

Die Herzklappen: Morphologie & Dynamik

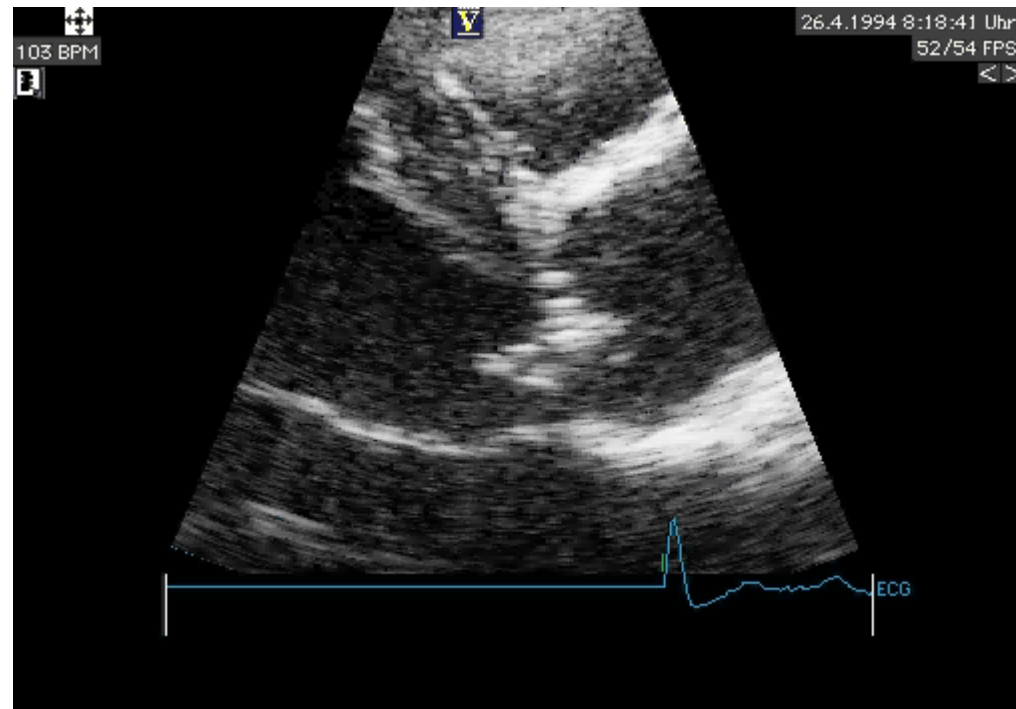
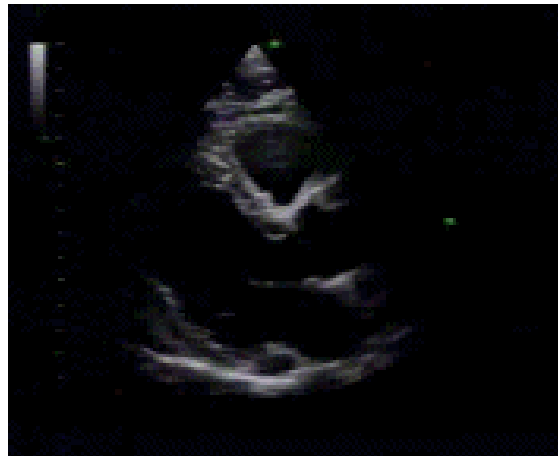
Torsten Schwalm

Die Herzklappen

Morphologie

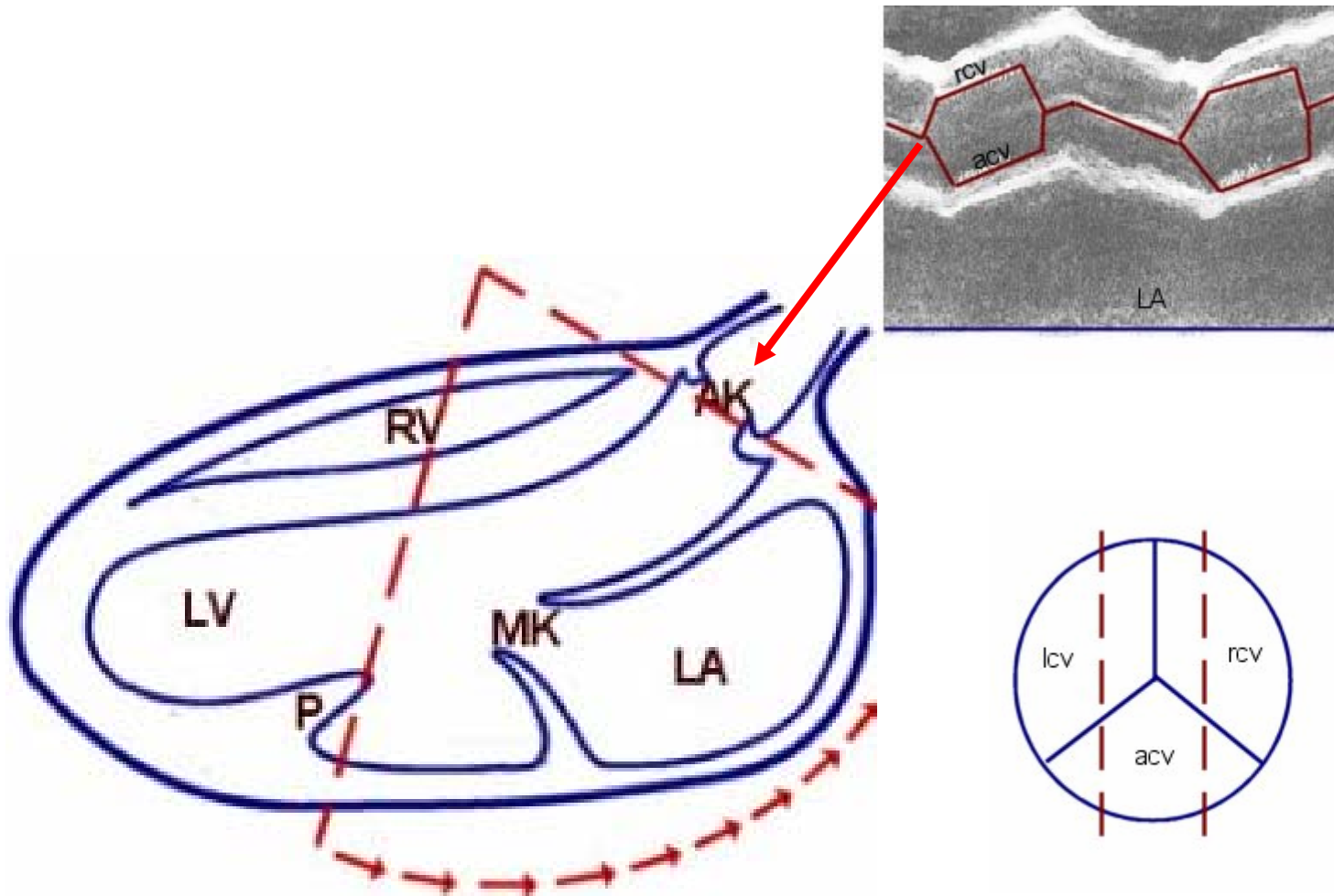
Die Herzklappen: Morphologie

Aortenklappe (psl)

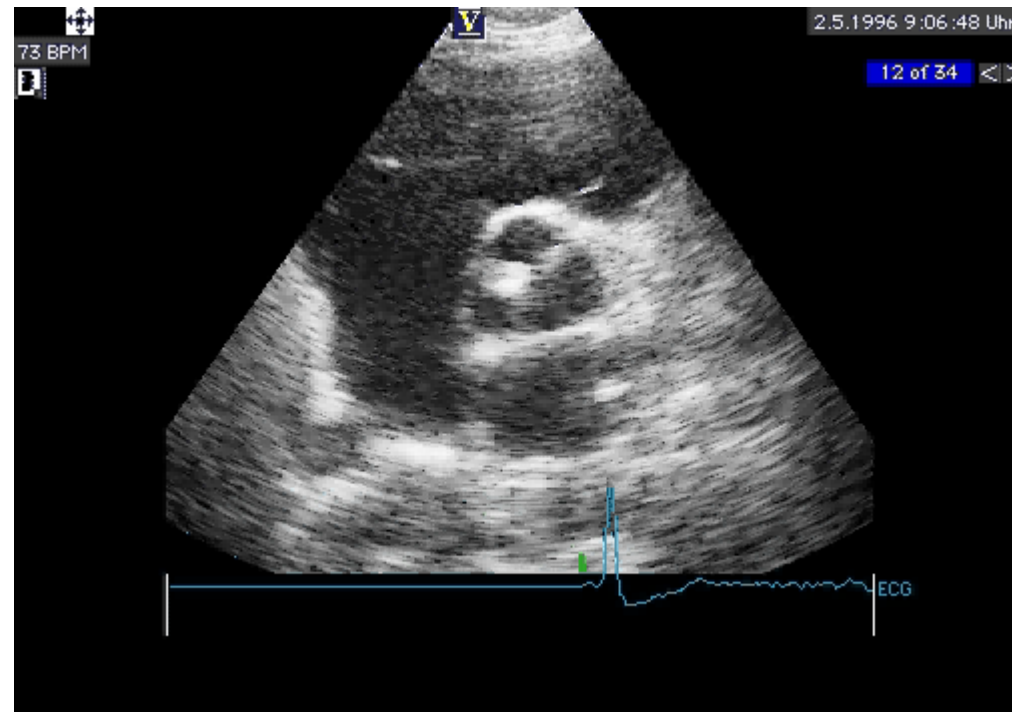
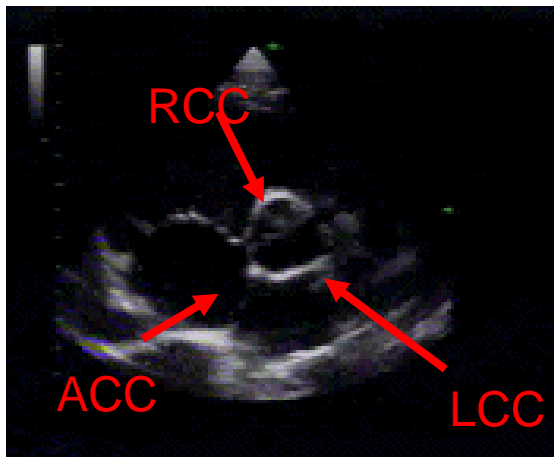
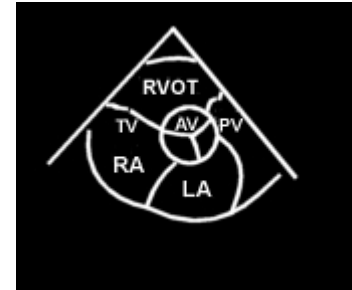


Die Herzklappen: Morphologie

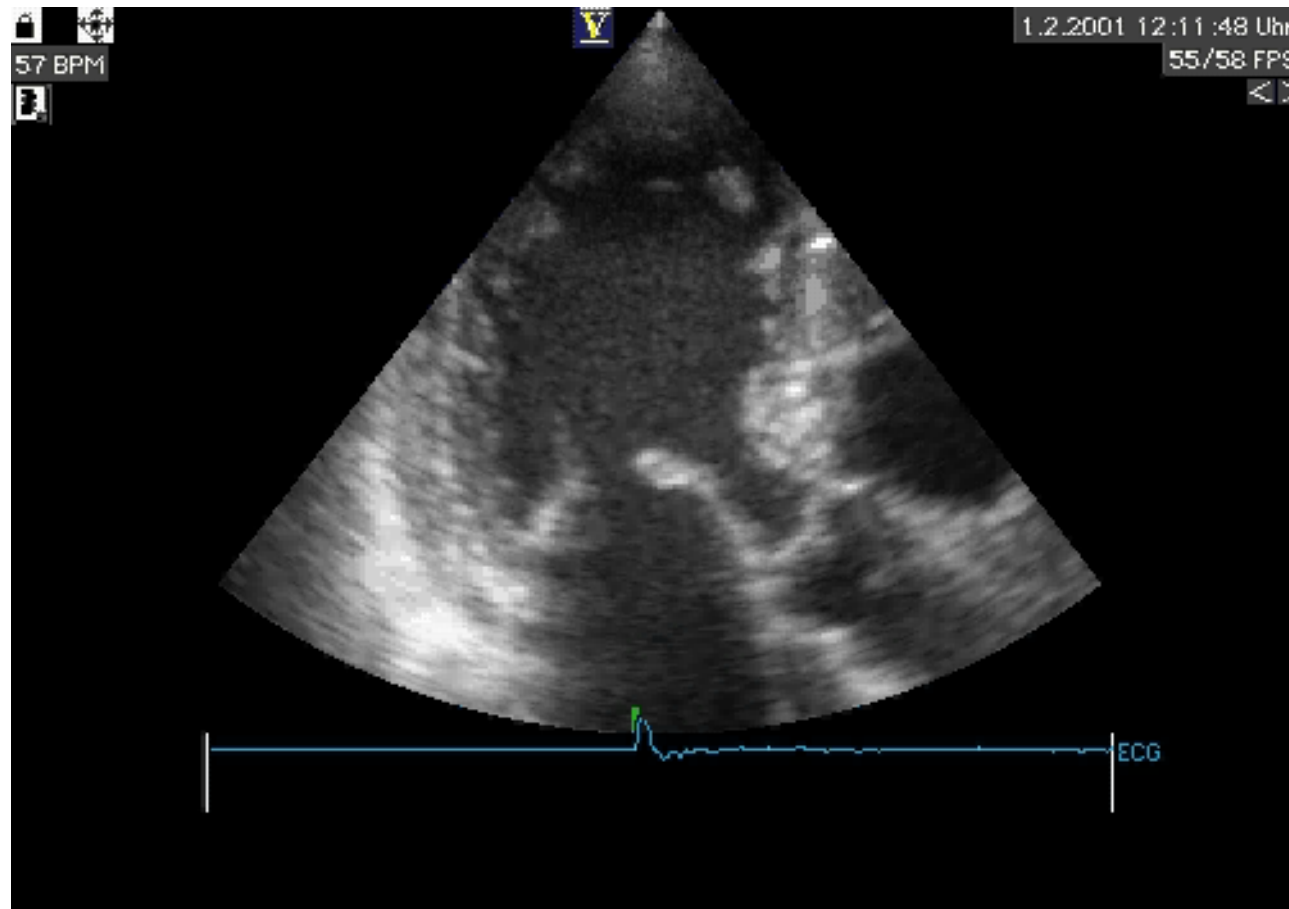
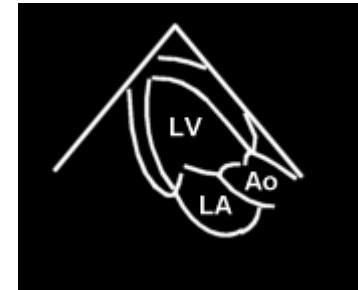
Aortenklappe (psl)



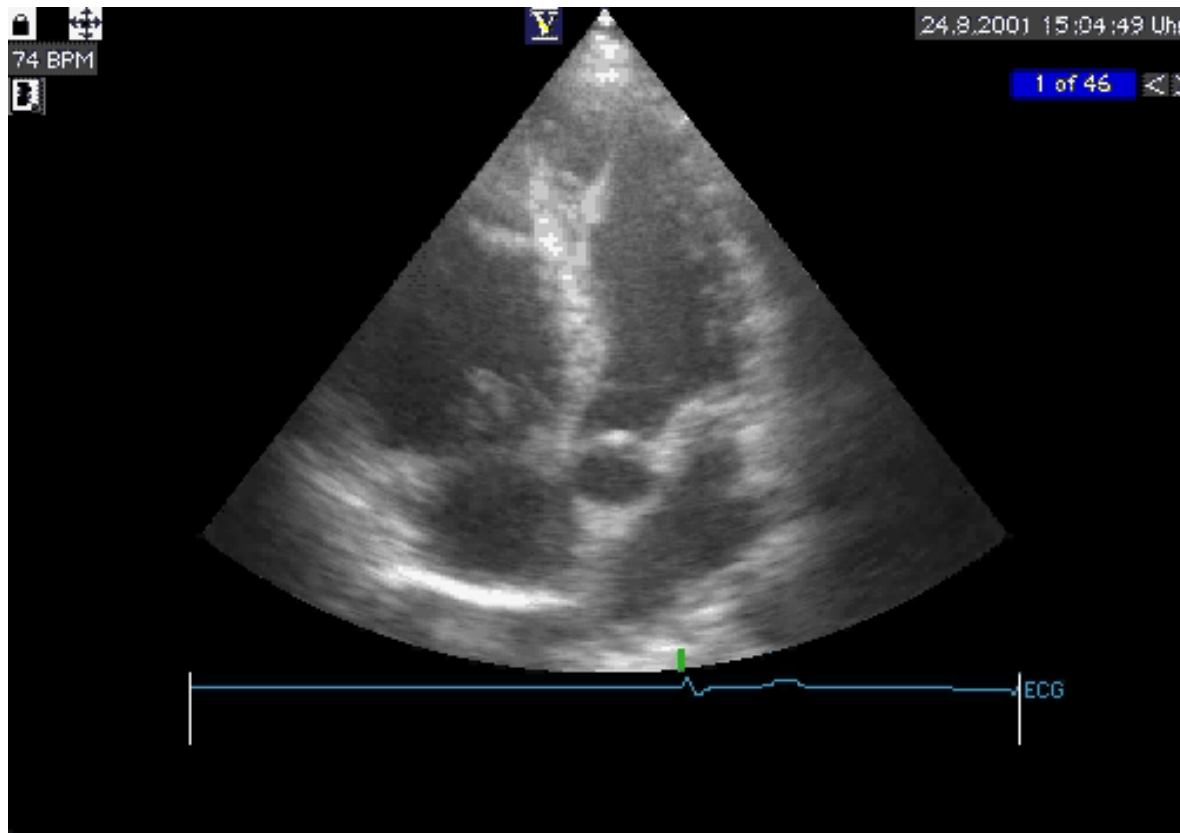
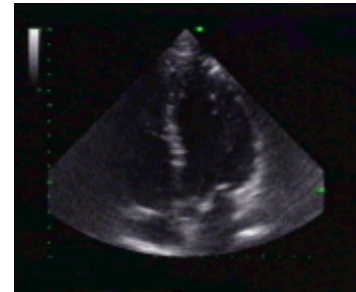
Die Herzklappen: Morphologie Aortenklappe (psax)



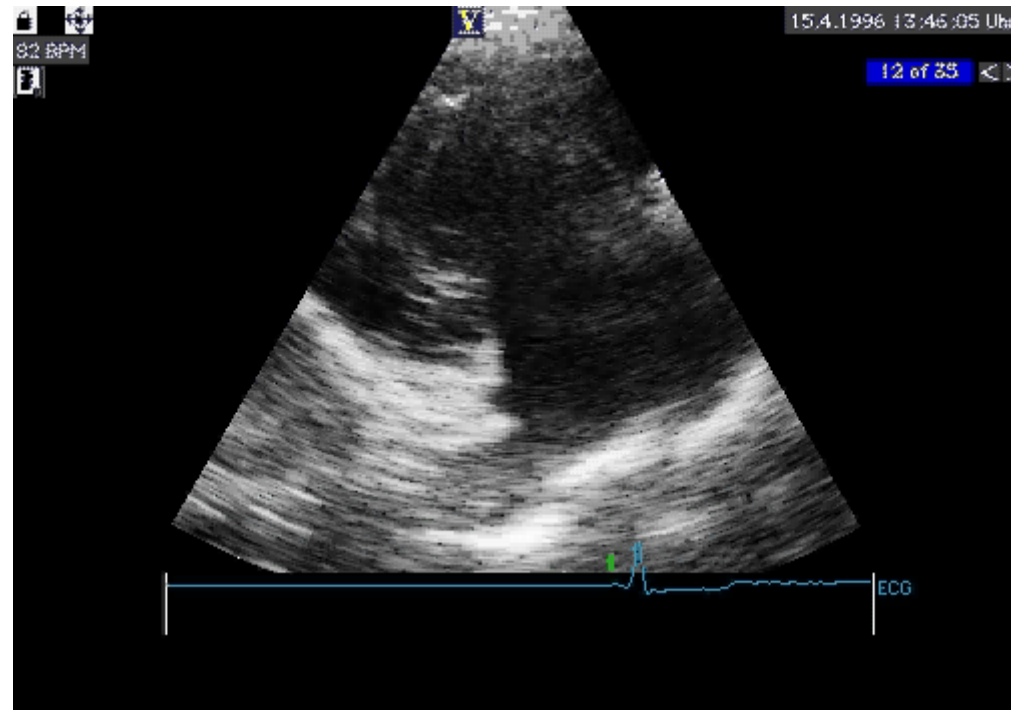
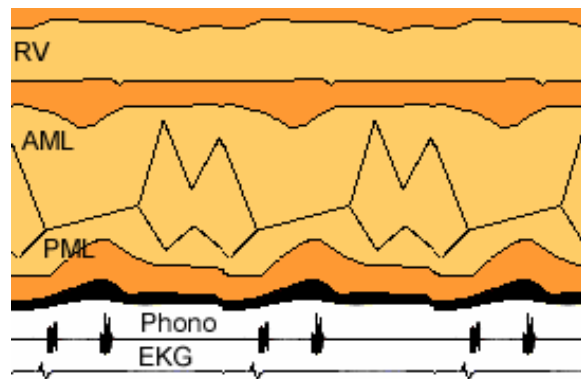
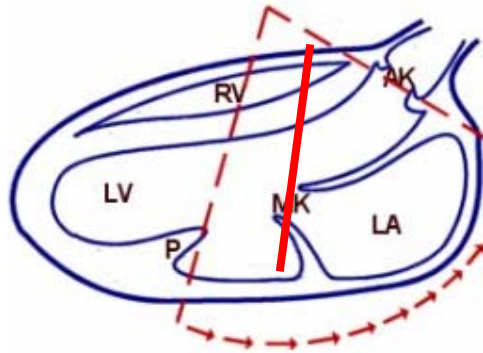
Die Herzklappen: Morphologie Aortenklappe (a3kb)



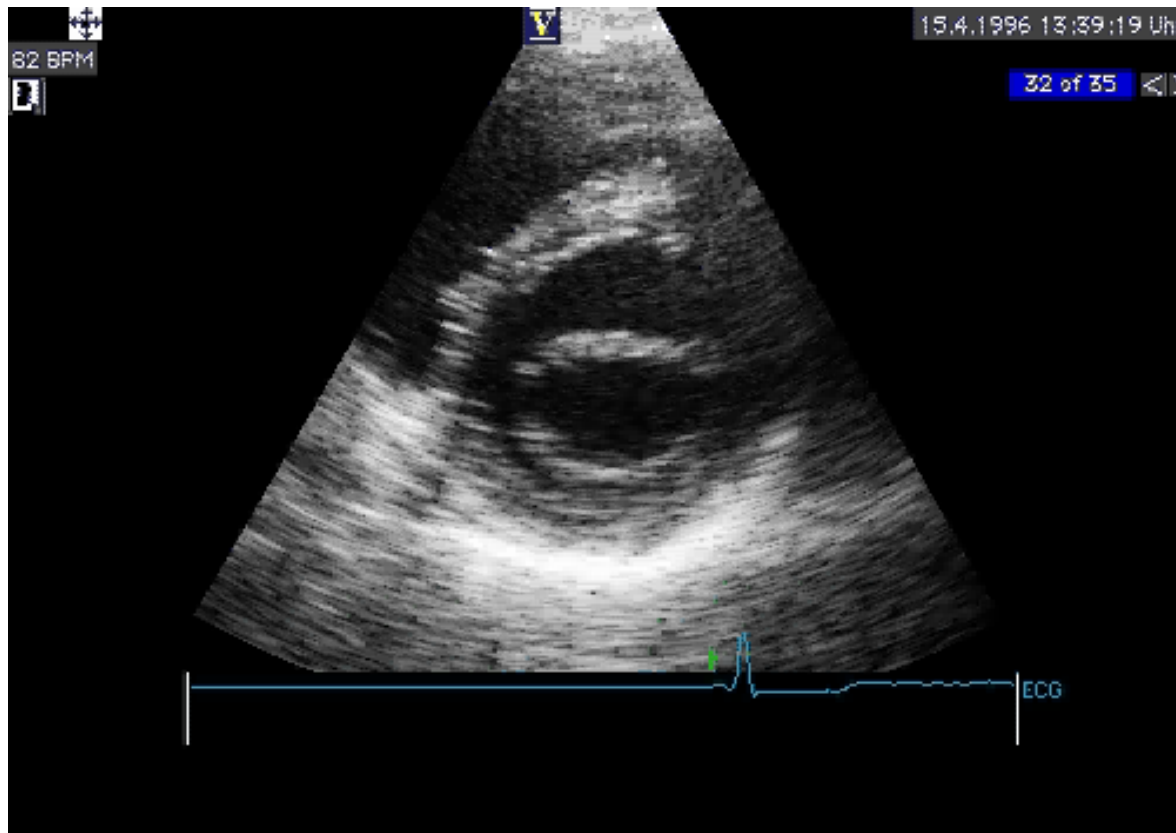
Die Herzklappen: Morphologie Aortenklappe (a5kb)



Die Herzklappen: Morphologie Mitralklappe (psl)

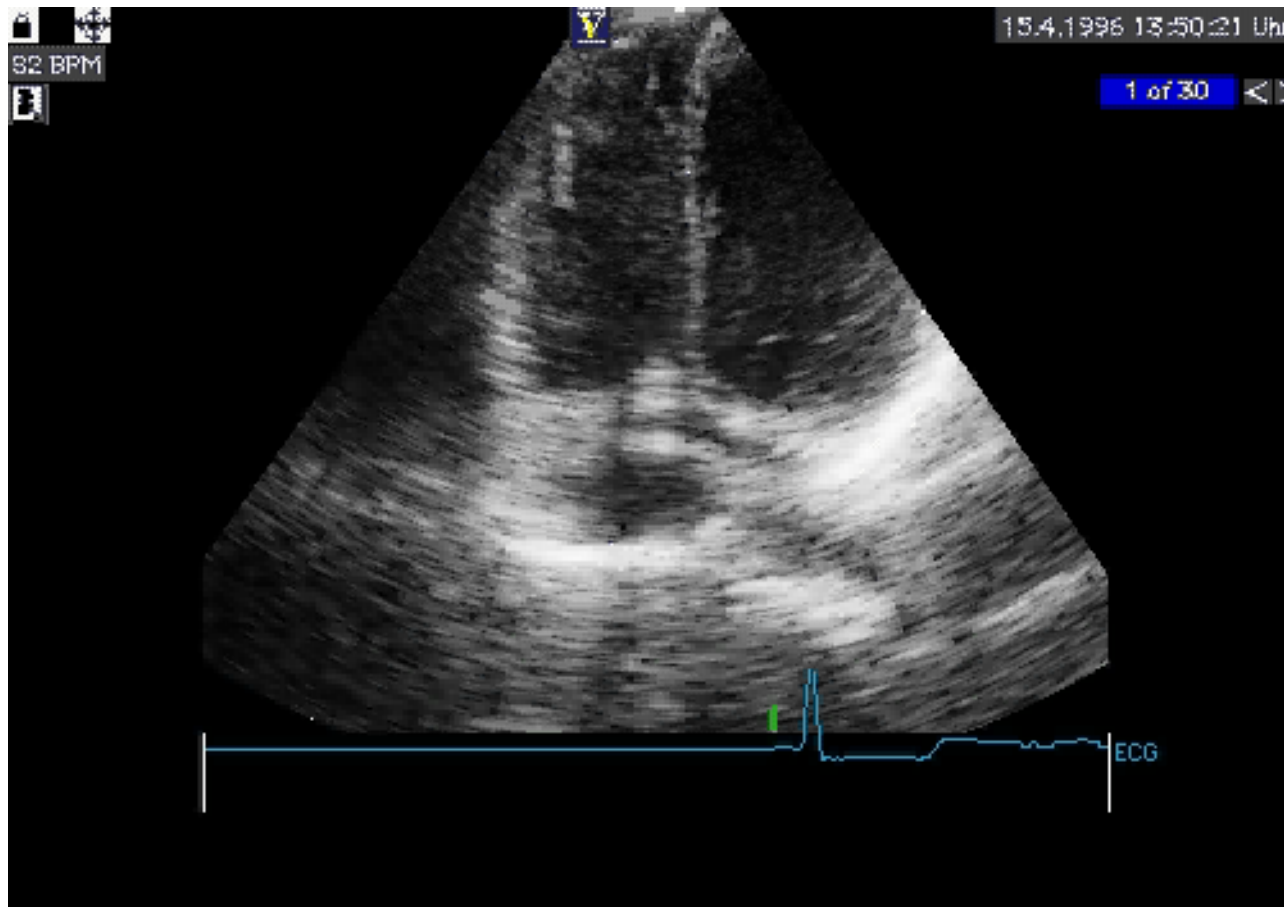
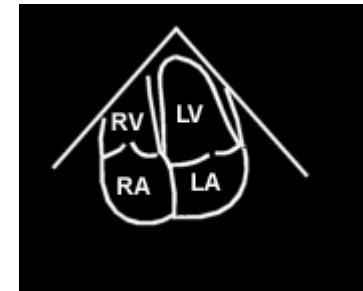


Die Herzklappen: Morphologie Mitralklappe (psx)

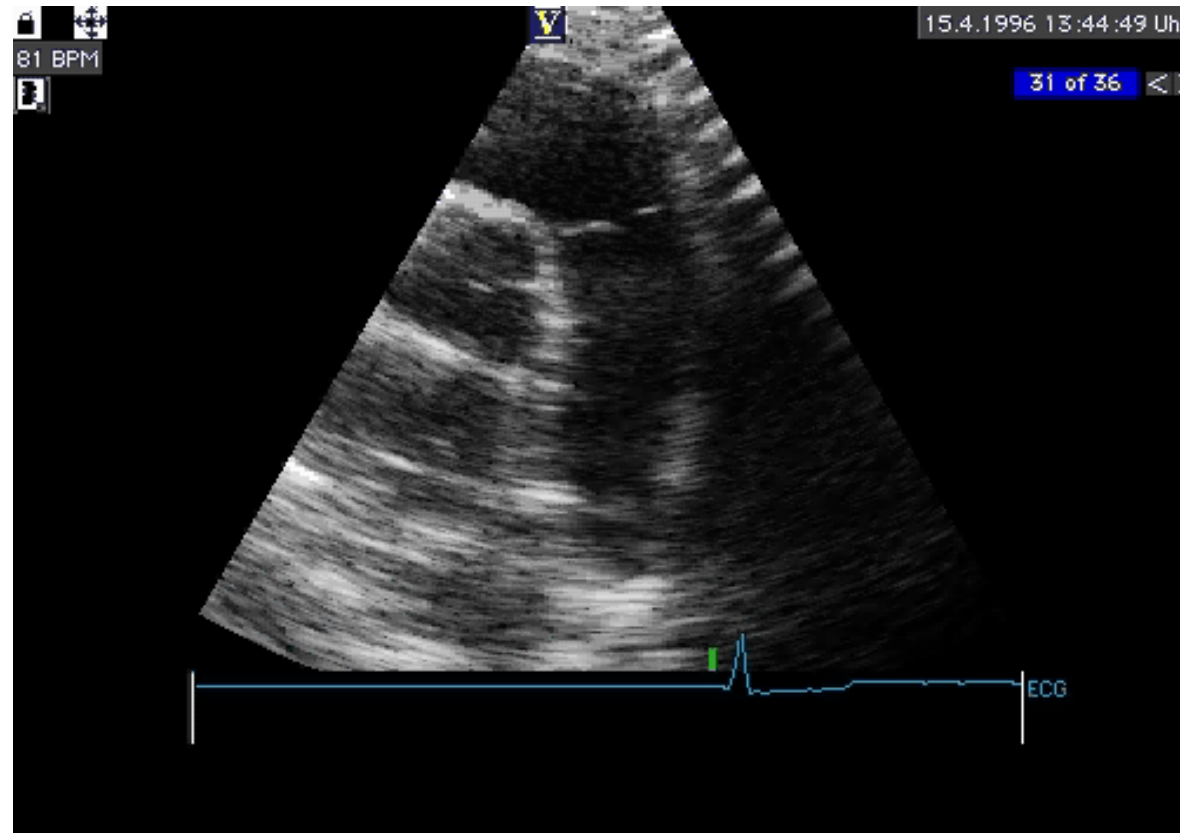
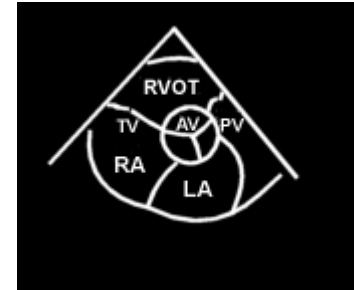


Die Herzklappen: Morphologie

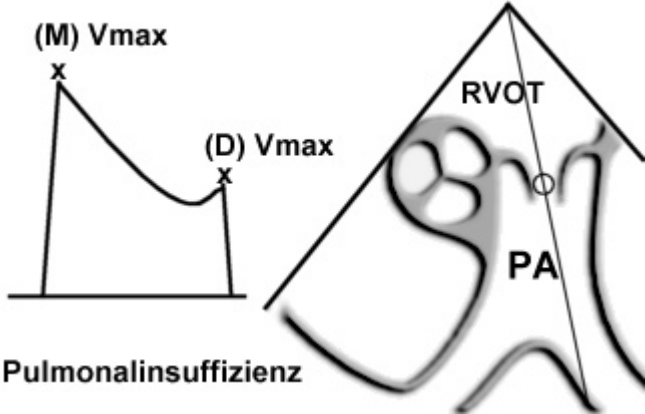
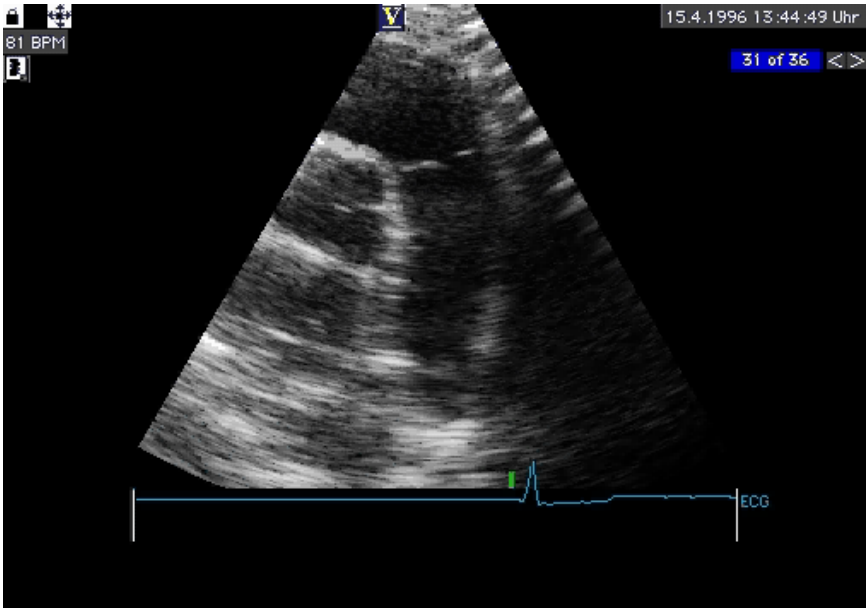
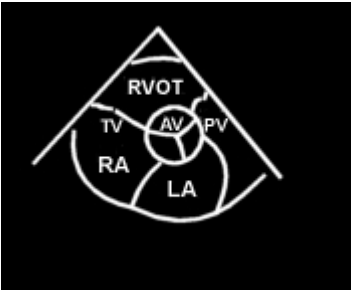
Mitralklappe (a4k)



Die Herzklappen: Morphologie Pulmonalklappe (psax)

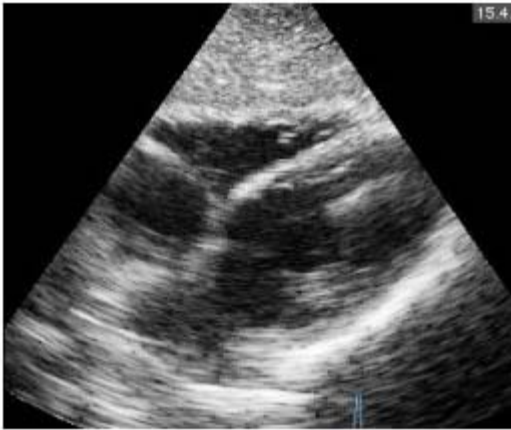
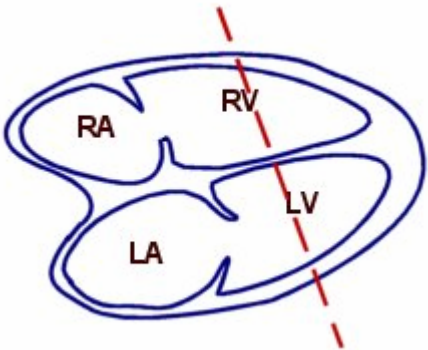


Die Herzklappen: Morphologie Pulmonalklappe (psax)

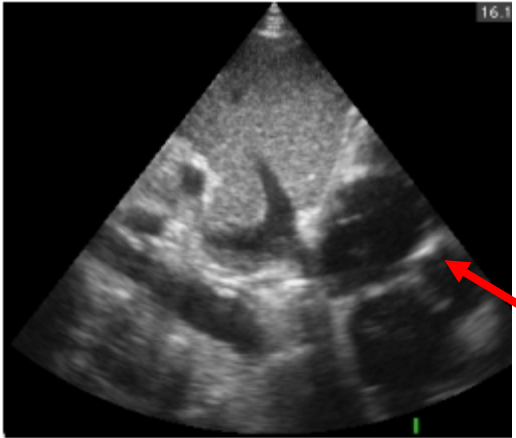


Die Herzklappen: Morphologie

(scl)

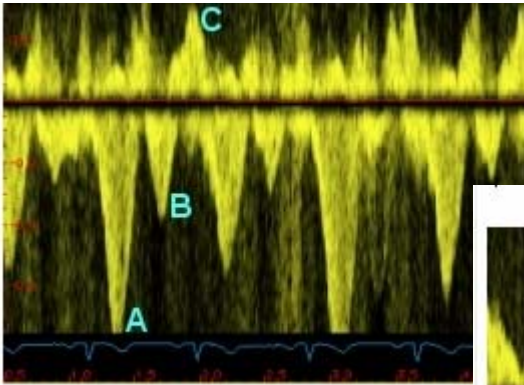


Pulmonalklappe (scx)

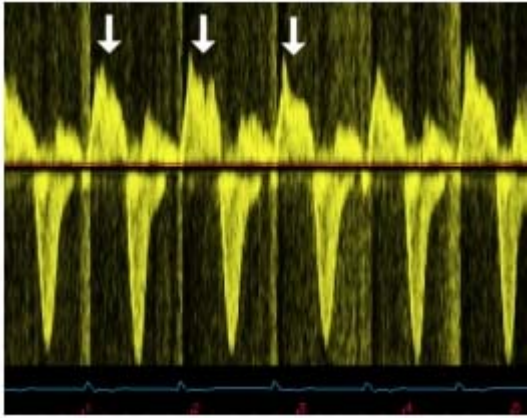


PK

Lebervenenflussprofile



A: Kranialer Fluss während Systole (VE)
B: Kranialer Fluss während Diastole
C: Atriale Kontraktion



TK-Insuff.: Fluss nach kaudal (Pfeile) während Systole

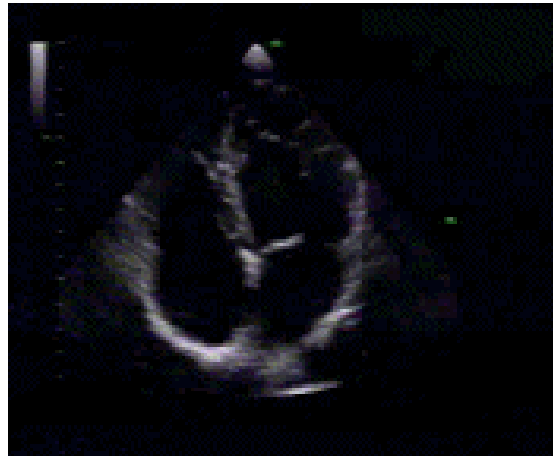
Die Herzklappen: Morphologie

Trikuspidalklappe

psax



a4kb



scl



Die Herzklappen

Dynamik

Die Herzklappen: **Dynamik**

Dopplergeschwindigkeiten (V)

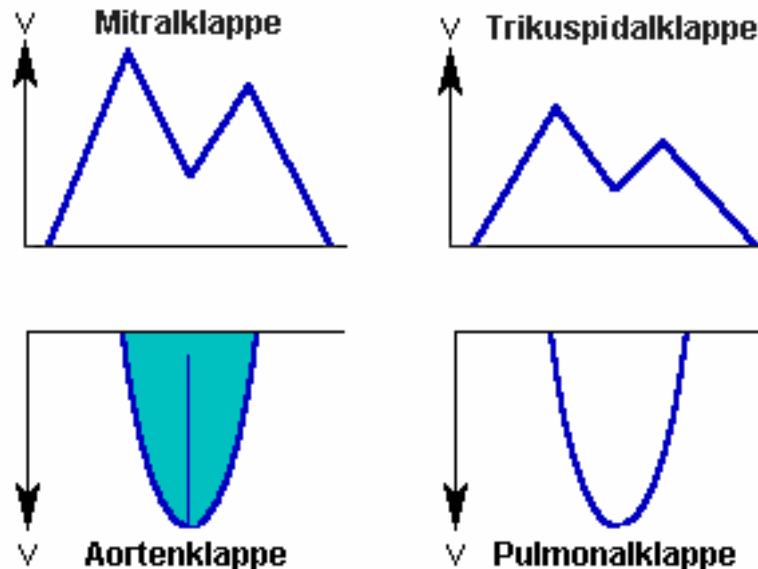
Aortenklappe 1,35 (1,0 - 1,7) m/s

Mitralklappe 0,90 (0,6 - 1,3) m/s

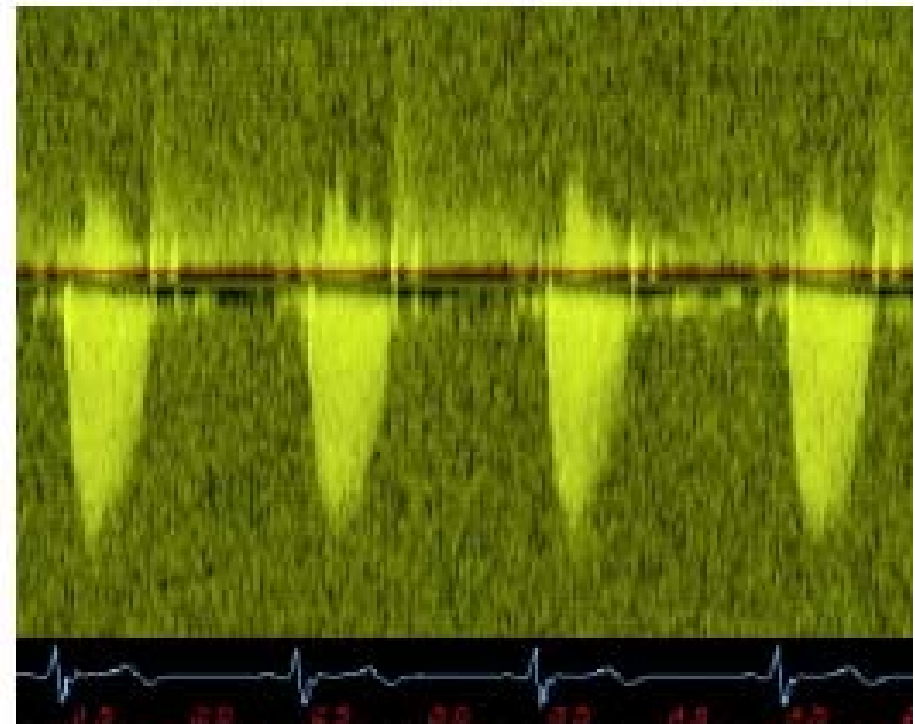
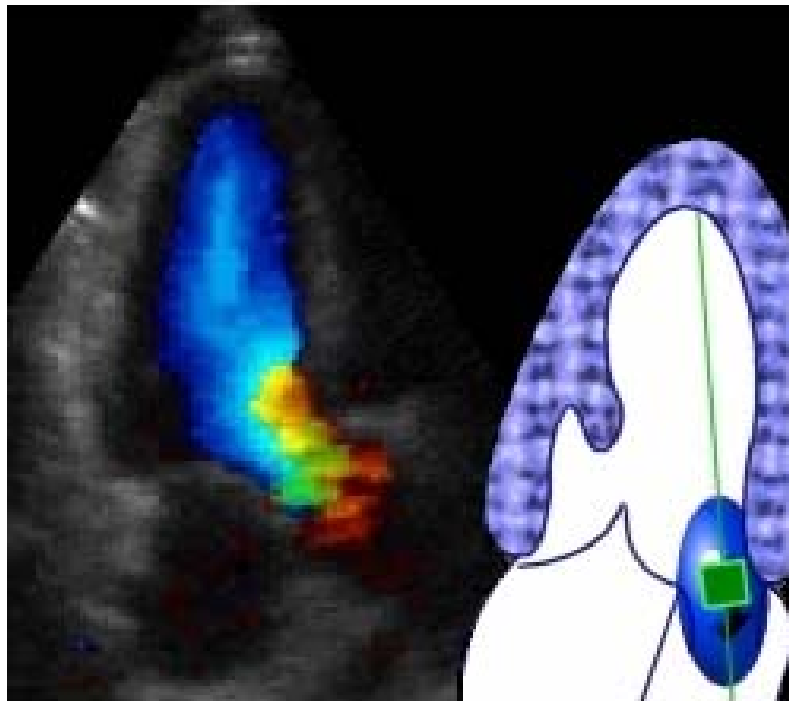
Pulmonalklappe 0,75 (0,6 - 0,9) m/s

Trikuspidalklappe 0,50 (0,3 - 0,7) m/s

Flussprofile

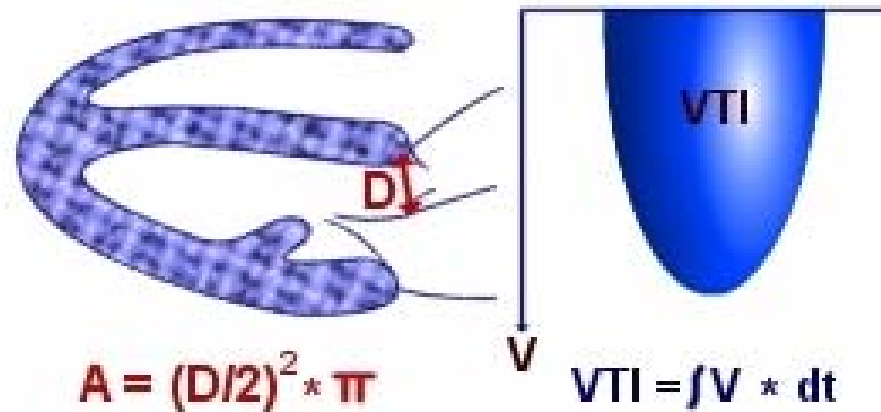
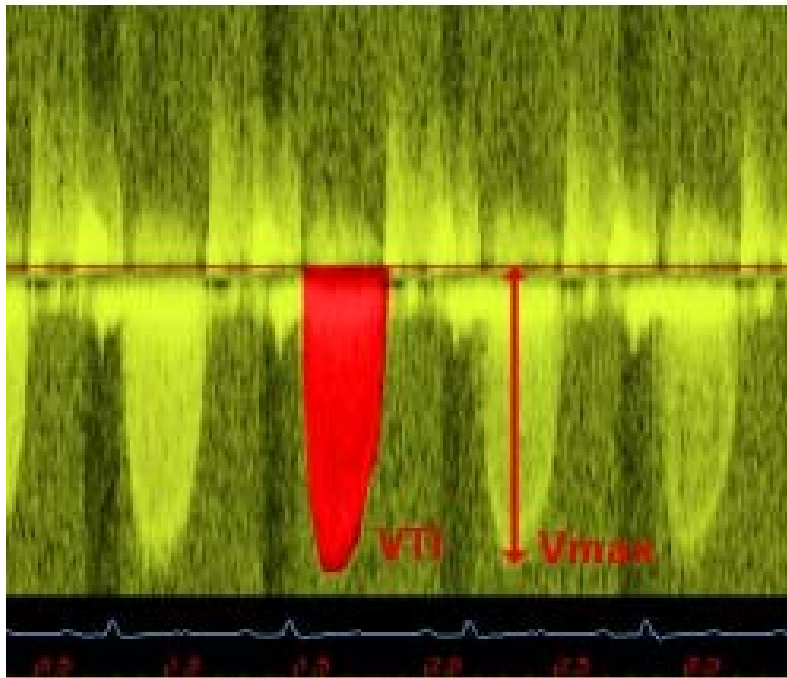


Die Herzklappen: **Dynamik** **Aortenklappe**



Die Herzklappen: **Dynamik**

Aortenklappe, *Bsp: Bestimmung des Schlagvolumens*



$$A = (D/2)^2 * \pi$$

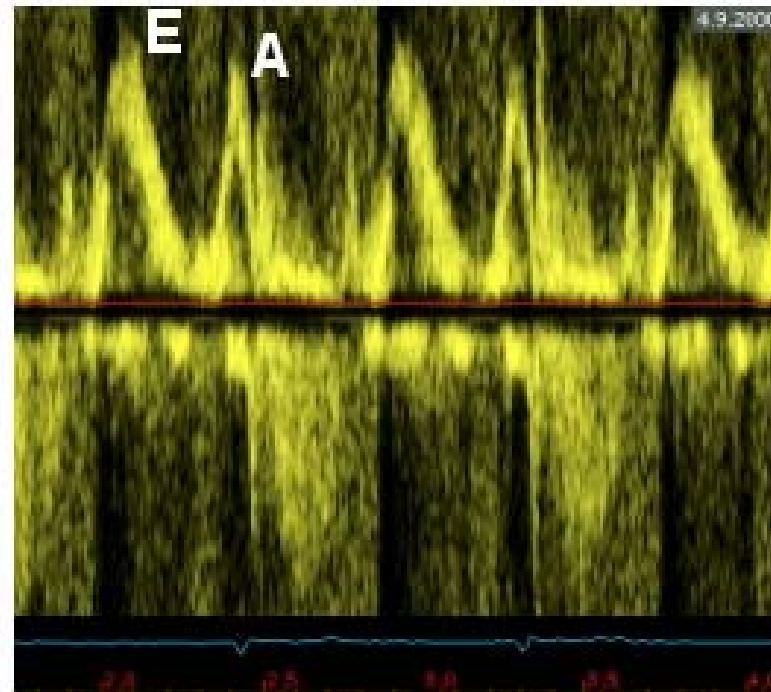
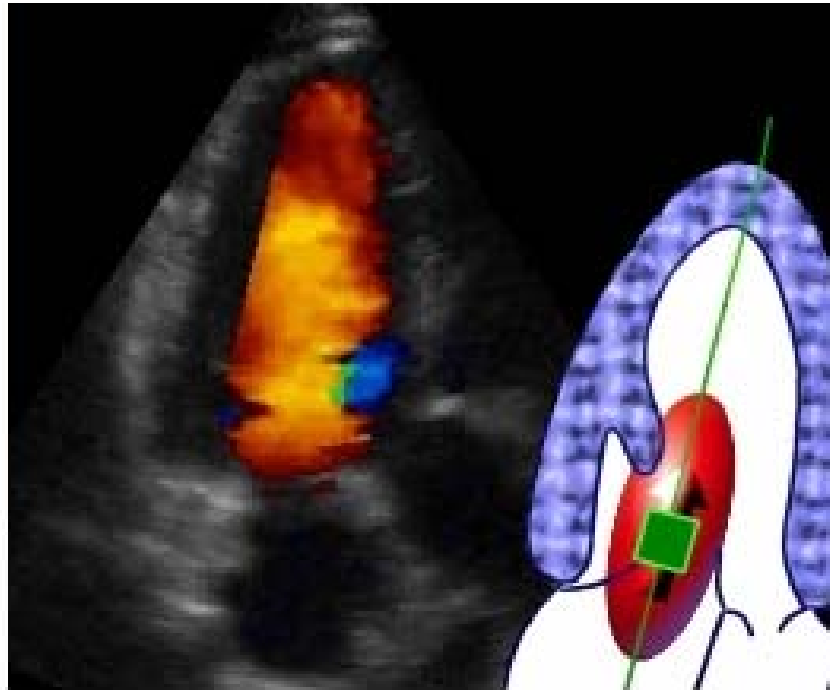
$$VTI = \int V * dt$$

$$SV = VTI * A$$

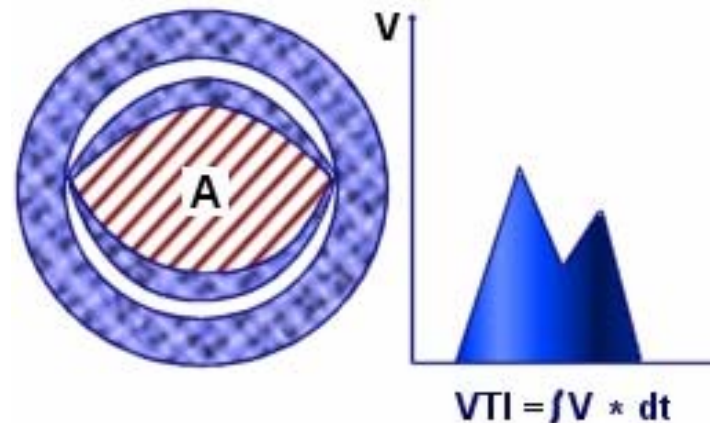
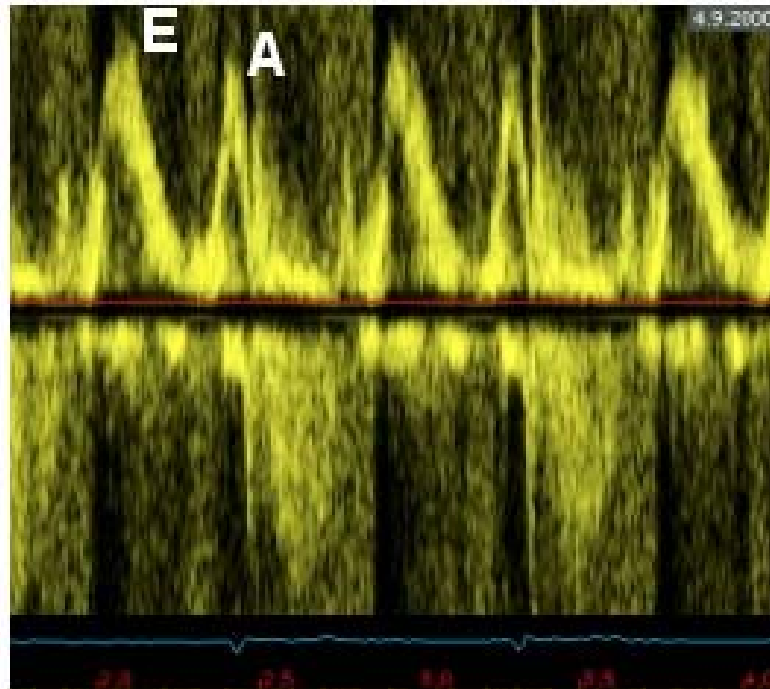
Die Herzklappen: **Dynamik** **Aortenklappe**



Die Herzklappen: **Dynamik** **Mitralklappe**



Die Herzklappen: **Dynamik** **Mitralklappe**

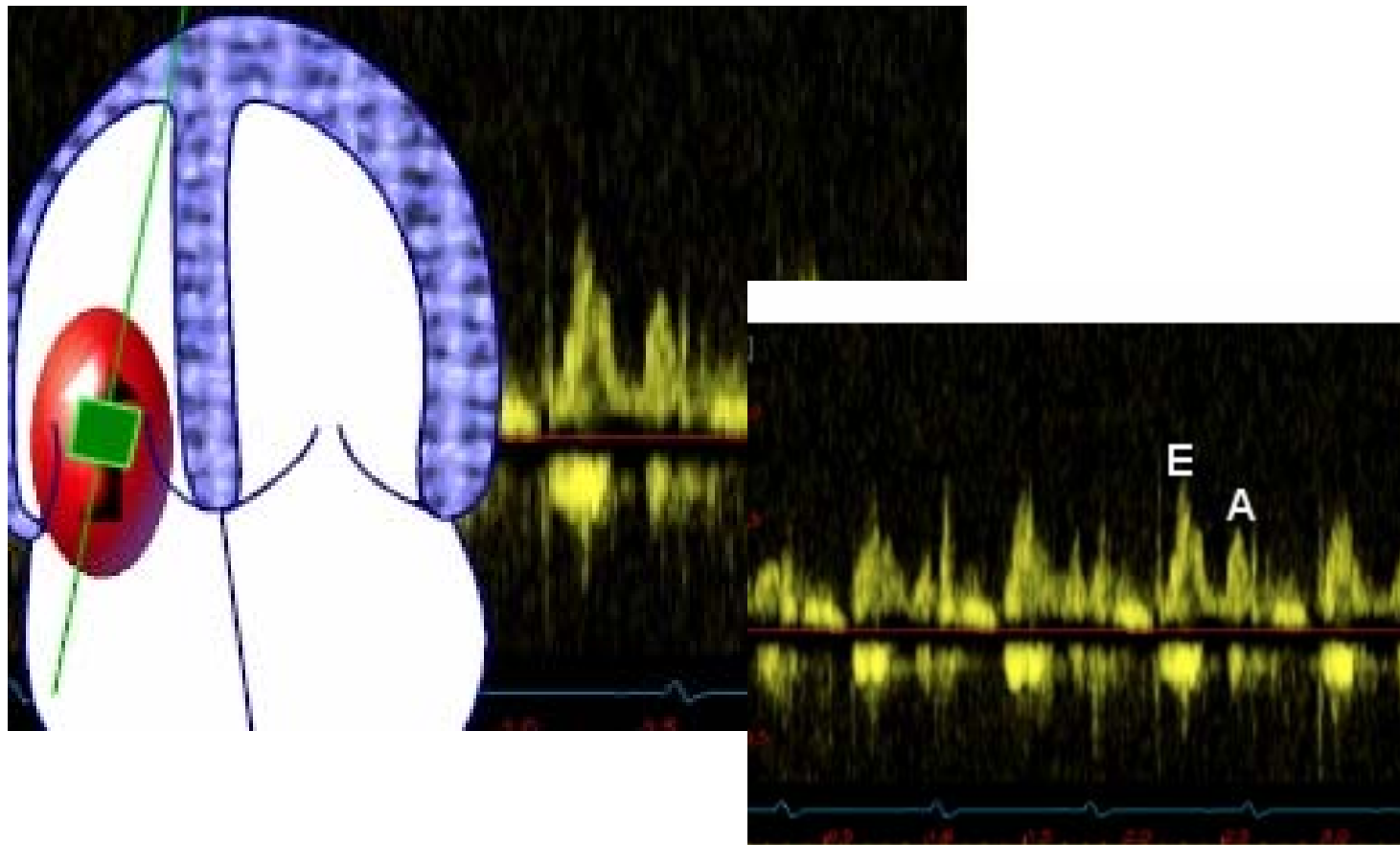


$$SV = VTI * A$$

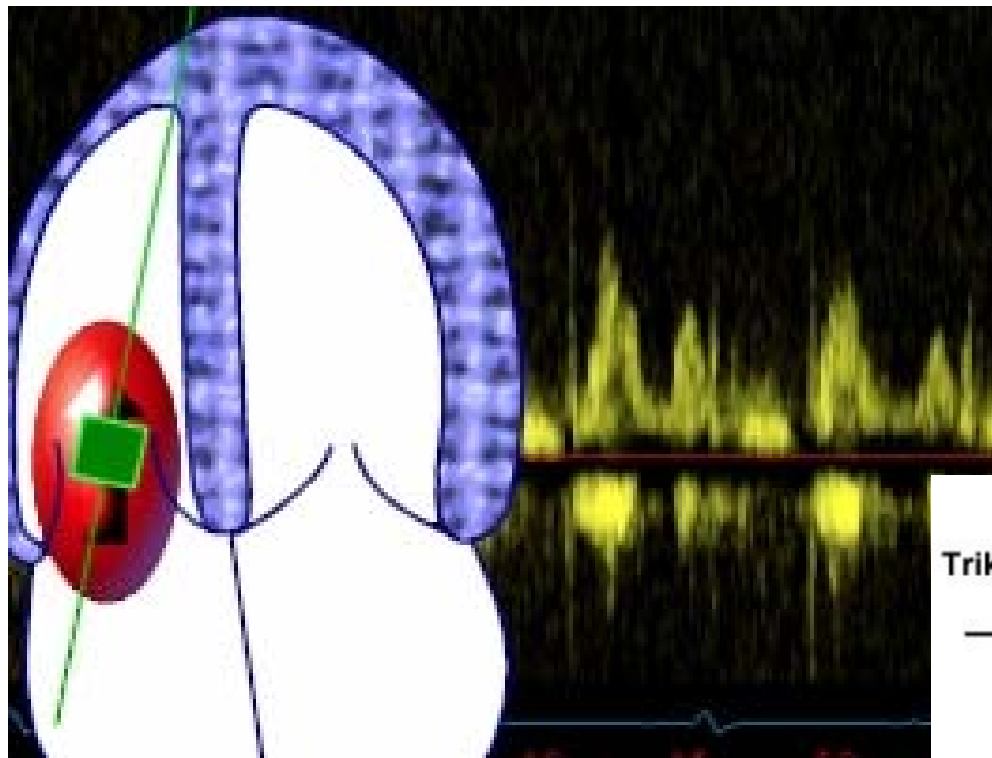
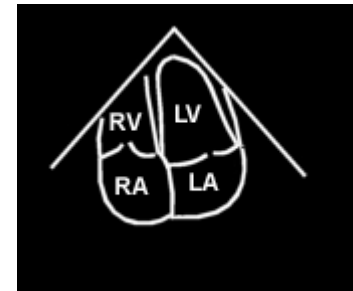
Die Herzklappen: **Dynamik** **Mitralklappe**



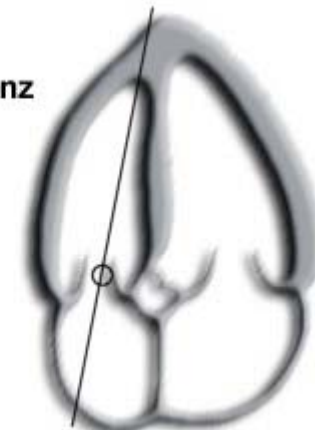
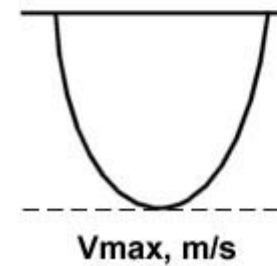
Die Herzklappen: **Dynamik** **Trikuspidalklappe**



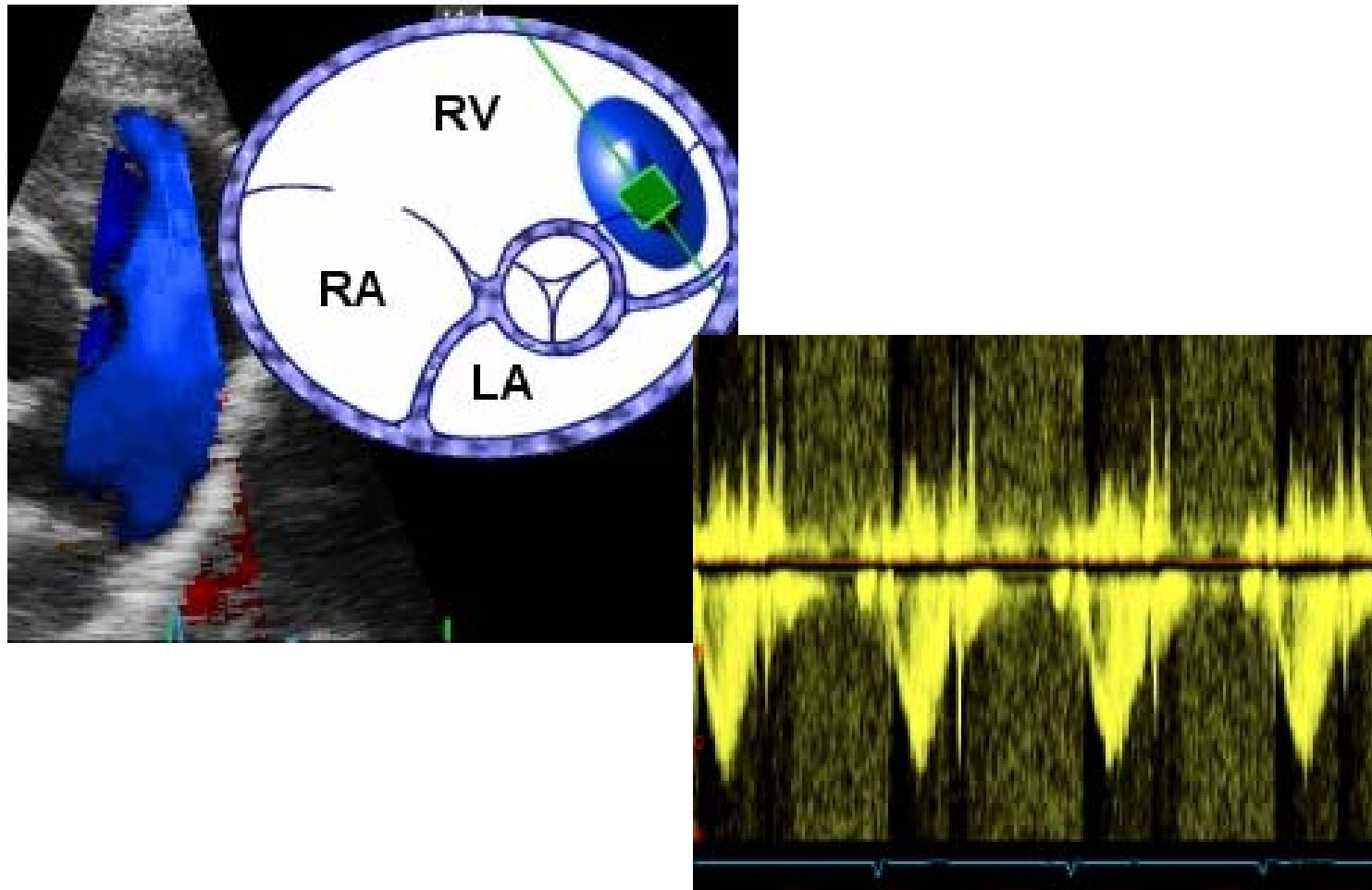
Die Herzklappen: **Dynamik** **Trikuspidalklappe**



Trikuspidalinsuffizienz

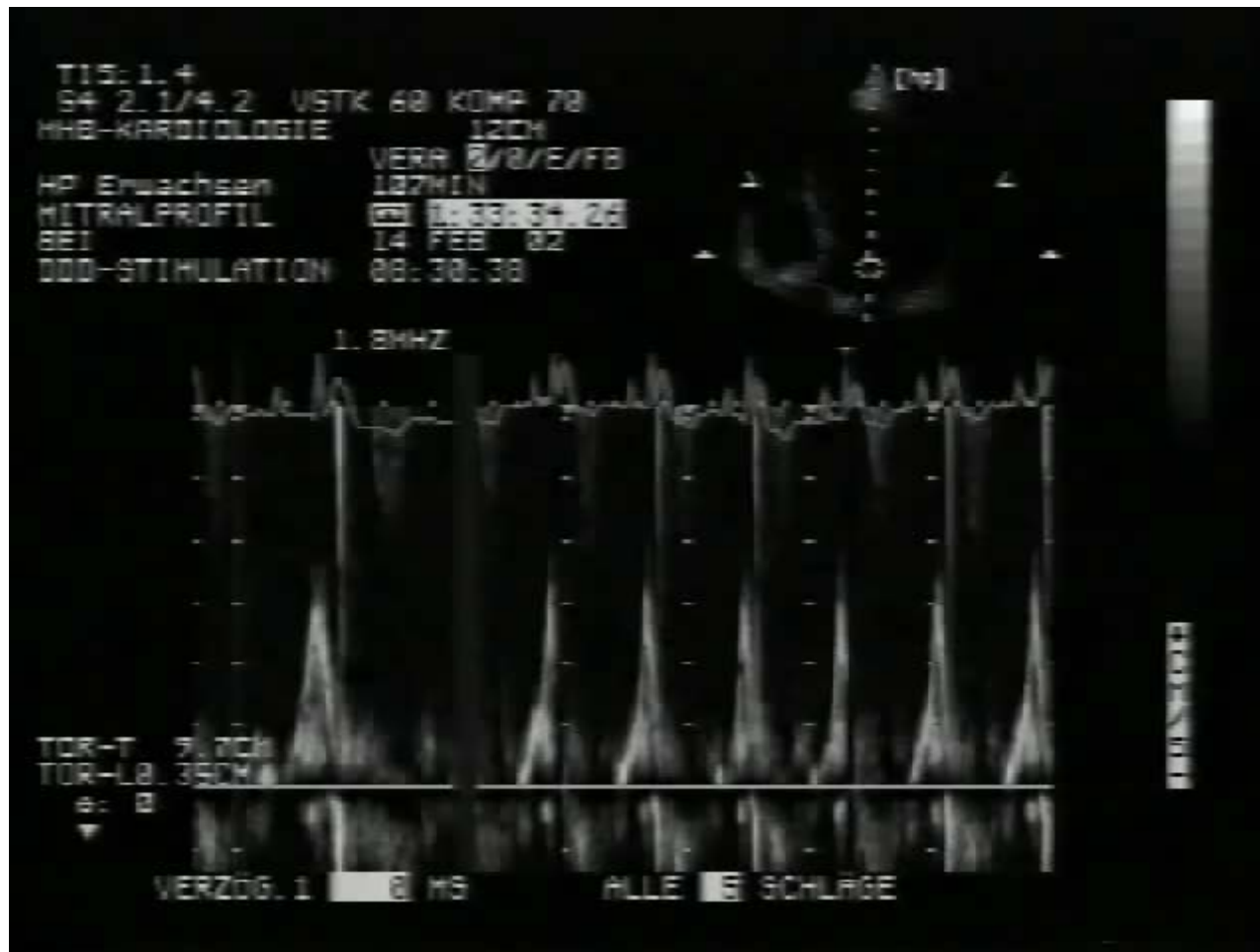


Die Herzklappen: **Dynamik** **Pulmonalklappe**



Ausblick (auf die nächsten Kurse)

Wer erkennt was passiert ?



Vielen Dank für Ihre Aufmerksamkeit.