

# Insuficiența mitrală

```
graph LR; A((Insuficiența mitrală)) --- B((1)); A --- C((2)); A --- D((3)); B --- E[Analiza morfologică]; C --- F[Analiza funcțională]; D --- G[Analiza cauzalității];
```

1

Analiza morfologică

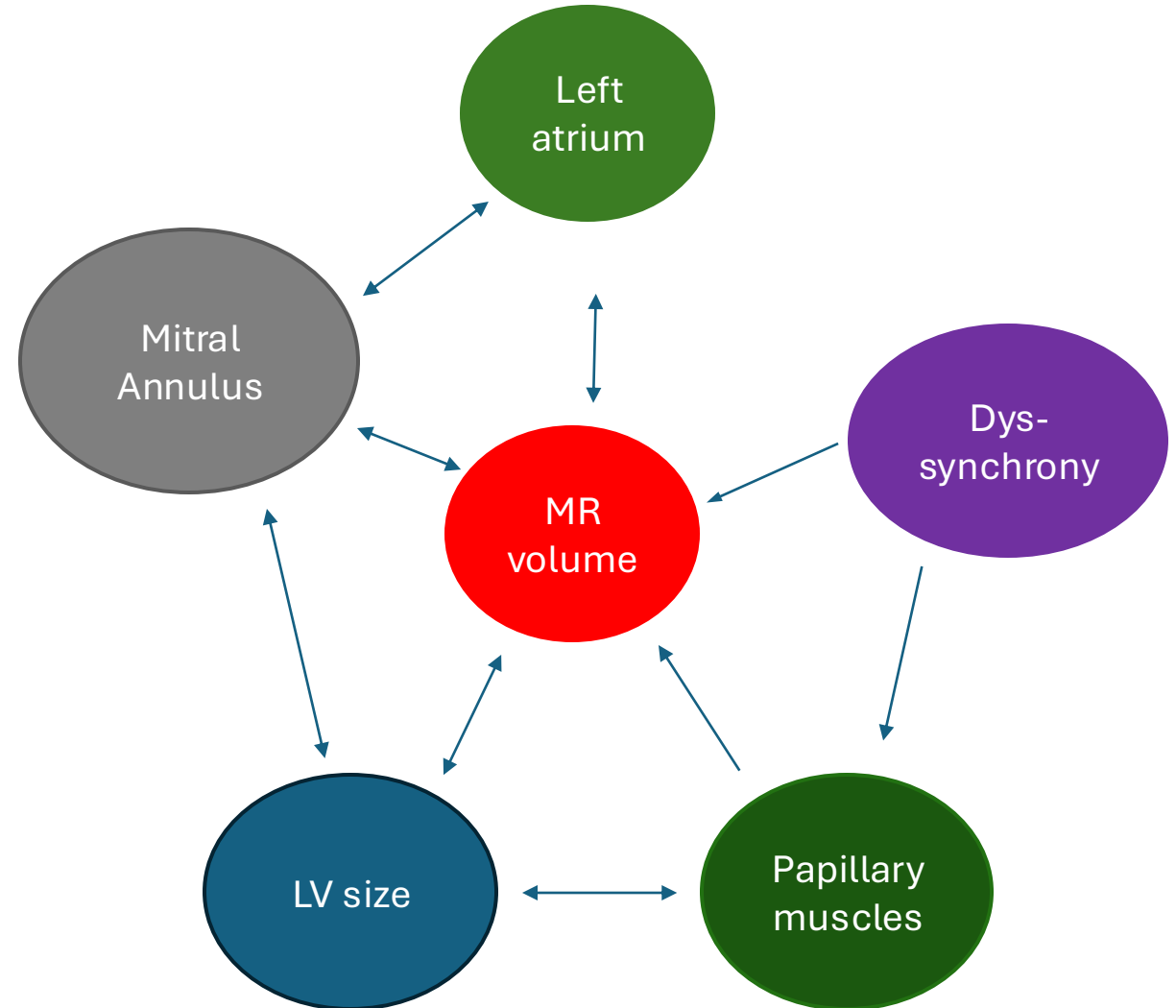
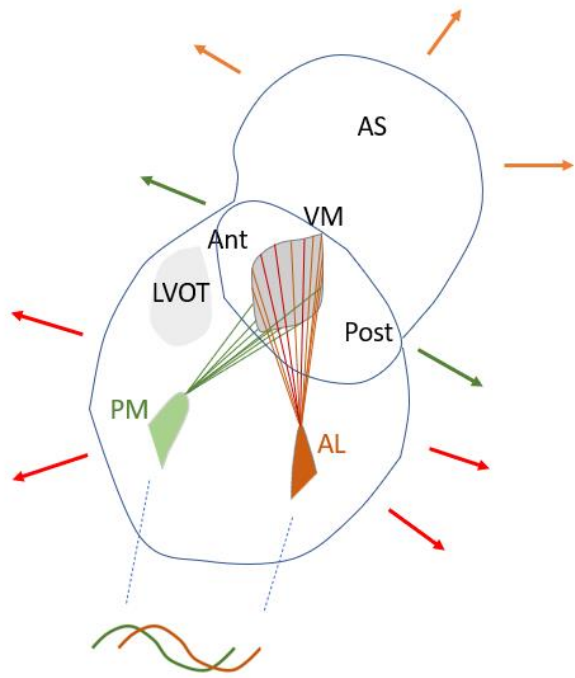
2

Analiza funcțională

3

Analiza cauzalității

# Gradul de severitate al insuficienței mitrale



Cand exista multiple interactiuni e dificil de identificat cauza

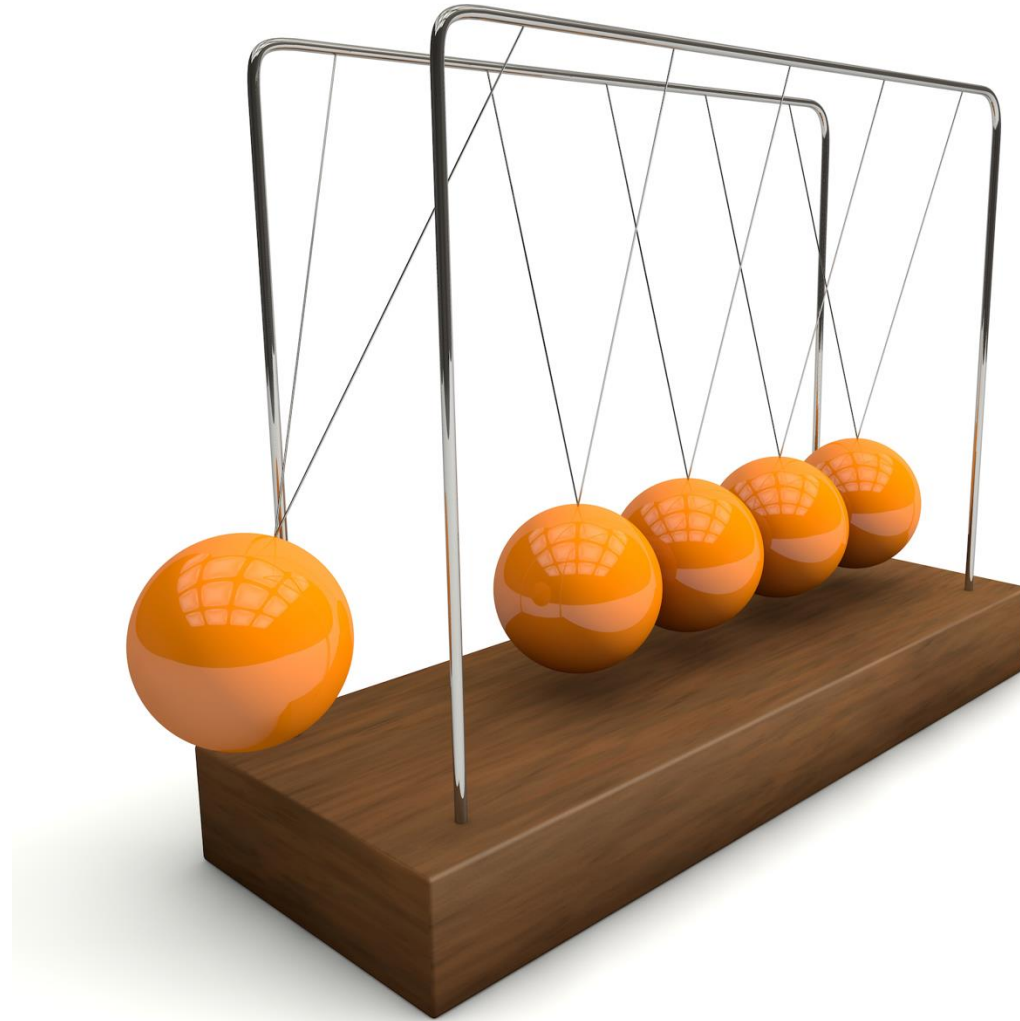
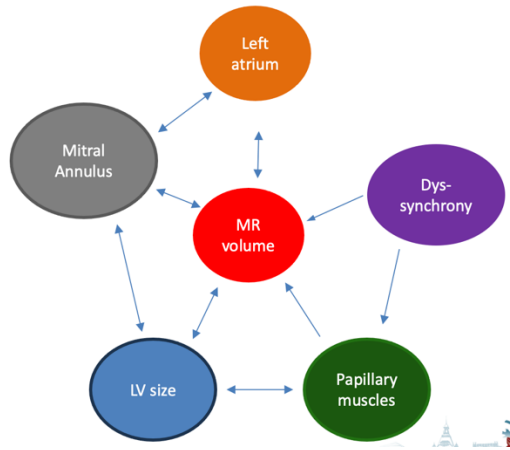


Image by Peggy und Marco Lachmann-Anke from Pixabay

## Cauza – analiza temporală



Image by Arek  
Socha from Pixabay

# MR variability



ESC

European Society  
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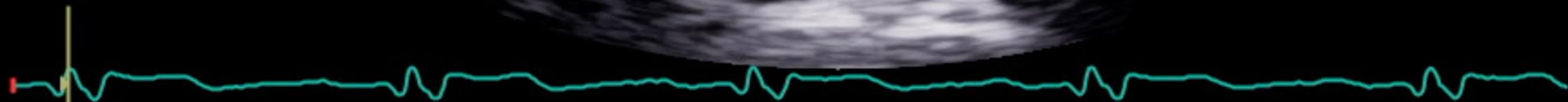
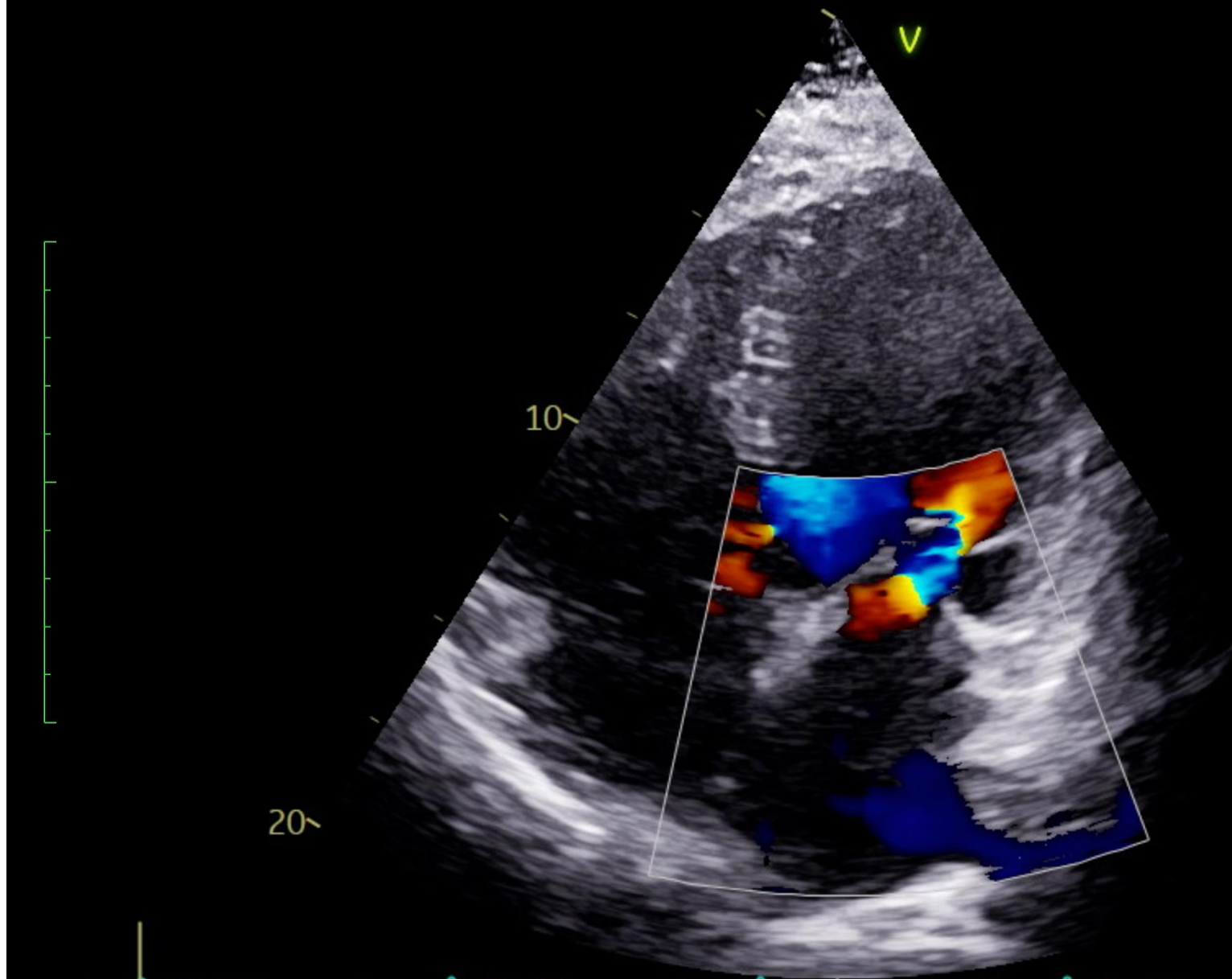
## Atrial fibrillation is associated with large beat-to-beat variability in mitral and tricuspid annulus dimensions

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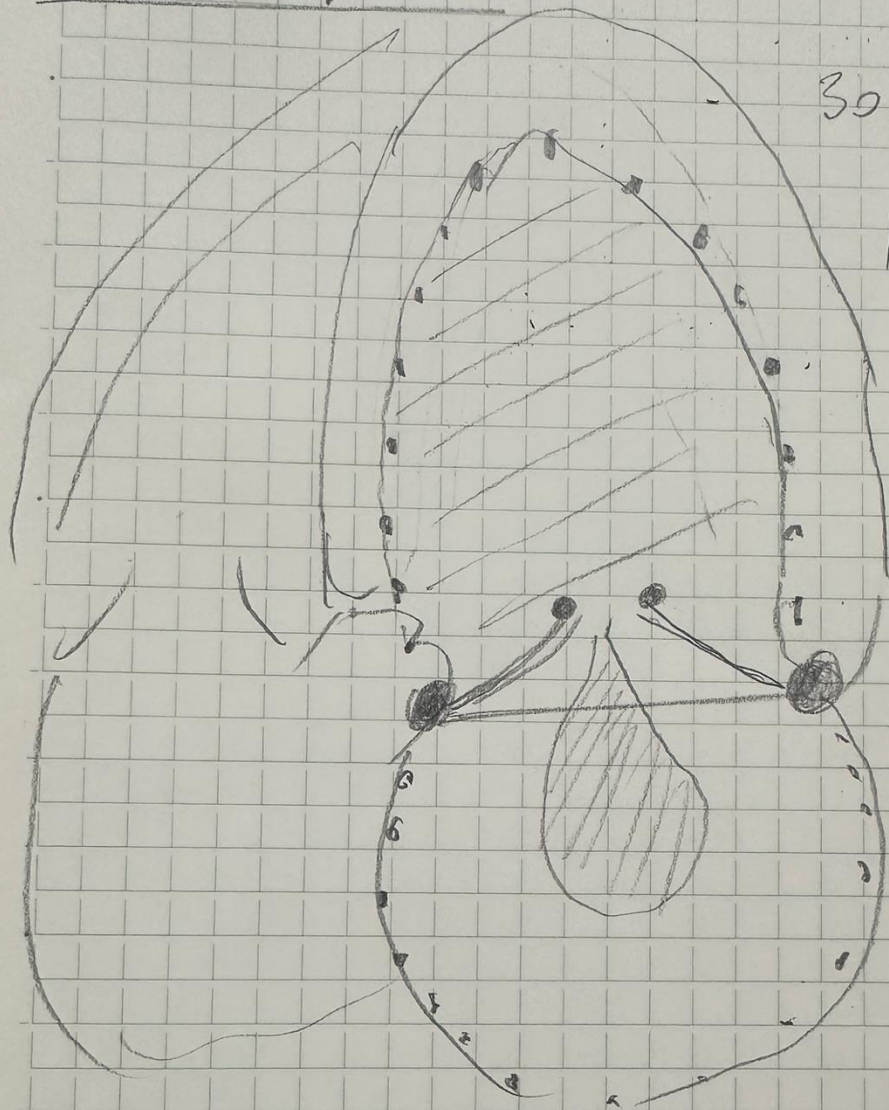
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Mitral annulus - dynamic variations throughout the cardiac cycle and in-between cardiac cycles.







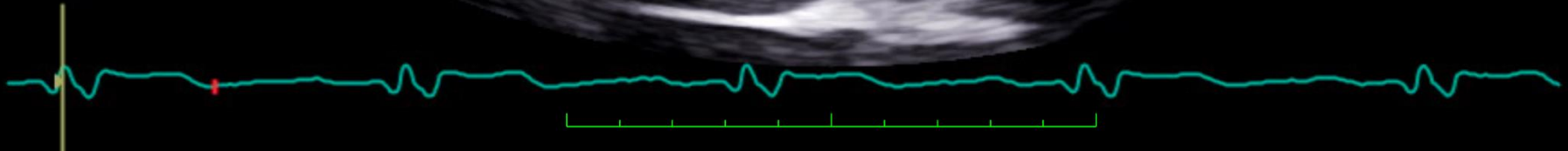
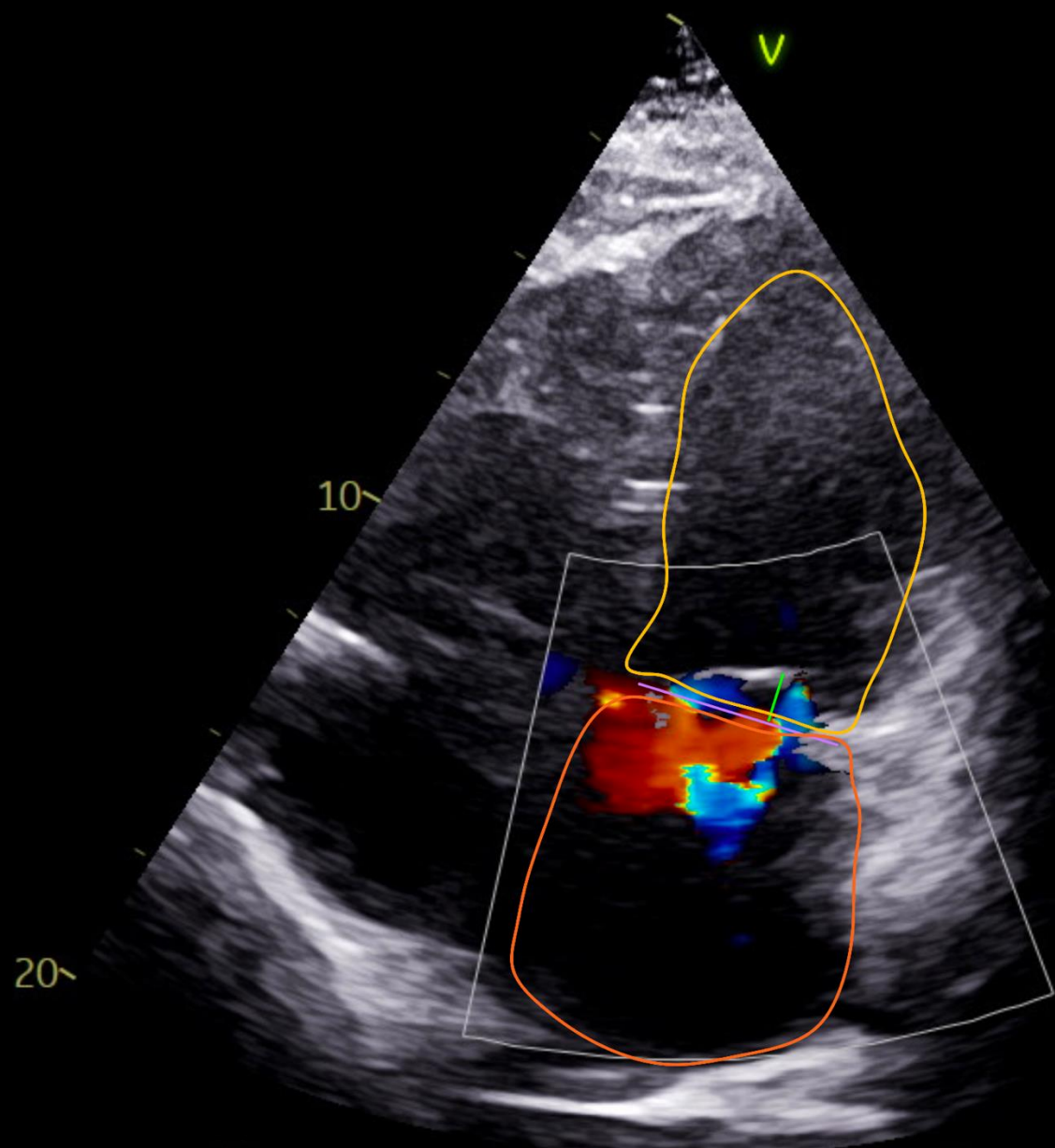
30 f/s  $\sim$  30 f/s

10 beats

$\sim 30$  frames / beat  
10 beats

$\Rightarrow \sim 300$  frames  
patient

HD

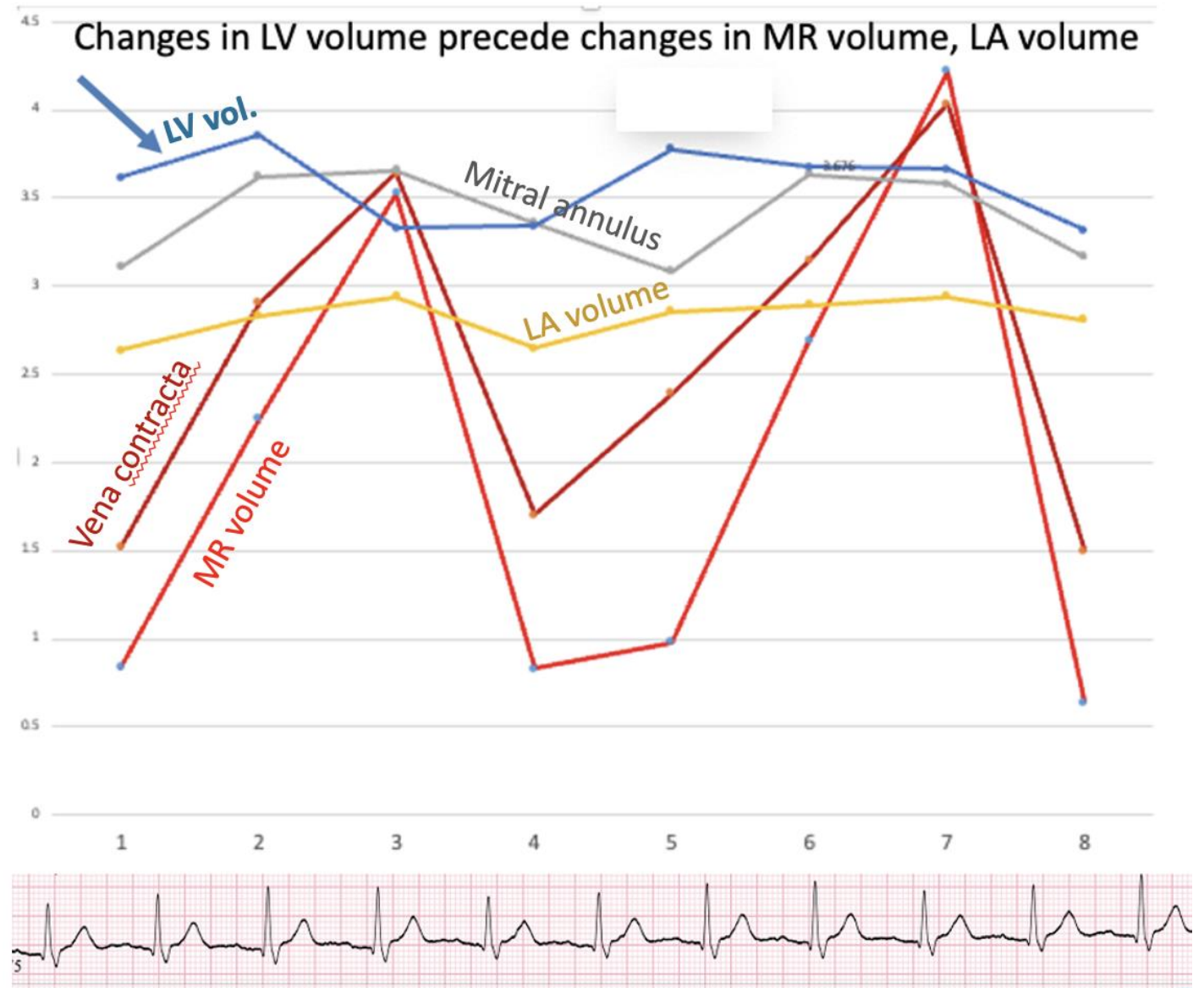
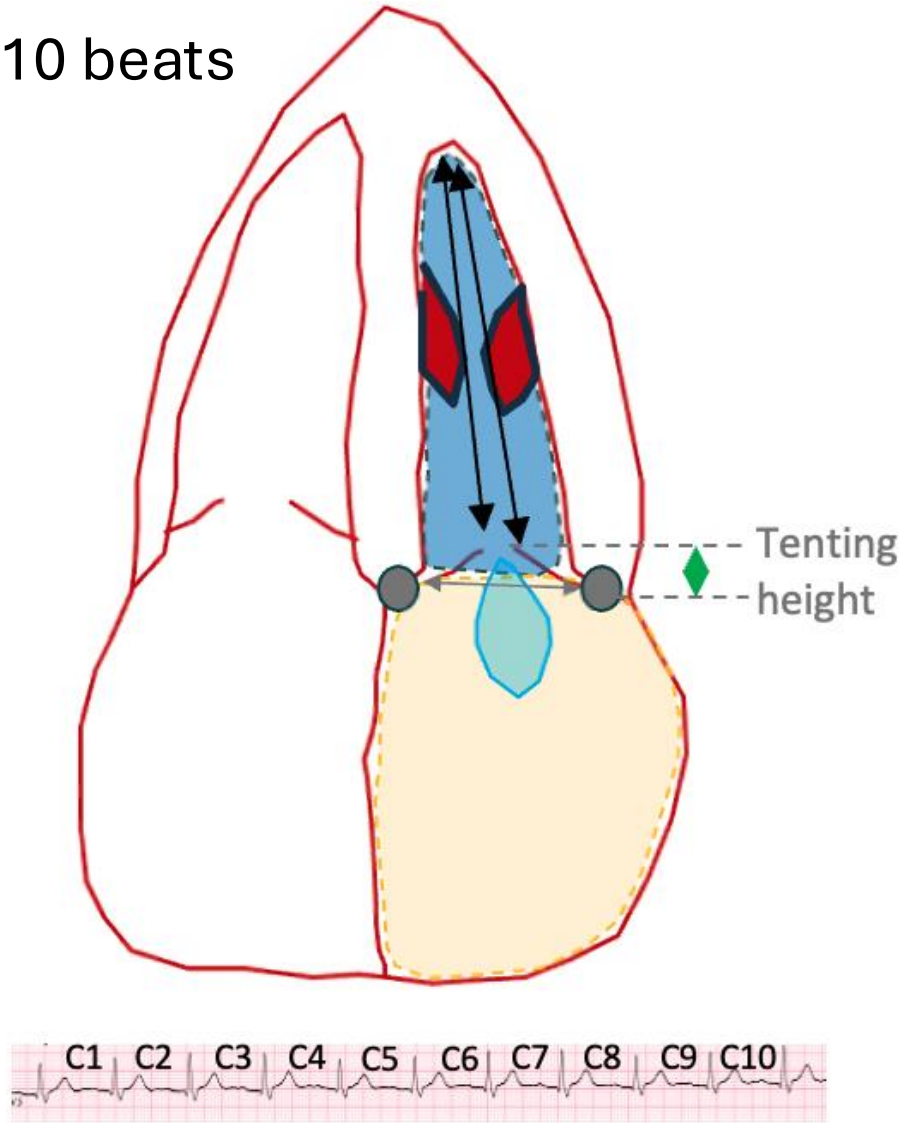




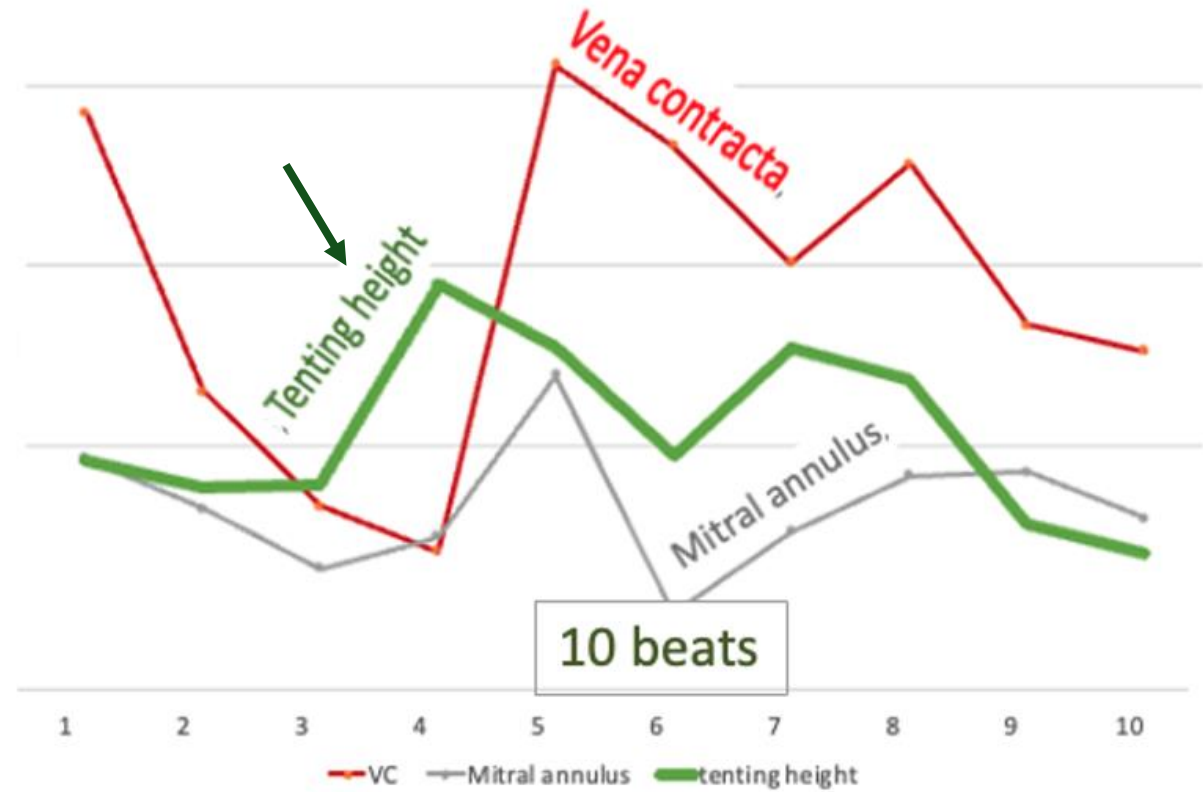
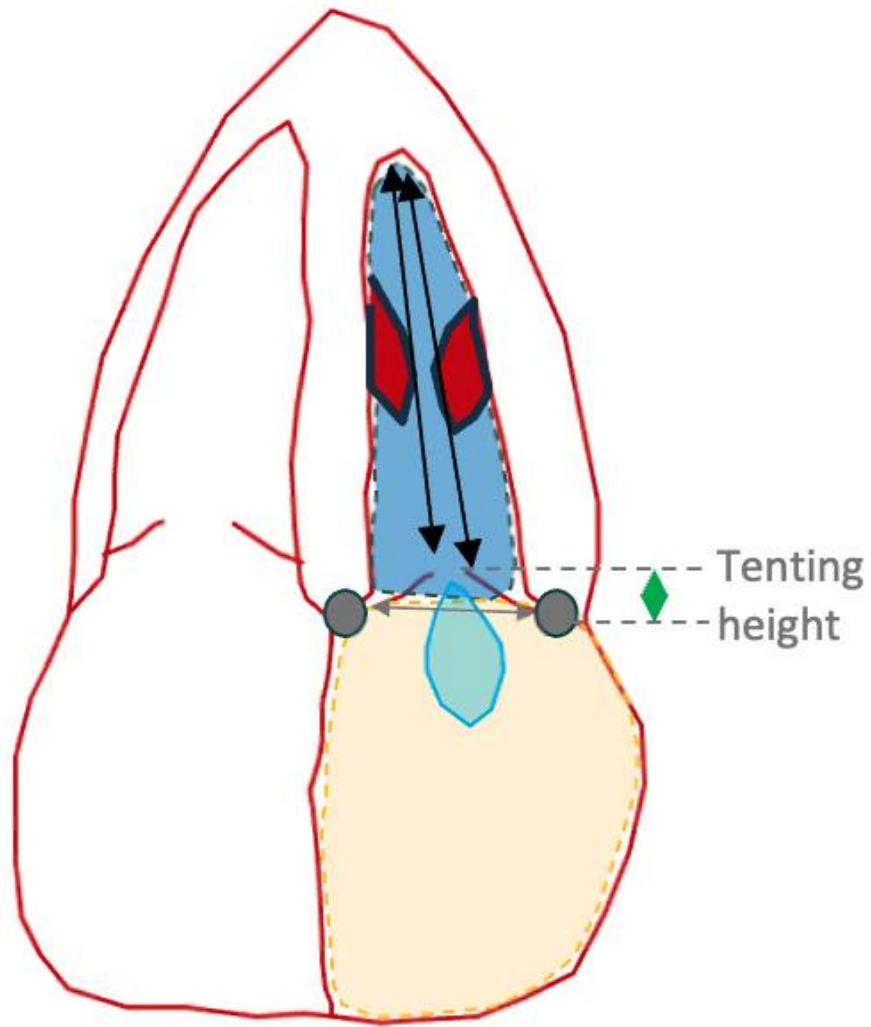
[illegible]

# MR variability

10 beats



Changes in MV tenting height precede changes in vena contracta, M annulus diameter



# Beat-to-beat variability – left heart

- 10 clip-uri
- 10 batai
- a4C

