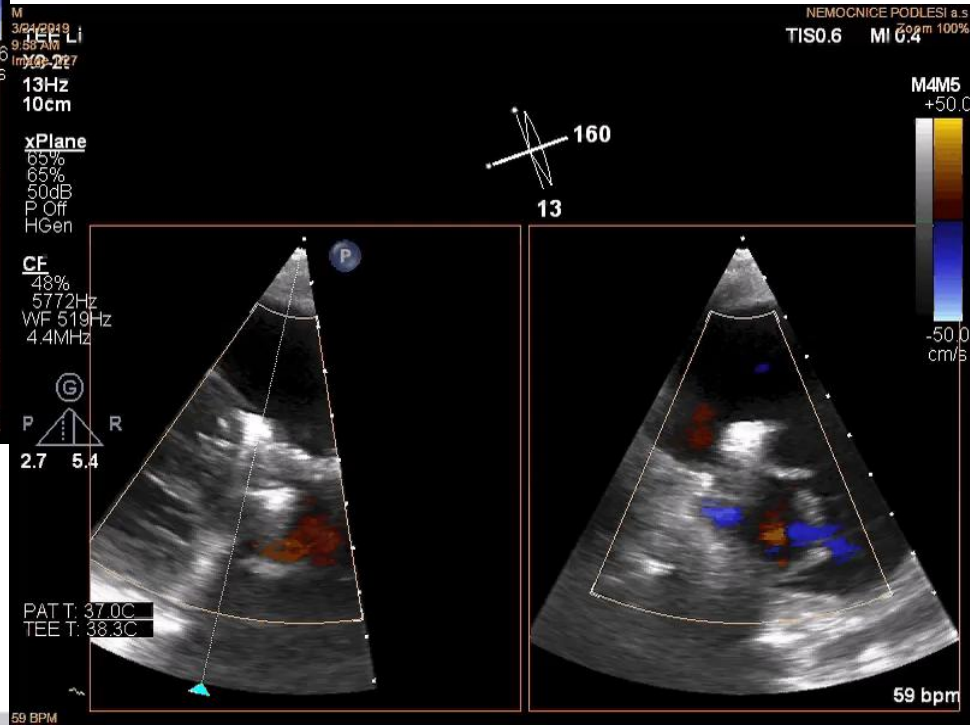
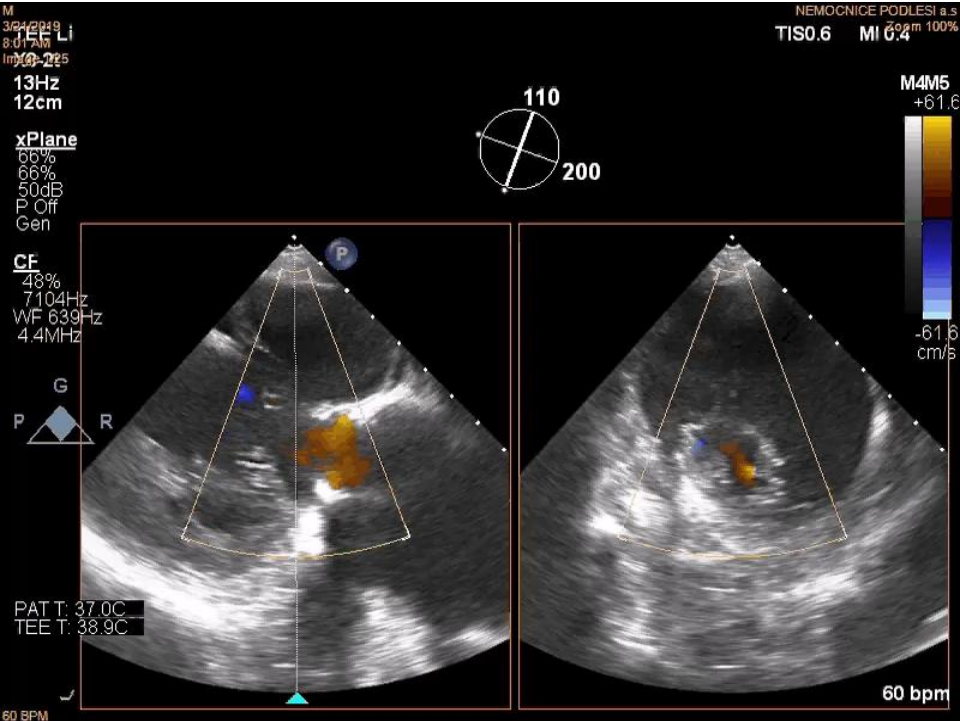
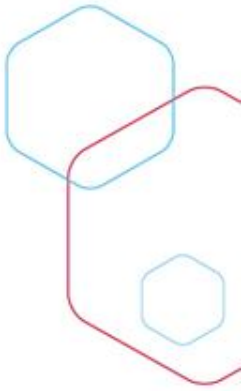


# TEER HOCM a prolaps

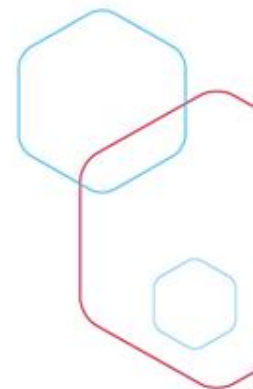




# TEER cleft



# TEER Stp. mitrální valvuloplastice



2012/10/25 9:49:53AM  
Nemocnice Trinec Podlesi

VR 180 Hz 45 180  
9cm

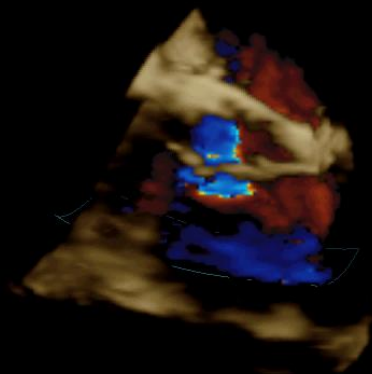
Full Volume  
3D 1%  
3D 50dB

CF  
51%  
4.4MHZ

+59.3



-59.3



3D+



56 bpm

2012/10/25 12:03:09PM  
Nemocnice Trinec Podlesi

VR 170 Hz 60 180  
10cm

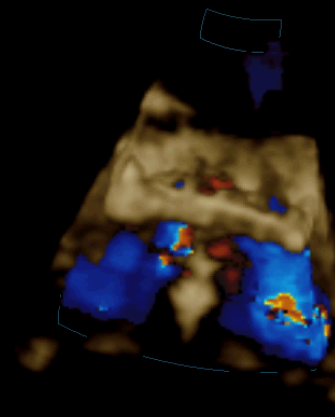
Full Volume  
3D 1%  
3D 50dB

CF  
55%  
4.4MHZ

+56.2



-56.2



3D+

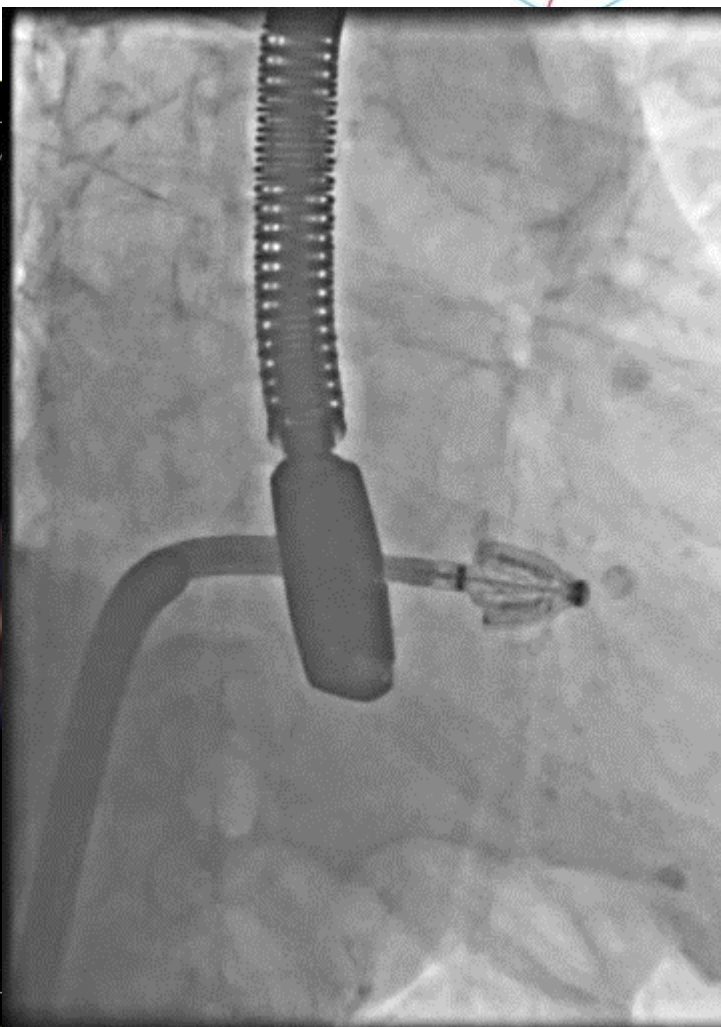
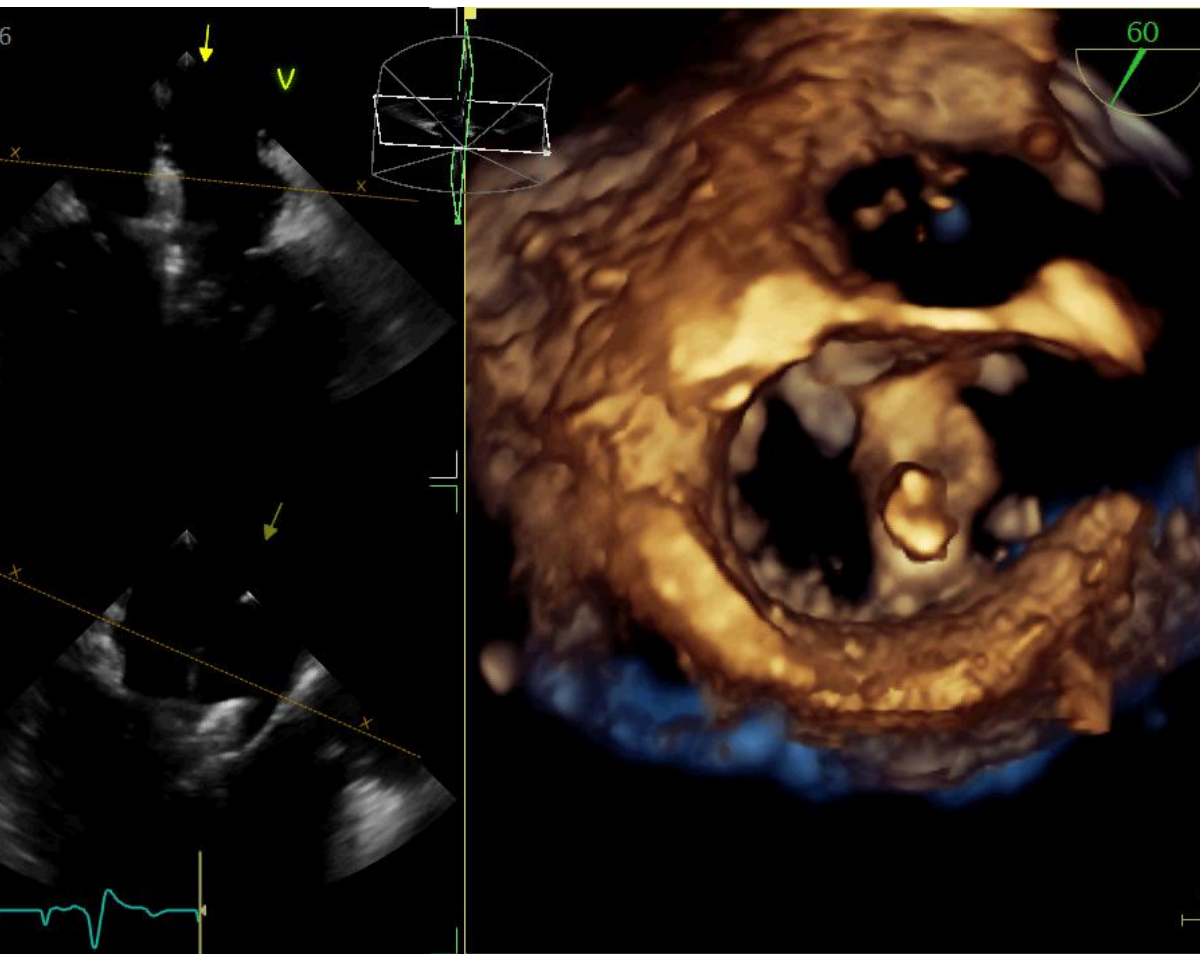


62 bpm

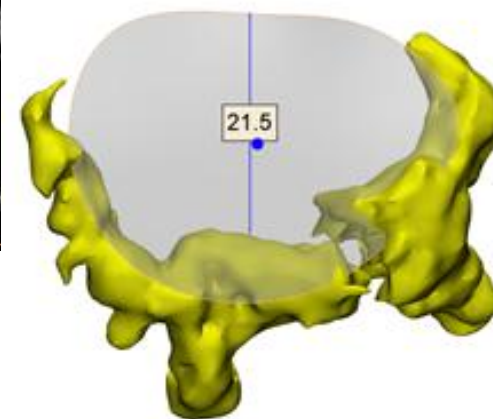
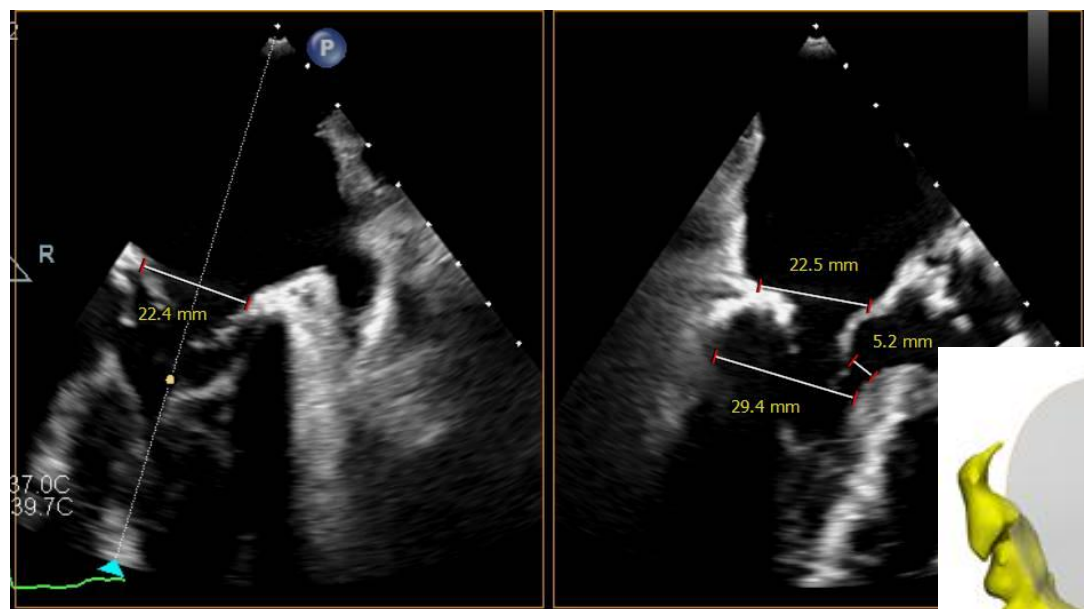
PHILIPS

PHILIPS

# TEER Pascal

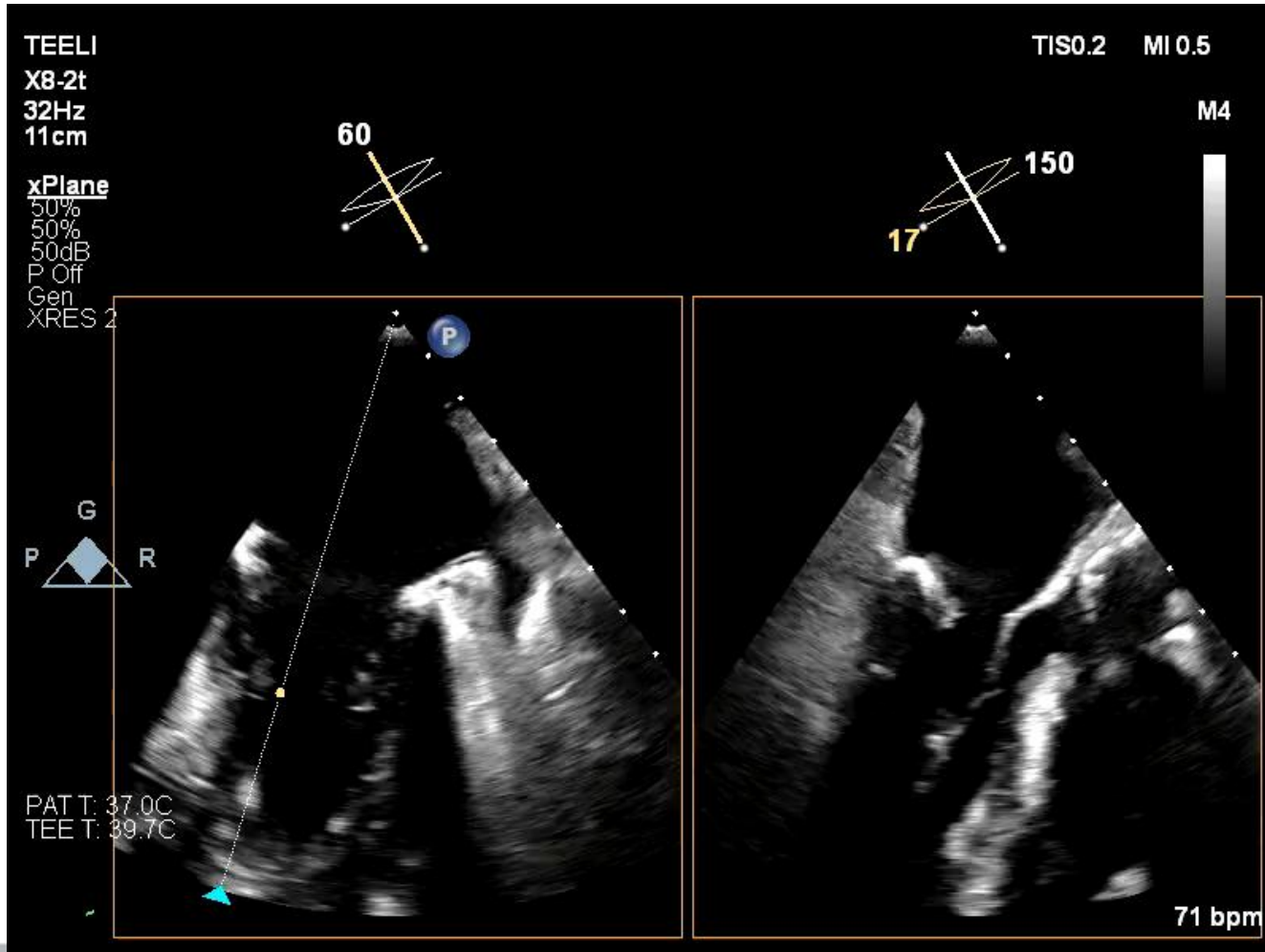


# Mitral Anulus Calcification

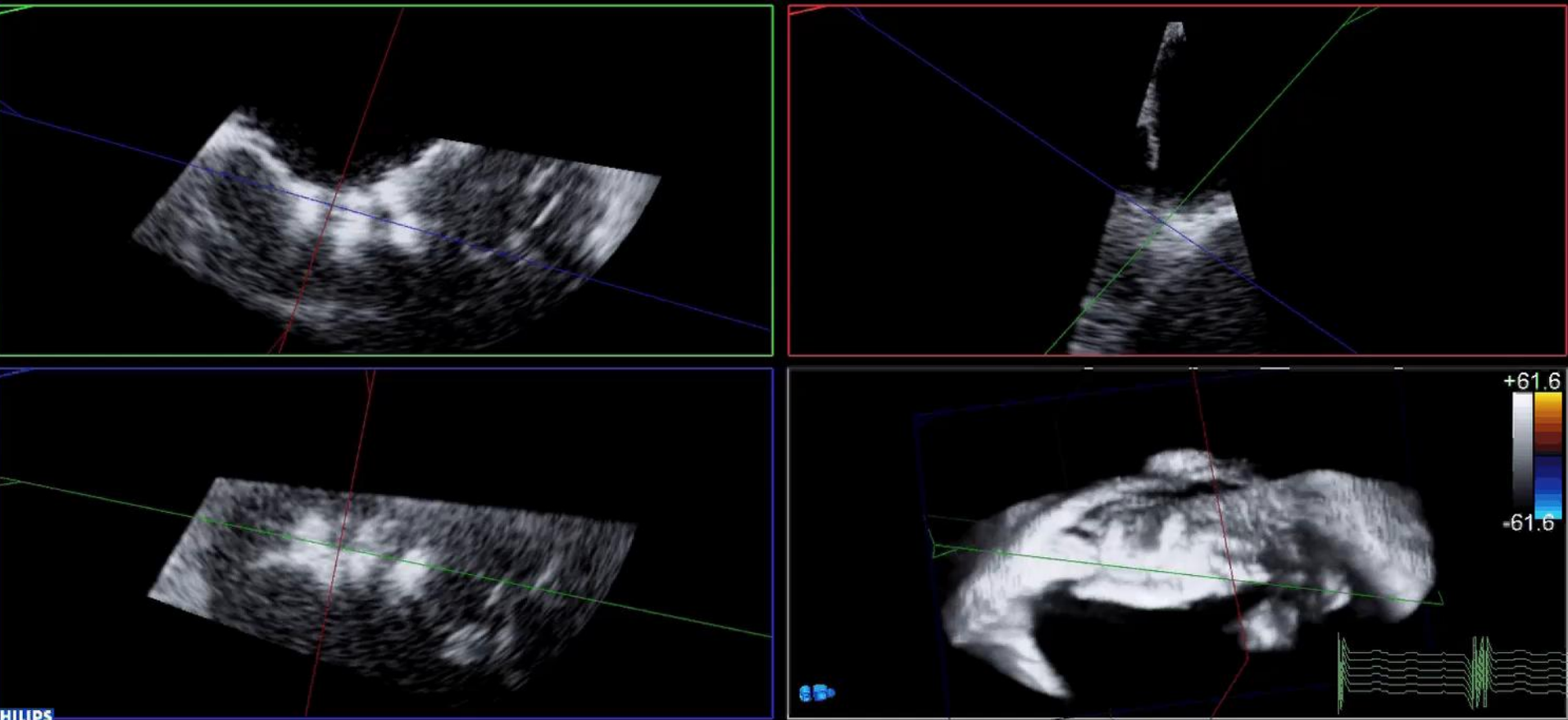
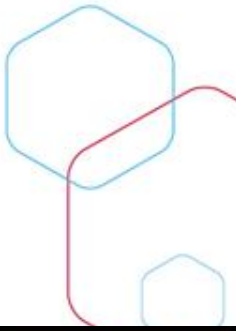




# Mitral Anulus Calcification

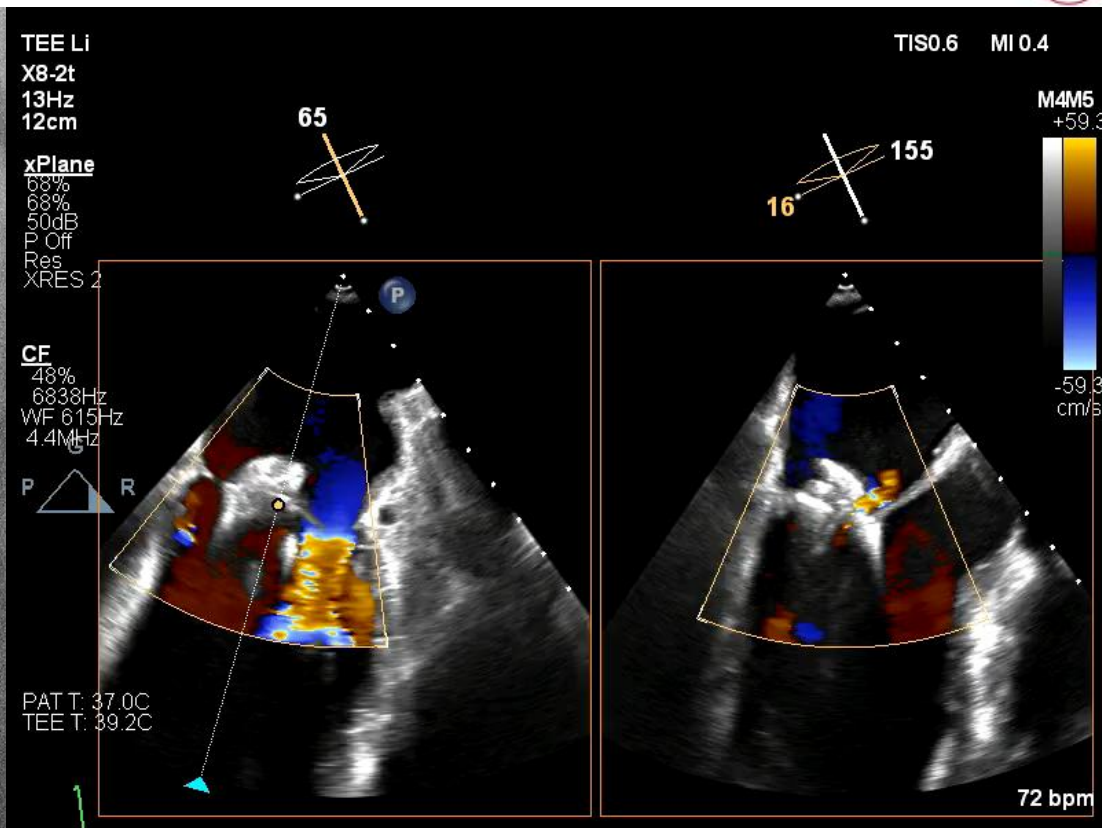
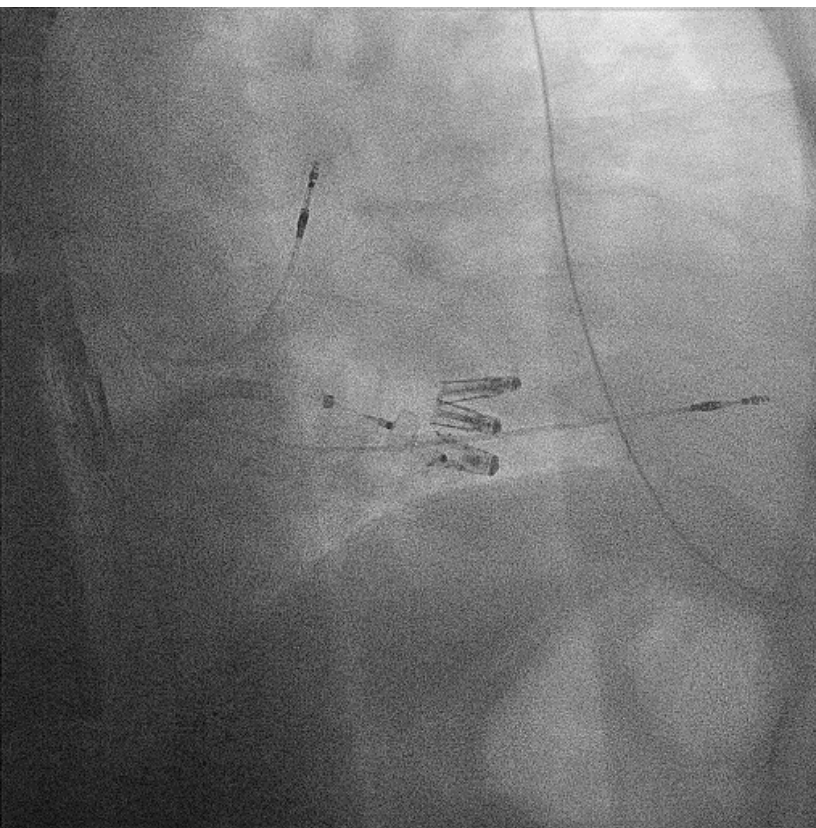
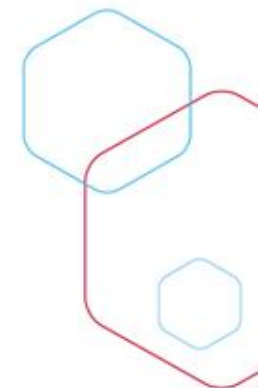


# Uzávěr reziduální regurgitace po MitraClipu



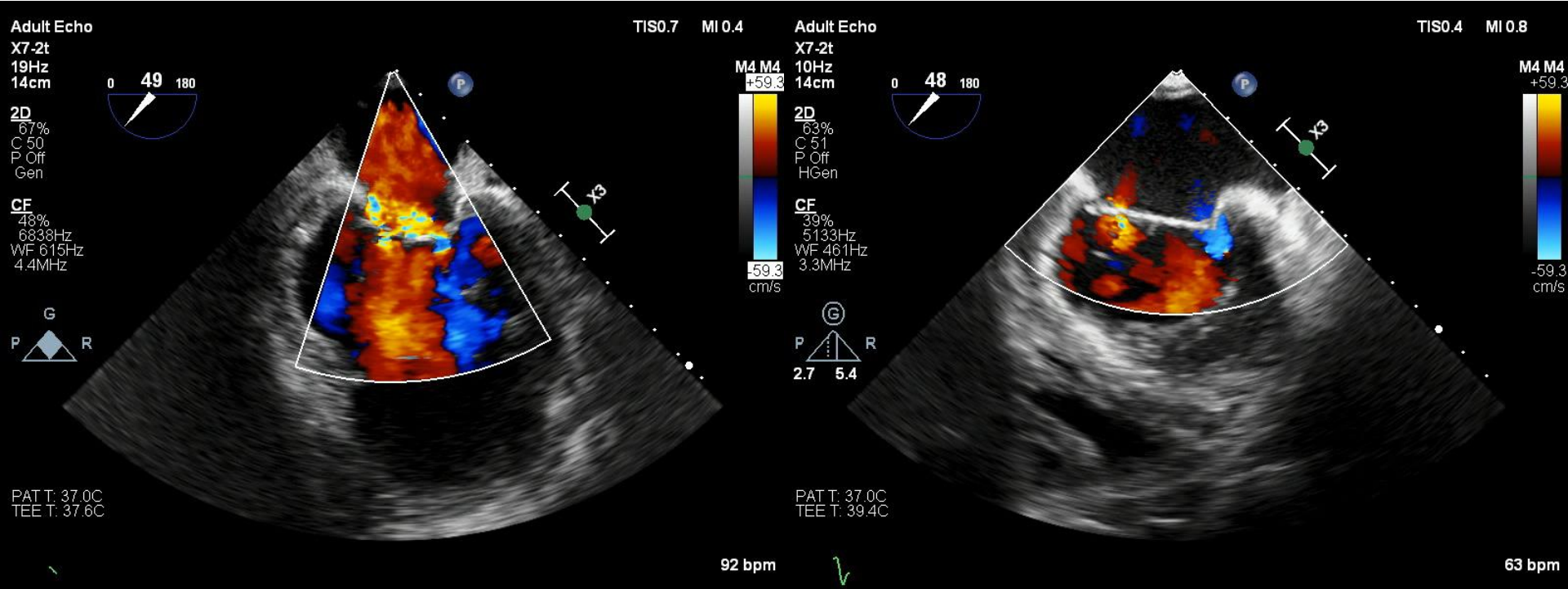
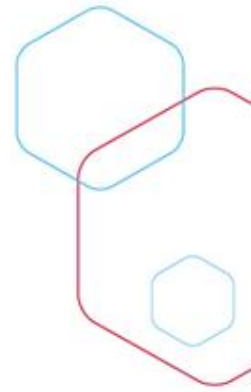
PHILIPS

# Uzávěr reziduální regurgitace po MitraClipu



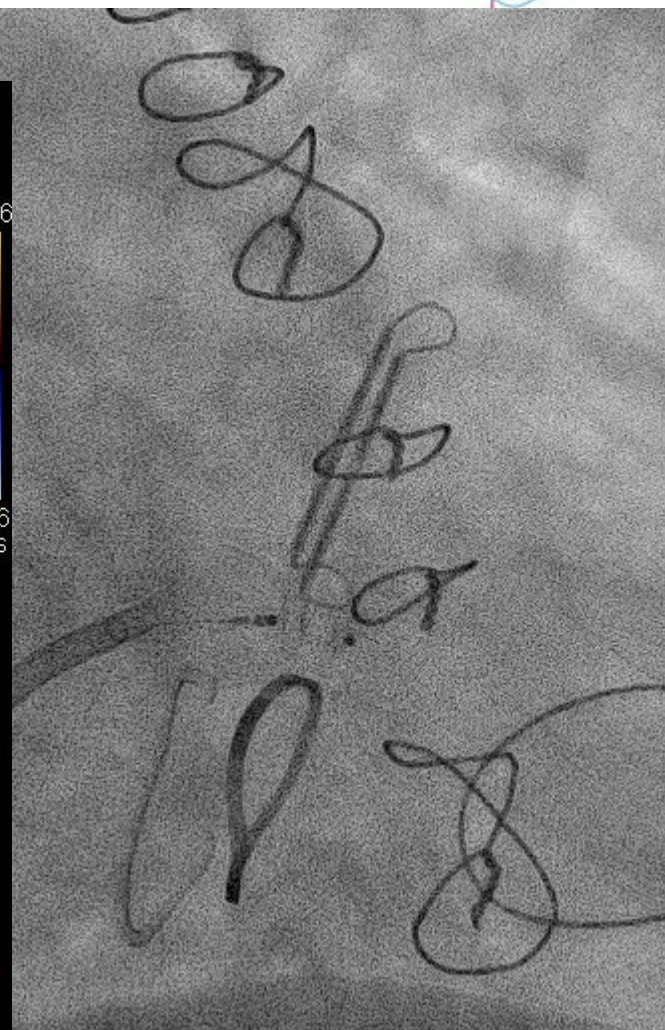
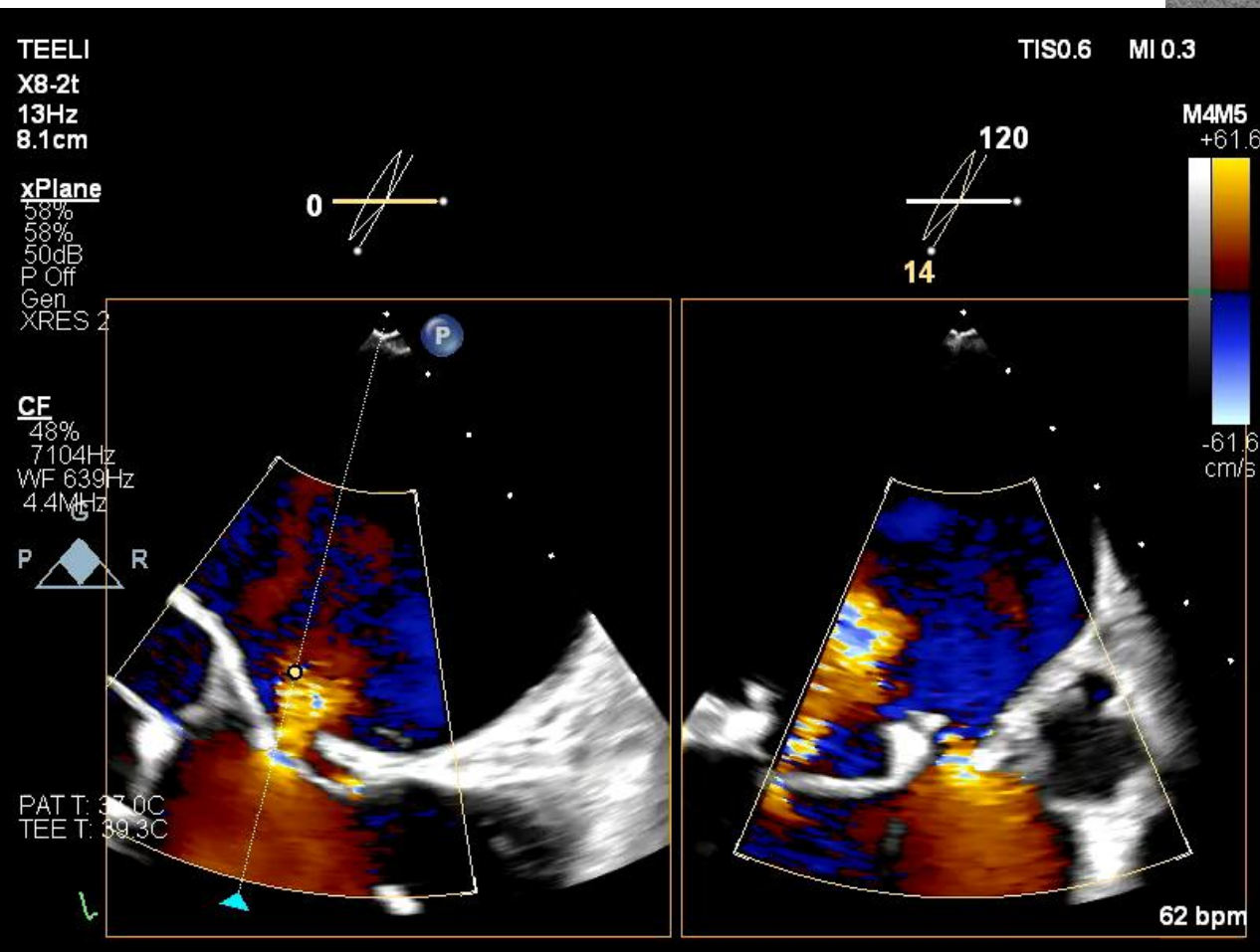
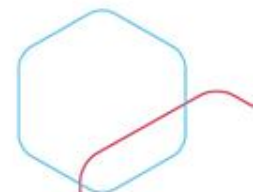


# Uzávěr reziduální regurgitace po MitraClipu





# Uzávěr perforace



# Uzávěr perforace

Echo Pen

X5-1

24Hz

18cm

Full Volume

2D / 3D

% 73 / 44

C 49 / 41

HGen

XRES ON

CF

% 53 / 80

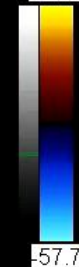
2745 L

3D Beats 1

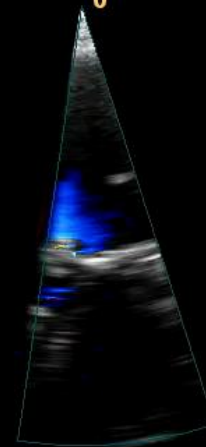
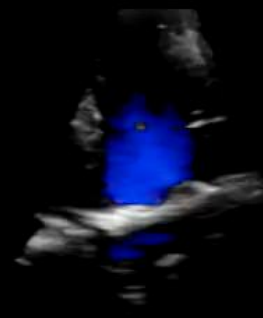
TISO.6 MI 0.6

M1M4

+57.7



-57.7



62 bpm

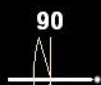
TISO.7 MI 0.6

M4M5

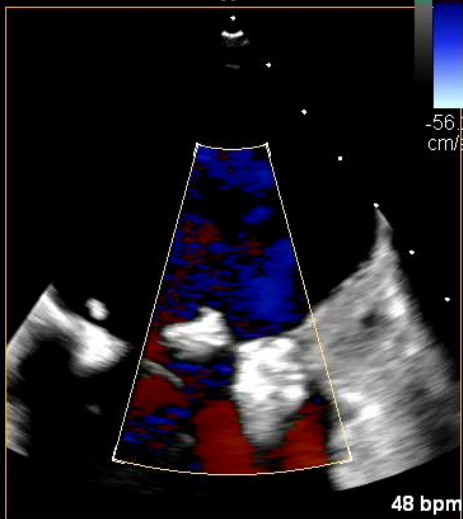
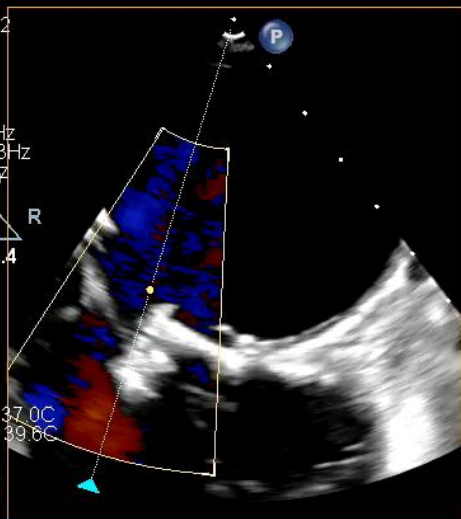
+56.2



-56.2  
cm/s



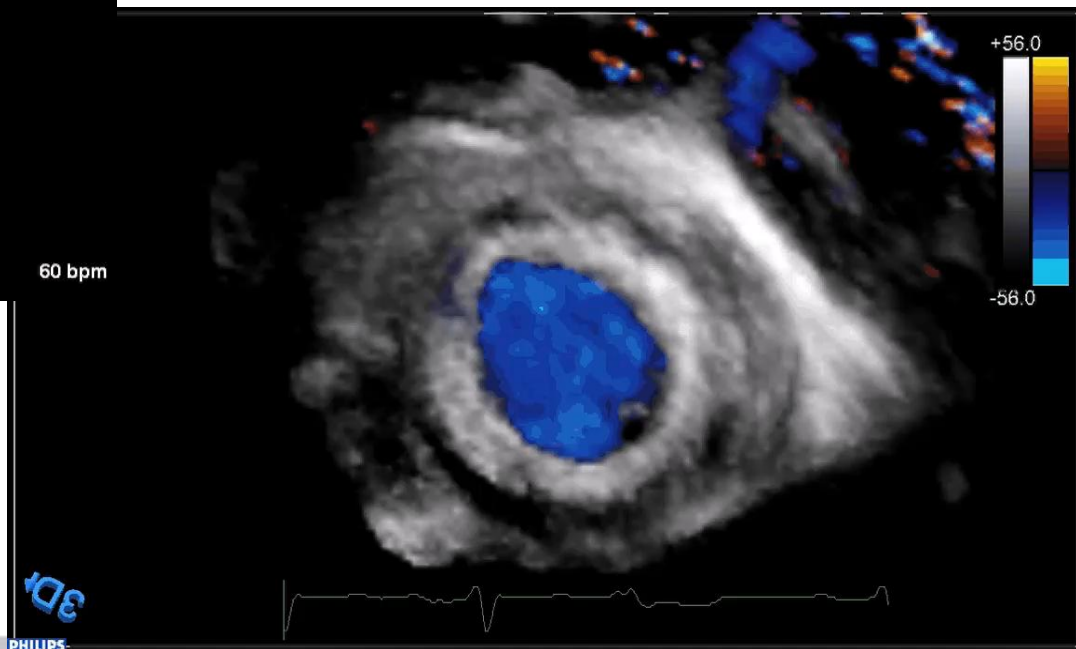
17



48 bpm

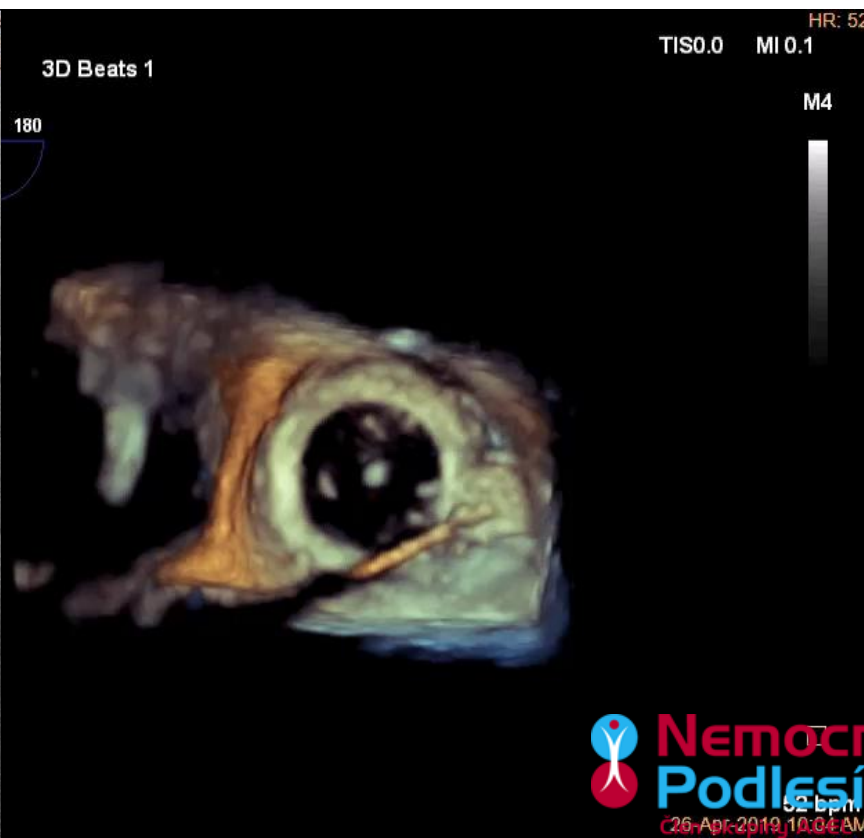
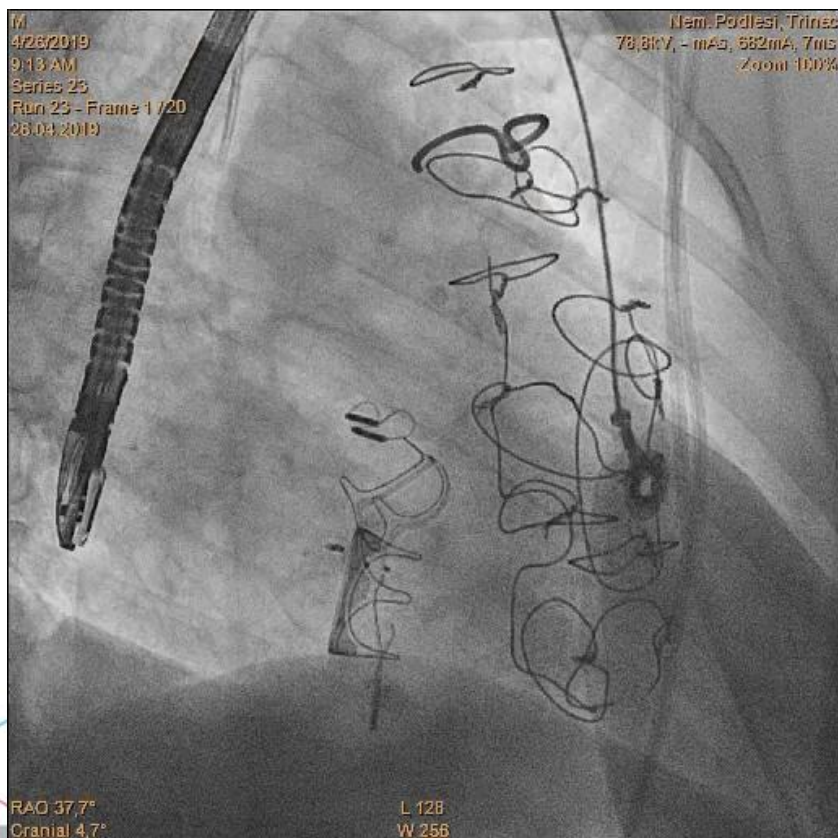


# Mi PVL

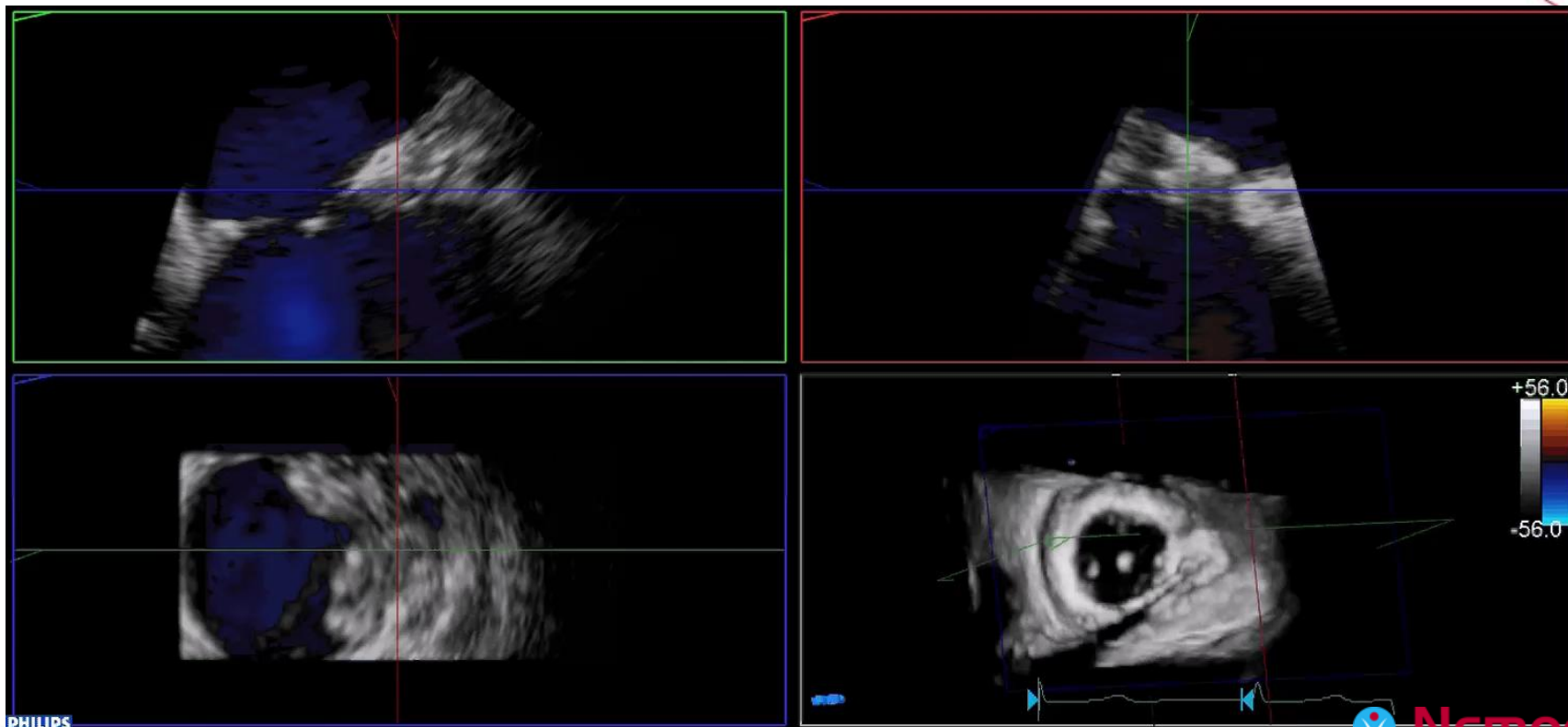




# Mi PVL



# Mi PVL



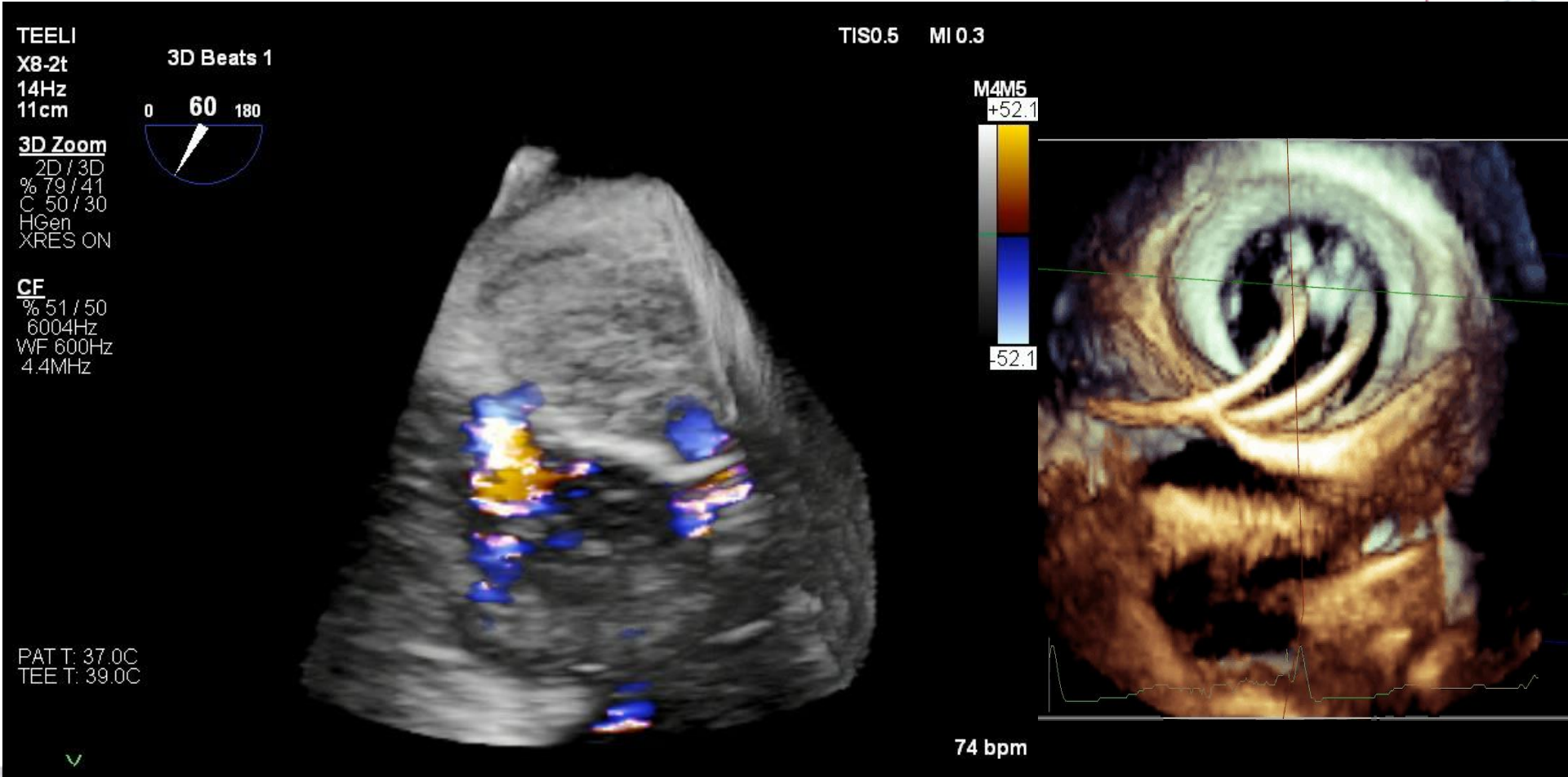
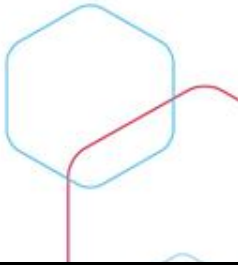
PHILIPS

**Nemocnice  
Podlesí**  
Člen skupiny AGEL

**Nemocnice AGEL**  
Třinec-Podlesí

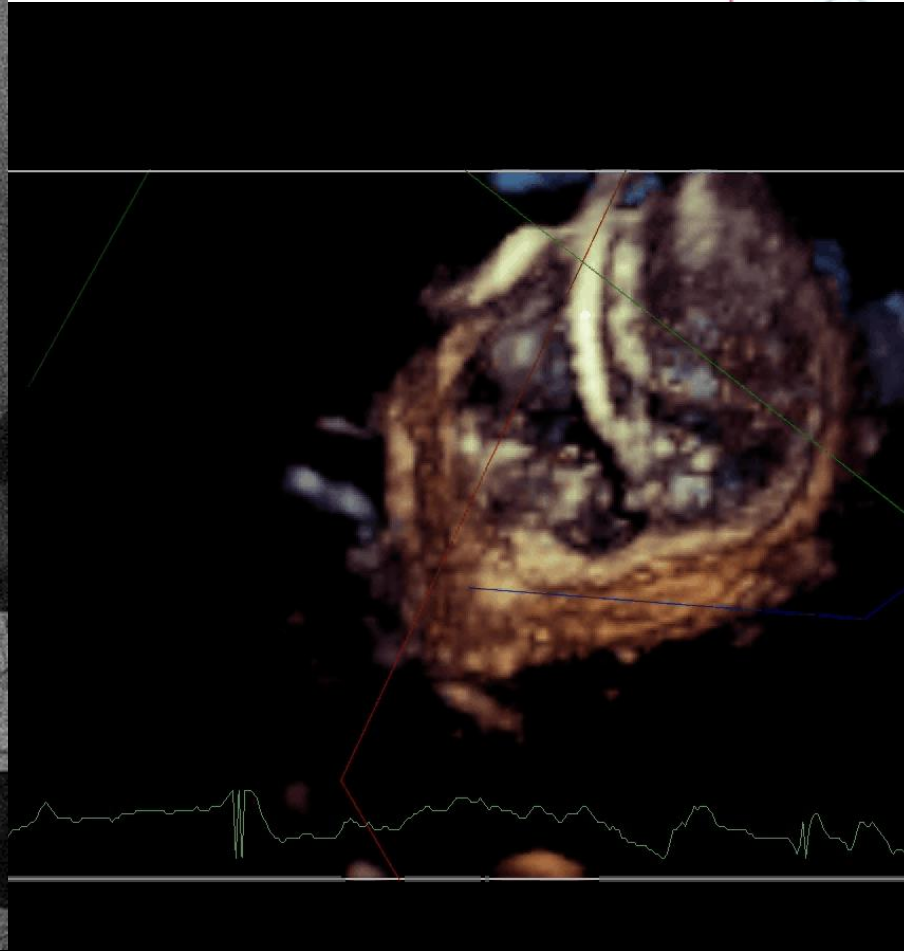
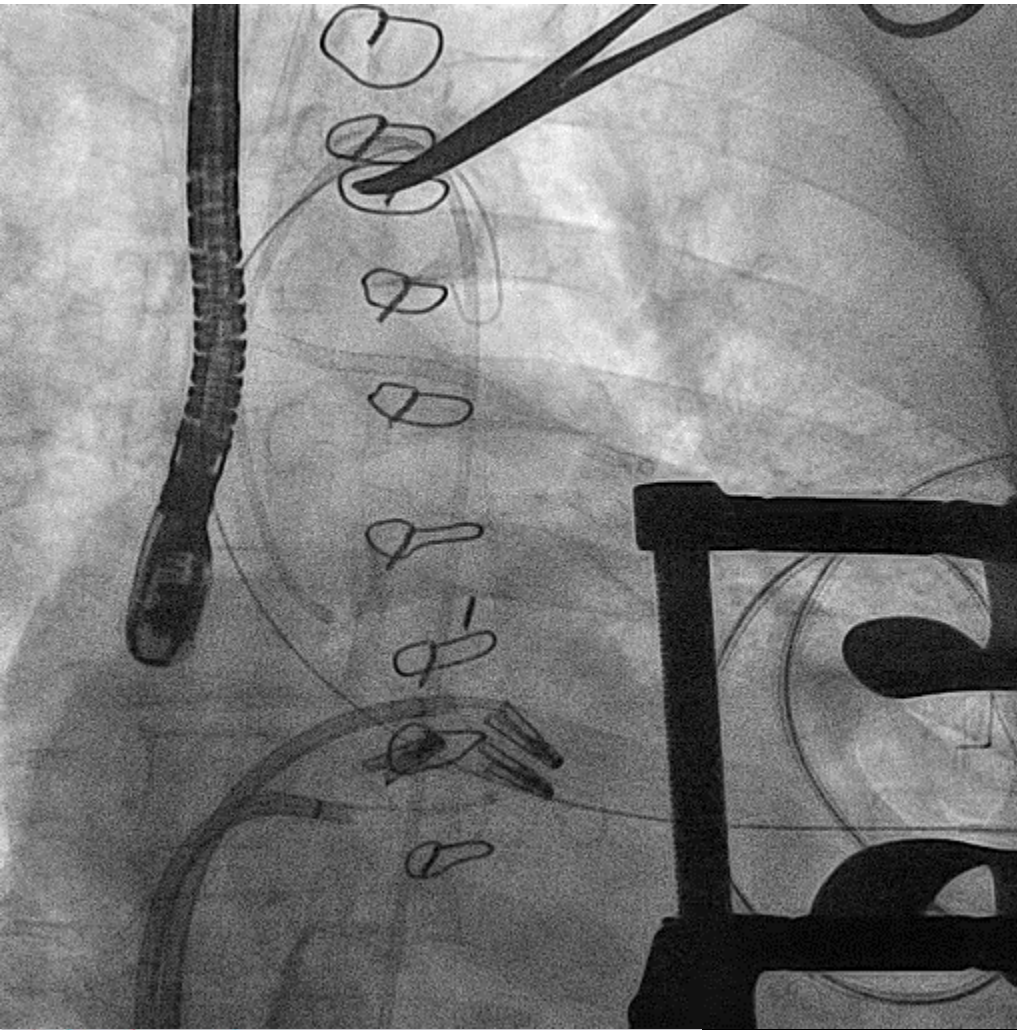
[nemocnicetrinecpodlesi.agel.cz](http://nemocnicetrinecpodlesi.agel.cz)

# Tendyne

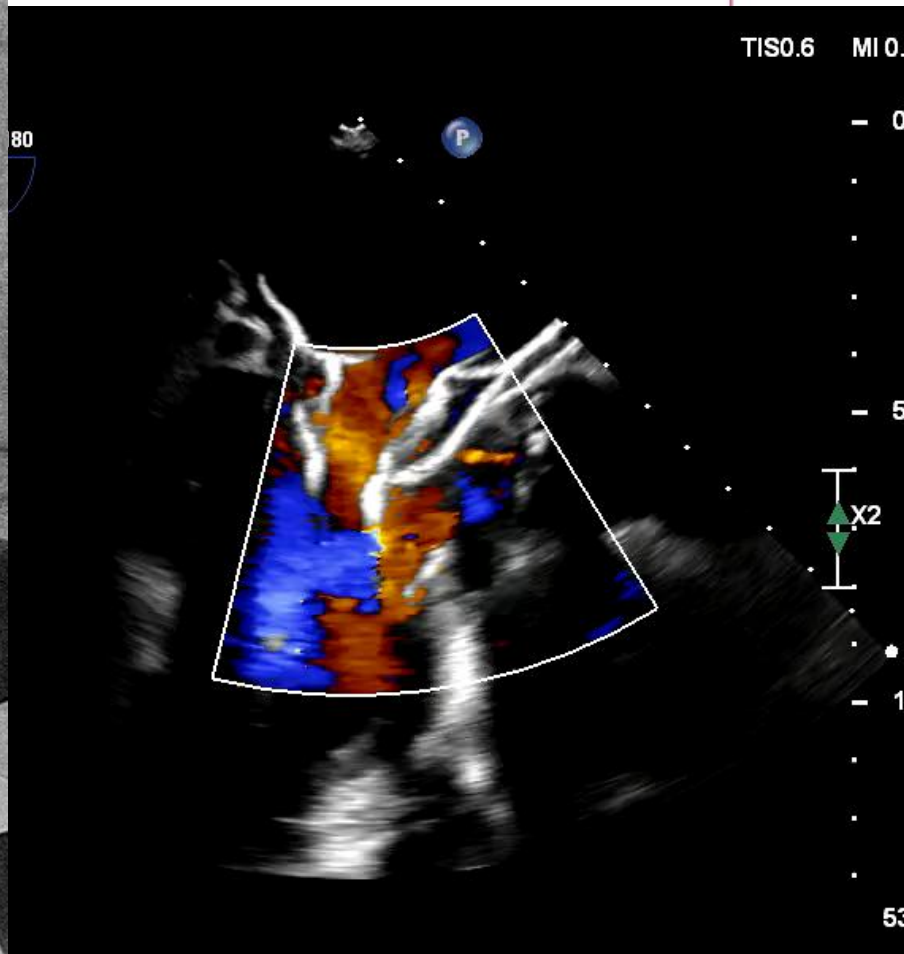
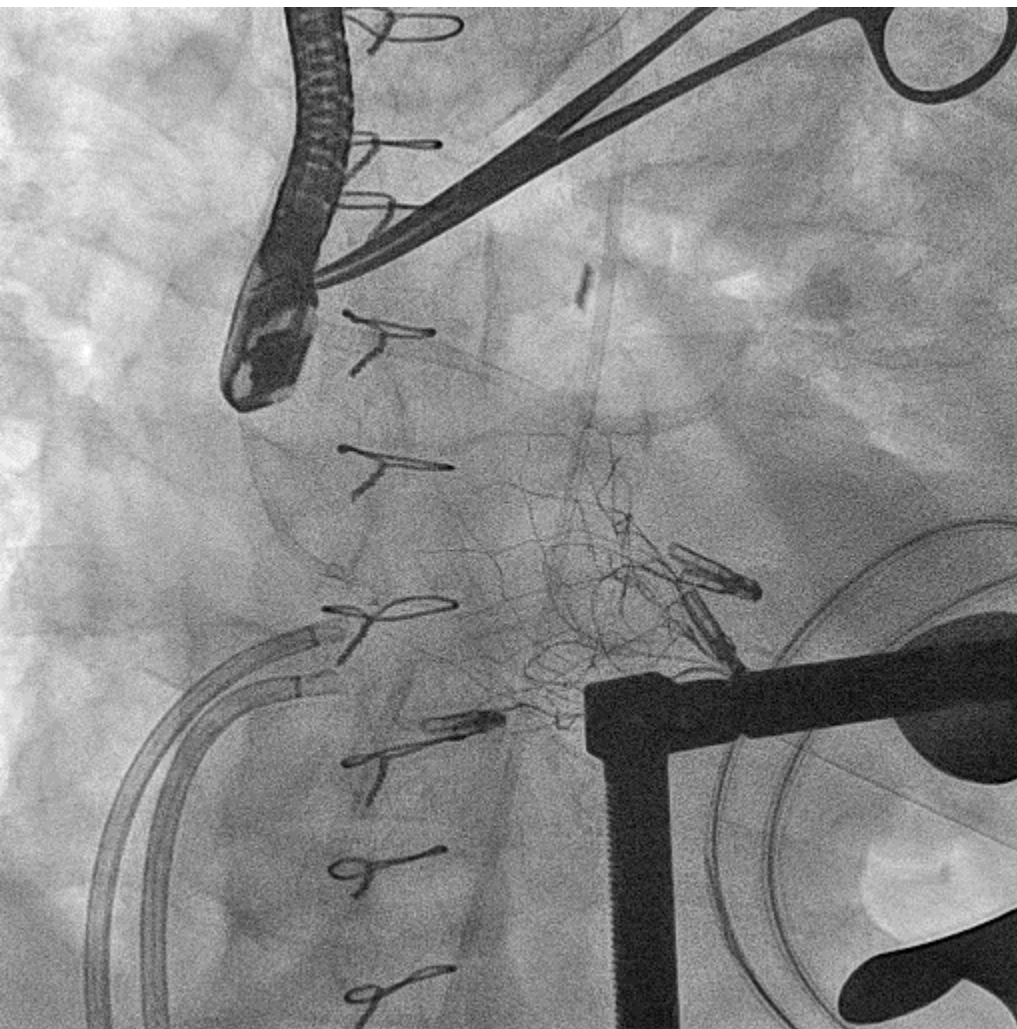
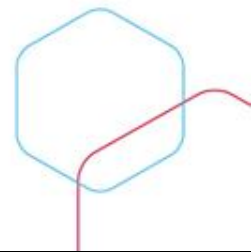




# Tendyne

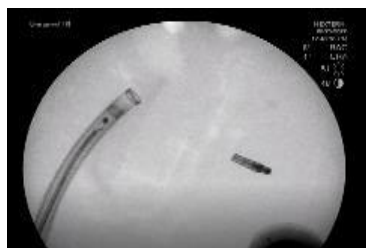
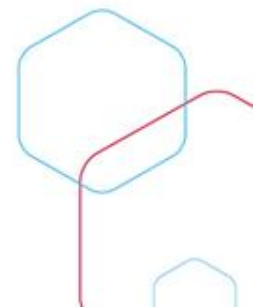


# Tendyne

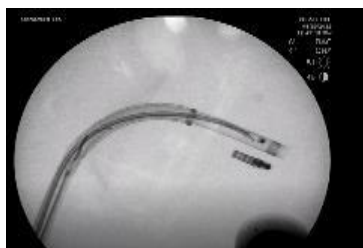




# Procedural Sequence



1) Navigate to LA



2) Cross valve



3) Deploy inner shafts



4) Attempt to snare clip



5) If unable to snare, cut chordae in contact with clip



6) Verify chordae were cut



7) Snare clip



8) Cut clip free from leaflets



9) Deploy Basket

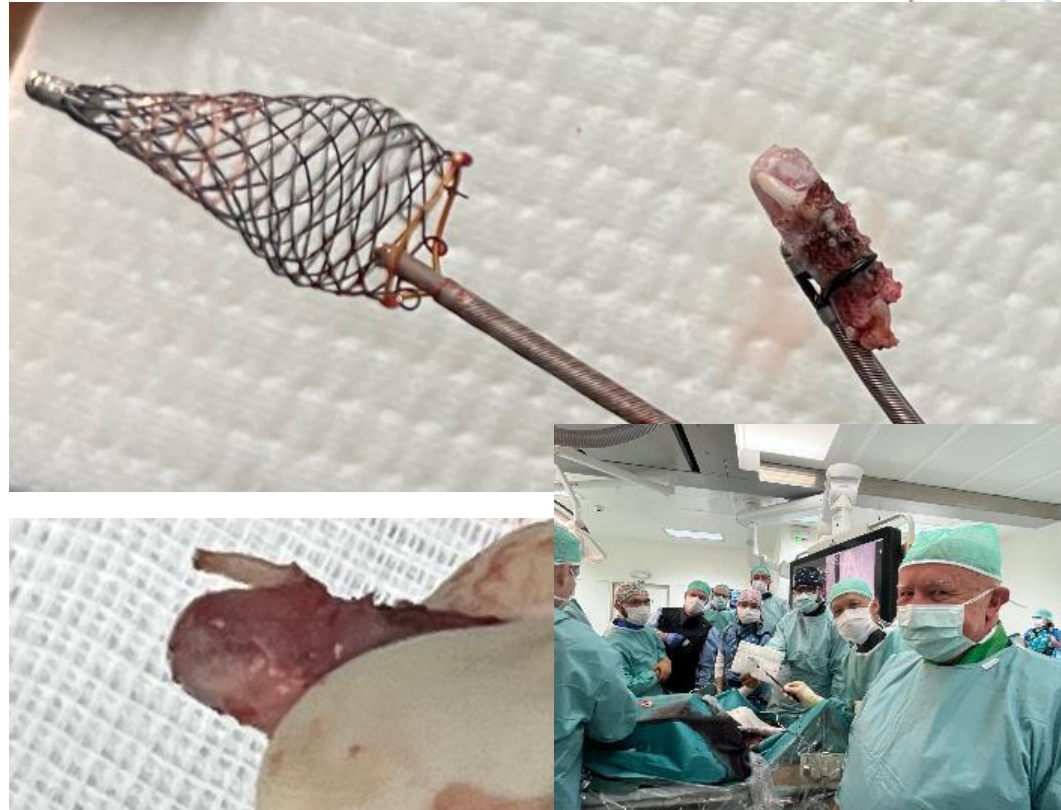


10) Capture clip and remove

## Case #2 Executive Summary - TRIN-P001 – 13 Mar 2024

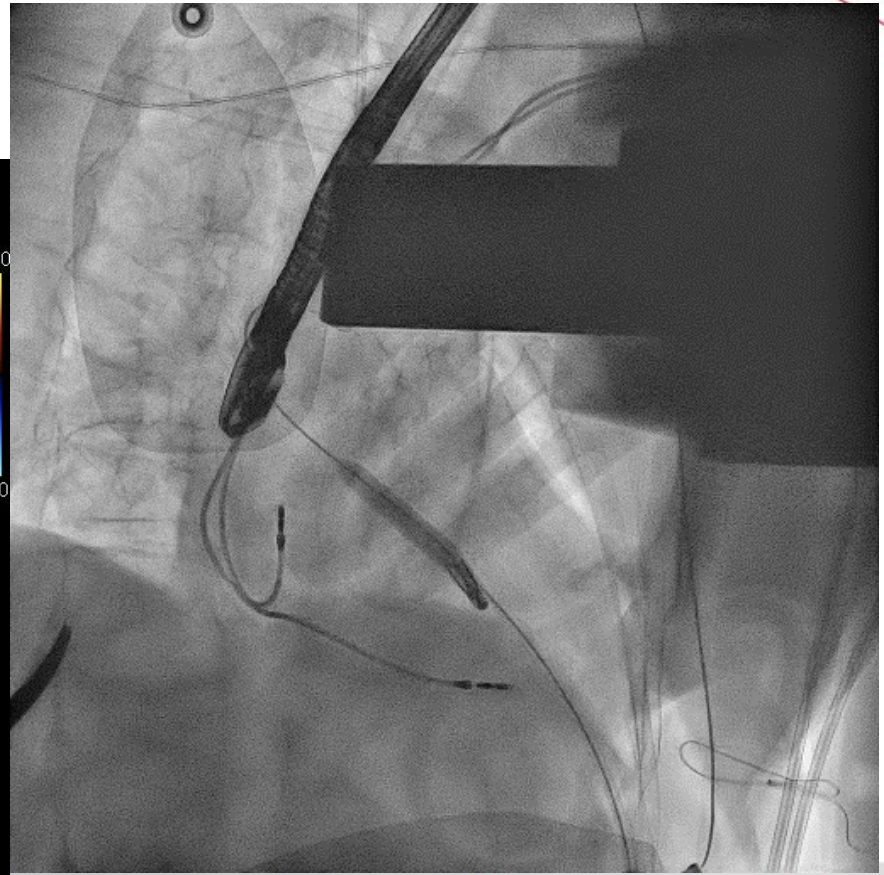
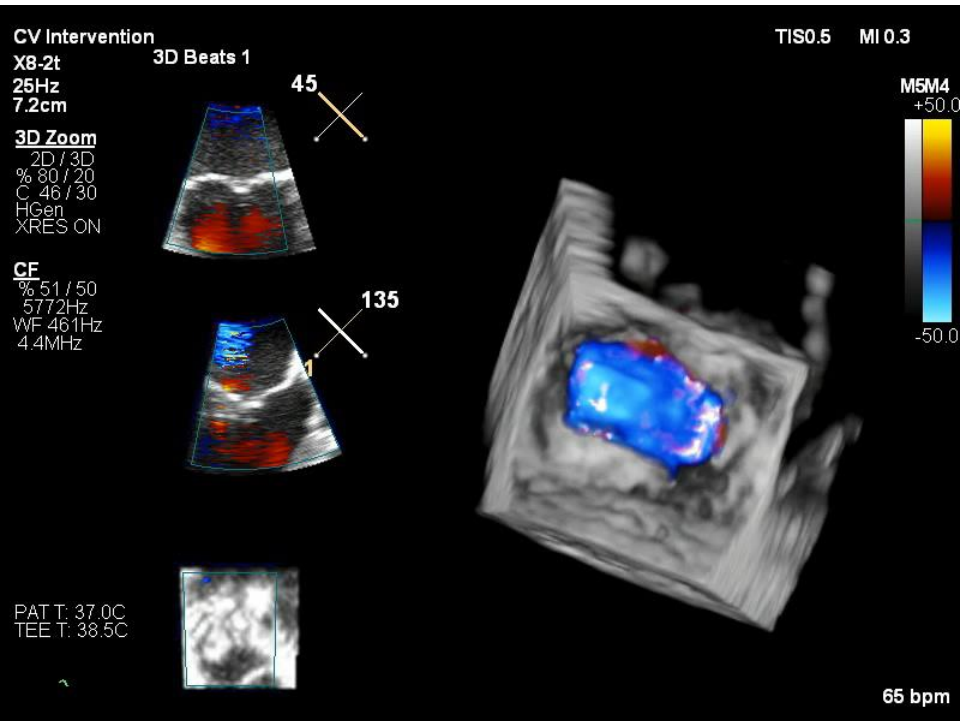
Patient/Implant Details	
Patient Age	63yo
Gender	Male
Clip Model	MitraClip XTW
Clip Implant Date	May-2023
Arm opening width	8.9mm
Clip Tilt	Posterior & Medial
Primary Operator	Dr. Jaroslav Januska
MD Proctor	Dr. Paul Sorajja

Procedural Results	
Chordal Obstruction Present	Yes
Clip Successfully Removed	Yes
Hemodynamic Support Required	No
AMX Procedure Time (skin-to-basket)	27min
Follow on Valve Therapy	Tendyne



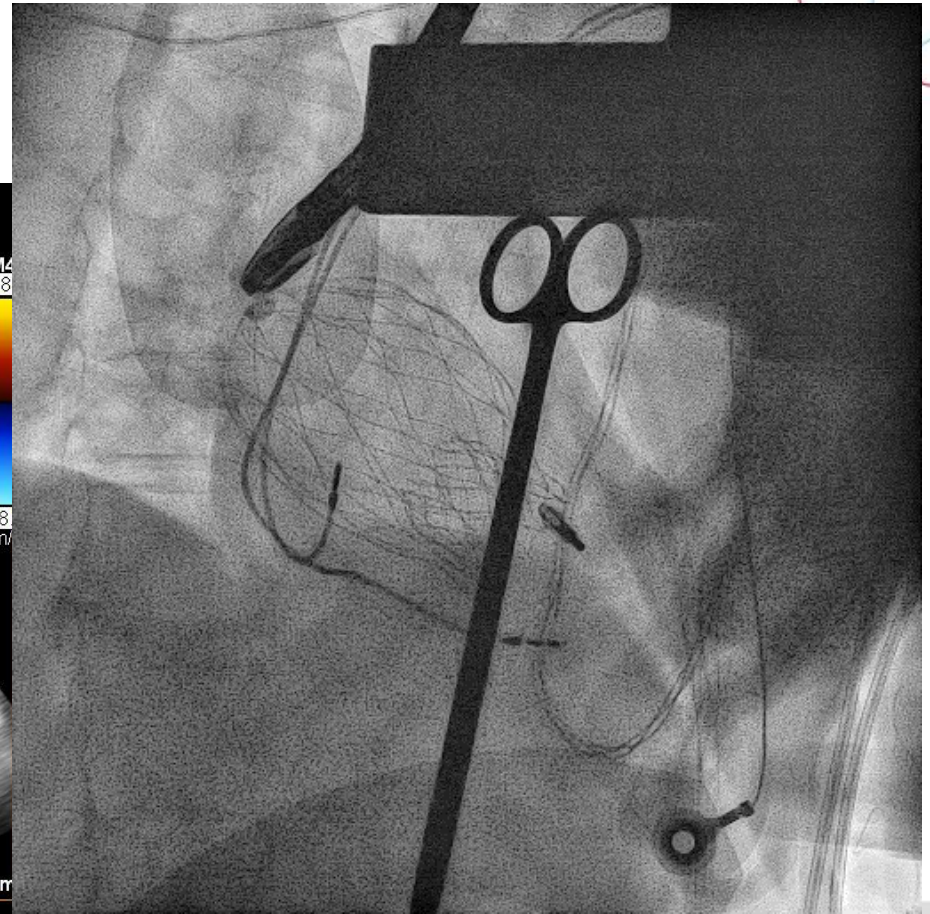
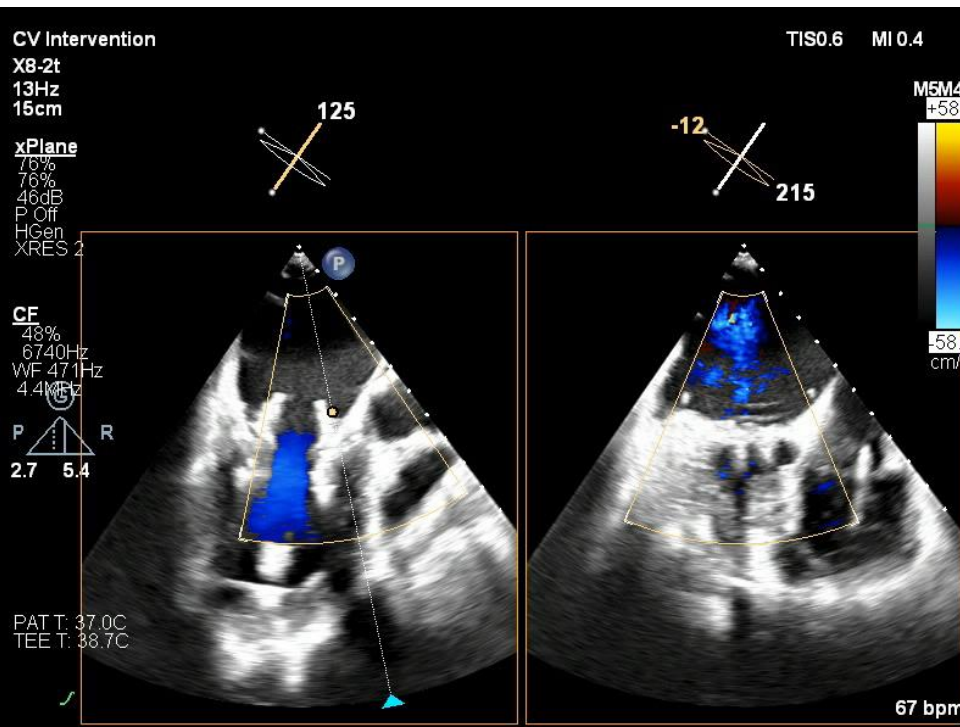
- Minimal excess tissue removed with the TEER clip -

# Alta Valve

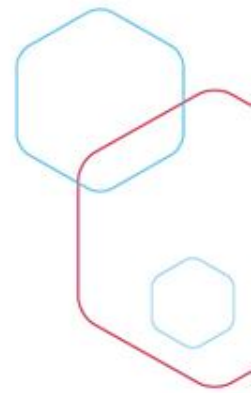




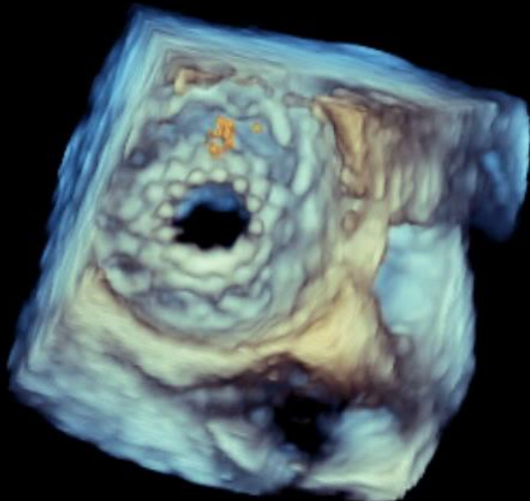
# Alta Valve



# Alta Valve



CV Intervention  
X8-2t 3D Beats 1  
21Hz  
9.1cm  
Full Volume  
2D / 3D  
% 65 / 15  
C 46 / 30  
HGen  
XRES ON



PAT T: 37.0C  
TEE T: 38.6C

74 bpm

TIS0.2 MI 0.3

CV Intervention  
X8-2t 3D Beats 1  
9Hz  
10cm

3D Zoom  
2D / 3D  
% 77 / 20  
C 46 / 30  
HGen  
XRES ON

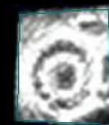


125

CF  
% 51 / 50  
6850Hz  
WF 548Hz  
4.4MHz

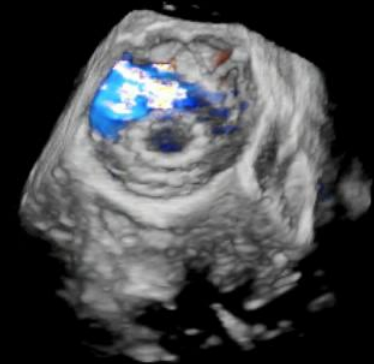


5  
215



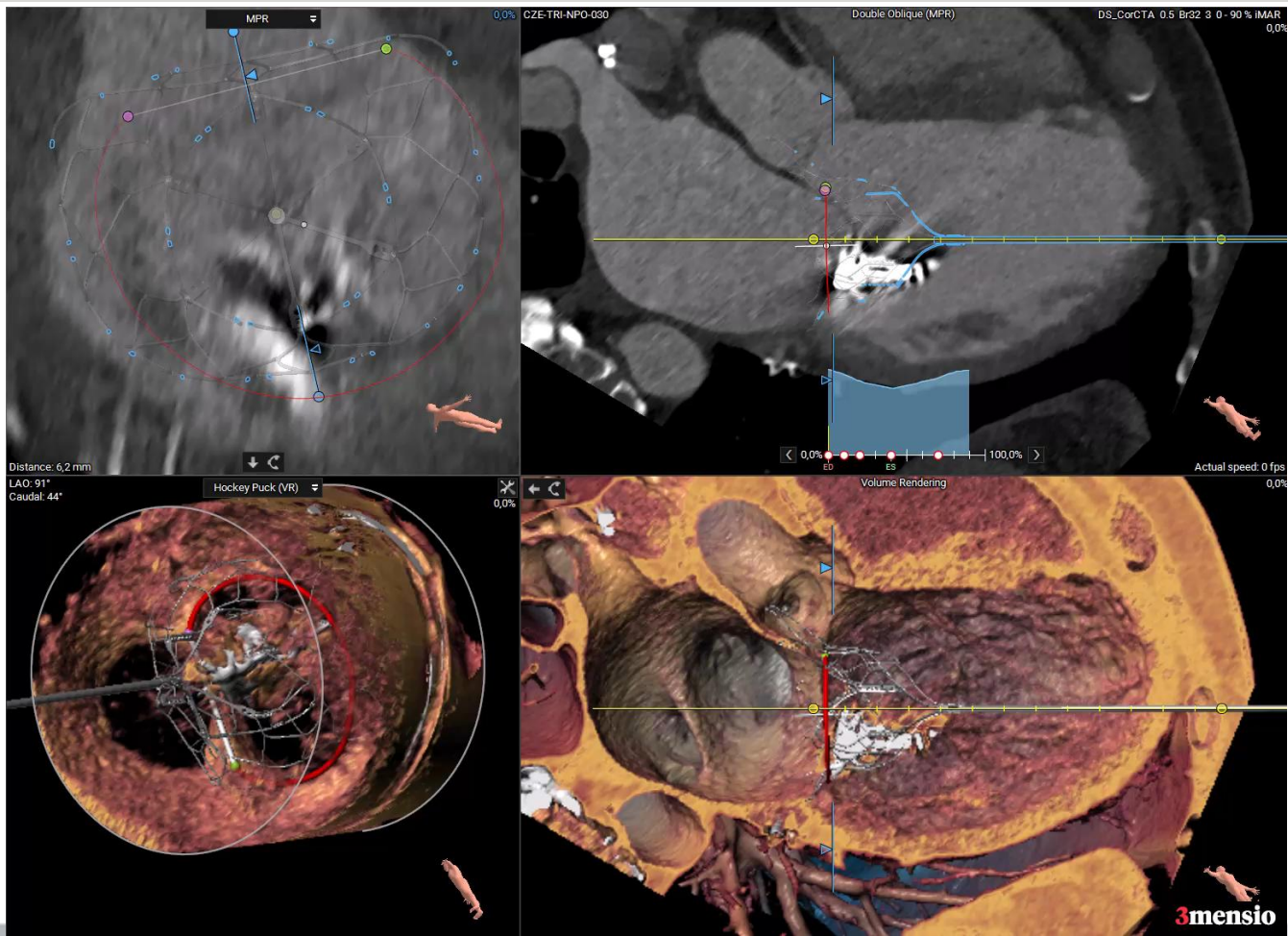
PAT T: 37.0C  
TEE T: 38.5C

TIS0.5 MI 0.2



67 bpm

# Tendyne

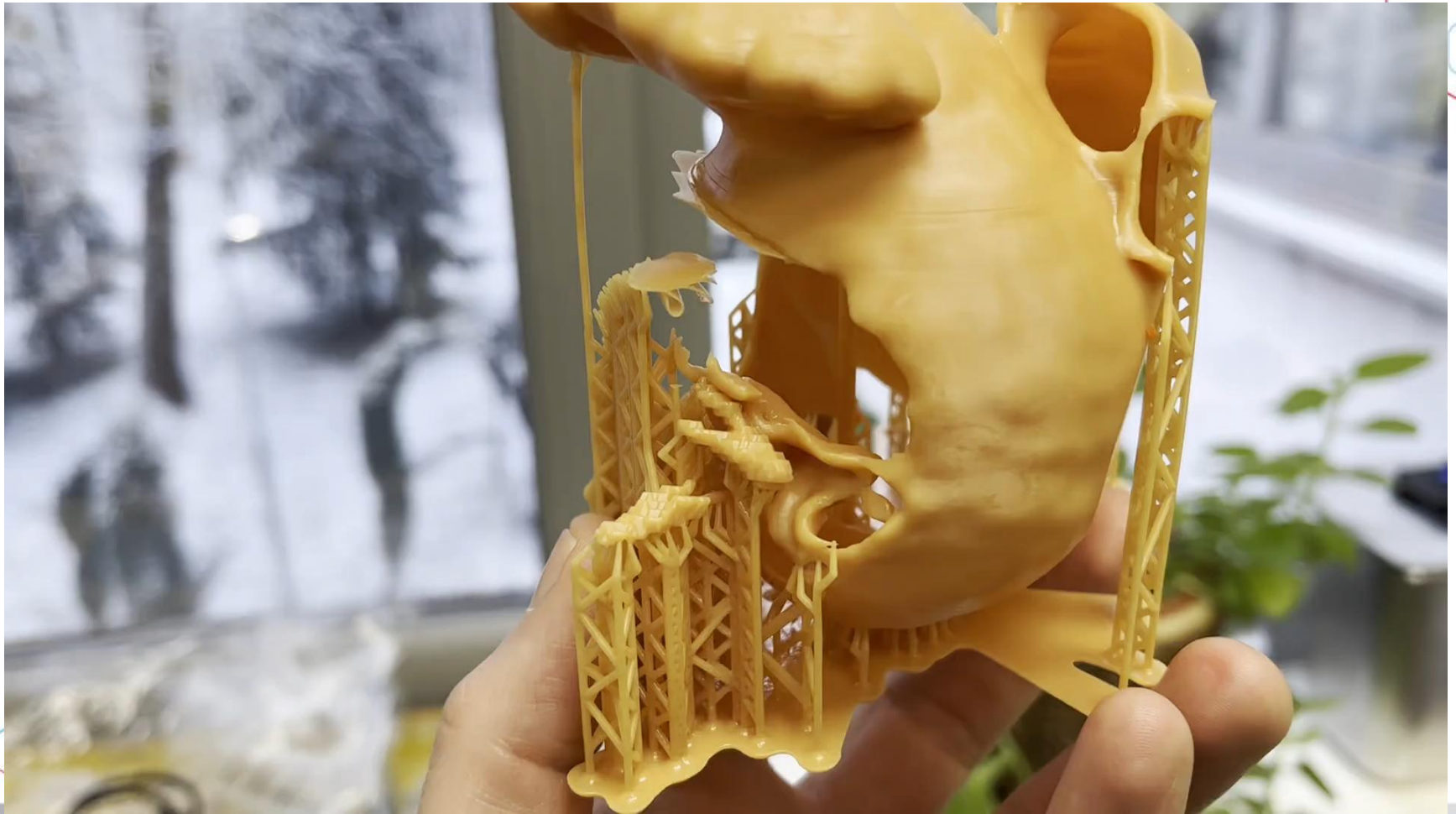


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# 3D print



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# VR konsultace





# AR planing

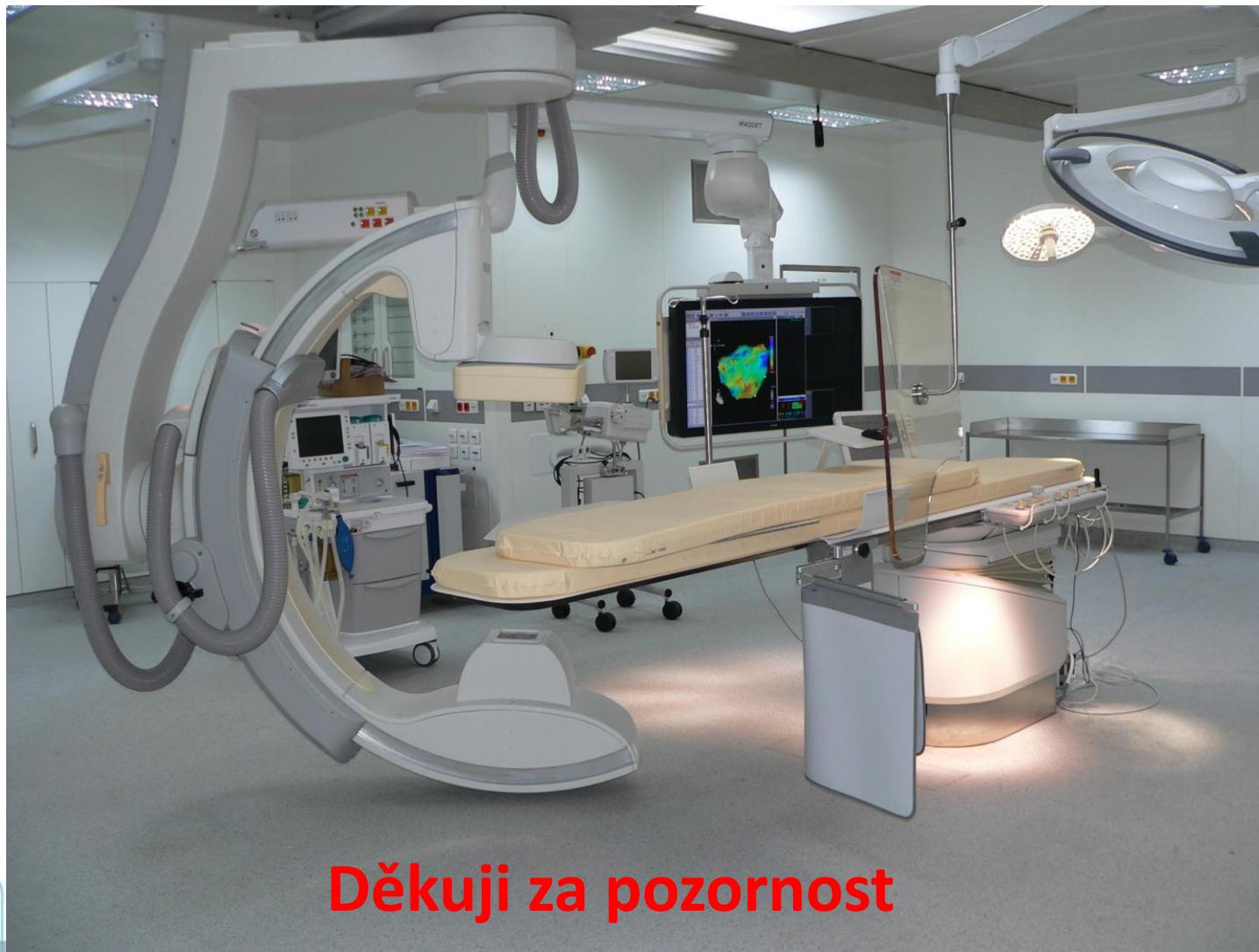


# Závěr

- Rozšířilo se portfolio možných katetrizačních výkonů na mitrální chlopni
- Dlouhodobé výsledky u TEER jsou povzbuzující
- Na dlouhodobé výsledky katetrizačně implantovaných chlopní čekáme
- Zakladem je dobrá kooperace mezi odesílajícími kardiology a centrem
- Zásadní je funkce heart týmu







**Děkuji za pozornost**