TCTAP 2023
Imaging for Transcatheter Tricuspid Valve Interventions

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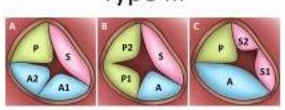
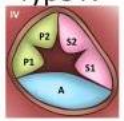
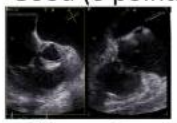
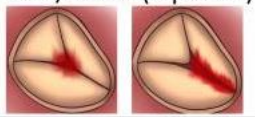
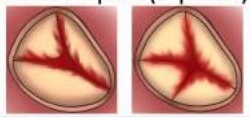
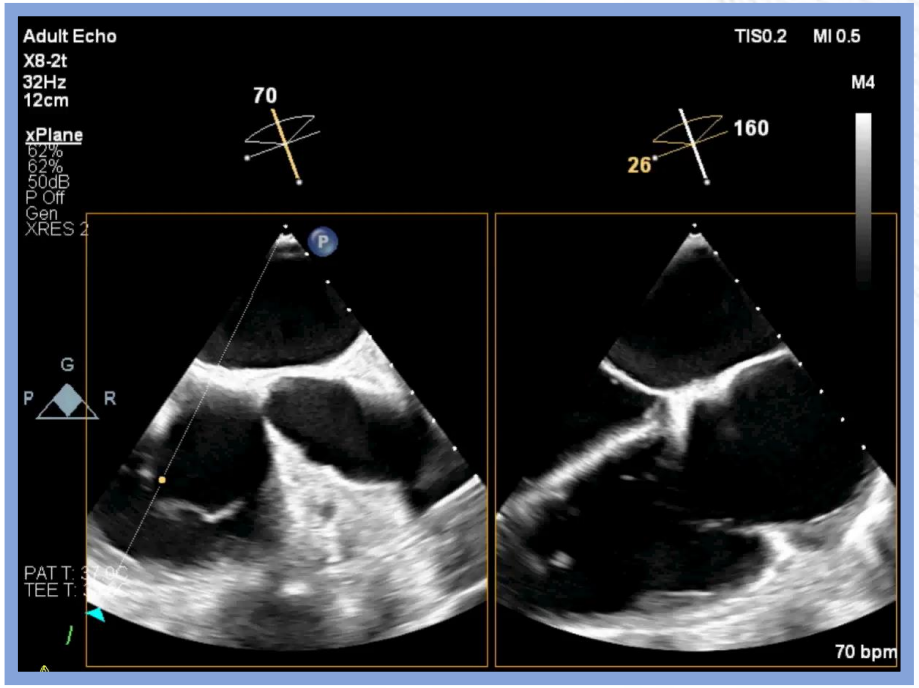
Disclosure

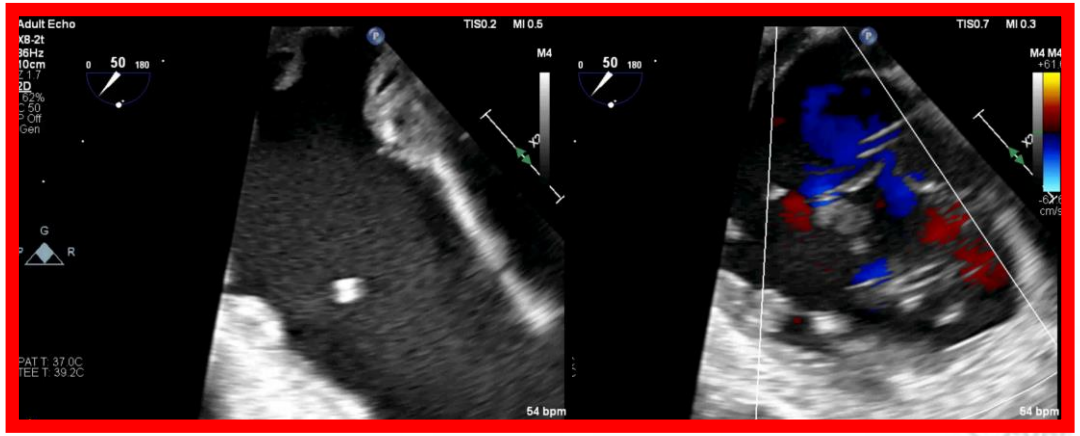
- I do not have any potential conflict of interest to declare.

What are the essential TEE images for tricuspid intervention?

The Tricuspid TEER Scoring system

Parameters	Straightforward (0 points)	Moderate (1 point)	Complex (2 points)
Septolateral Gap	0 - 2 mm 	3 - 6 mm 	> 6 mm 
Septal Leaflet Mobility/Tethering	> 75 %[1] 	25 - 75 %[1] 	< 25 %[1] 
Leaflet Number/ Morphology	Type I-II 	Type III 	Type IV 
Predominant Jet location	Anteroseptal 	Posteroseptal 	Anteroposterior 
Shadowing/ Image Quality	Good (0 points) 		Limited (1 point) 
En-face TR Jet Morphology	oval/linear (0 points) 		star-shaped (1 point) 





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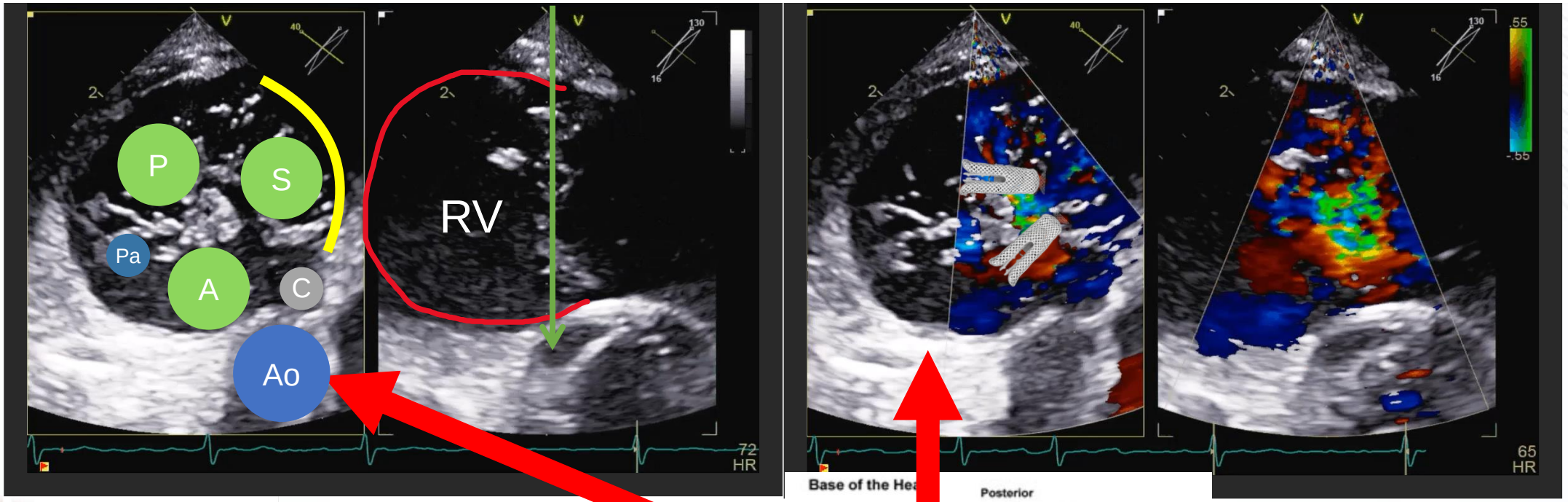
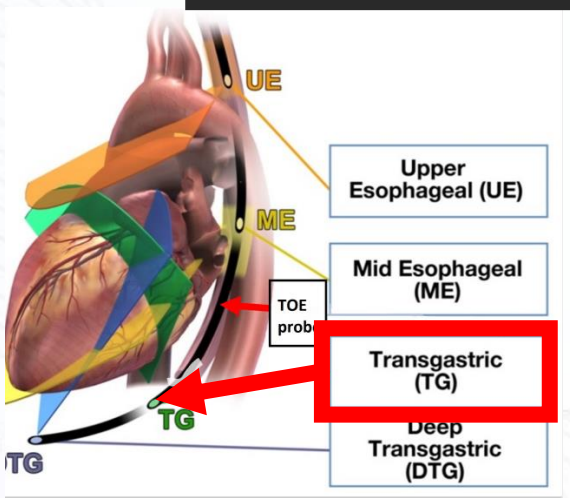
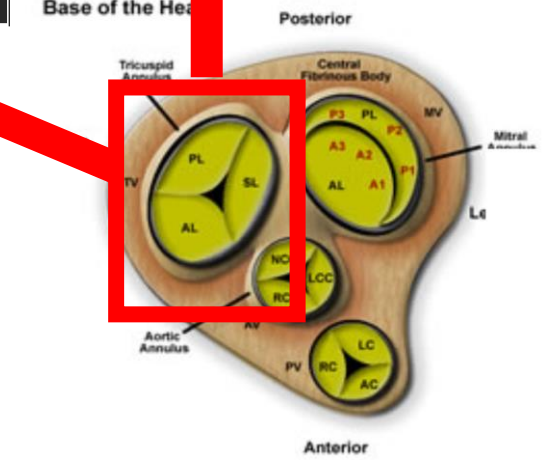
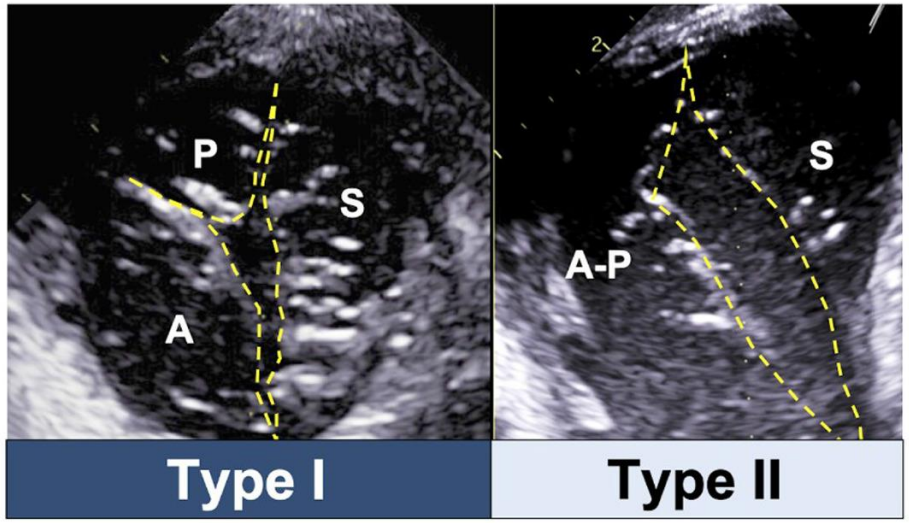
Transgastric Enface view 40°

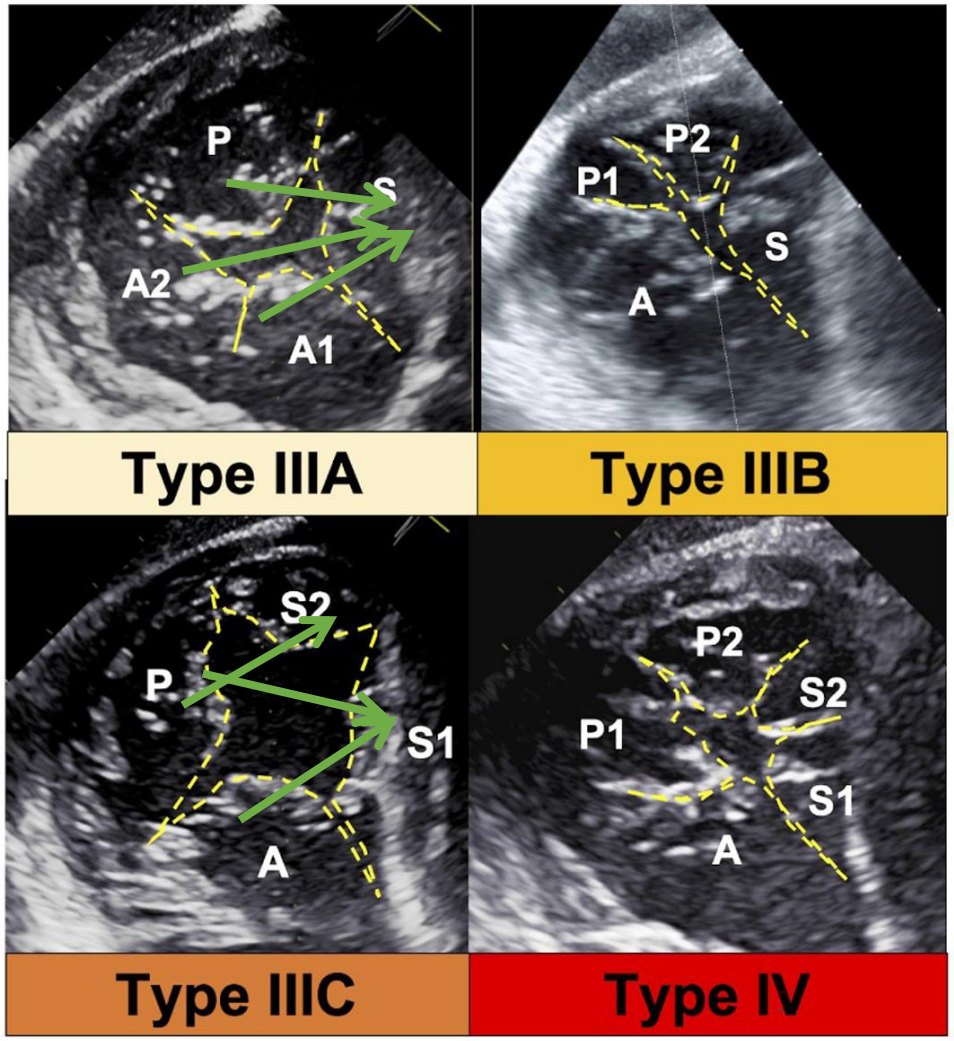






The essential of trans-gastric view: clipping strategy





- plan clipping strategy
  - clip numbers
  - clip orientation
- confirm leaflet grasping

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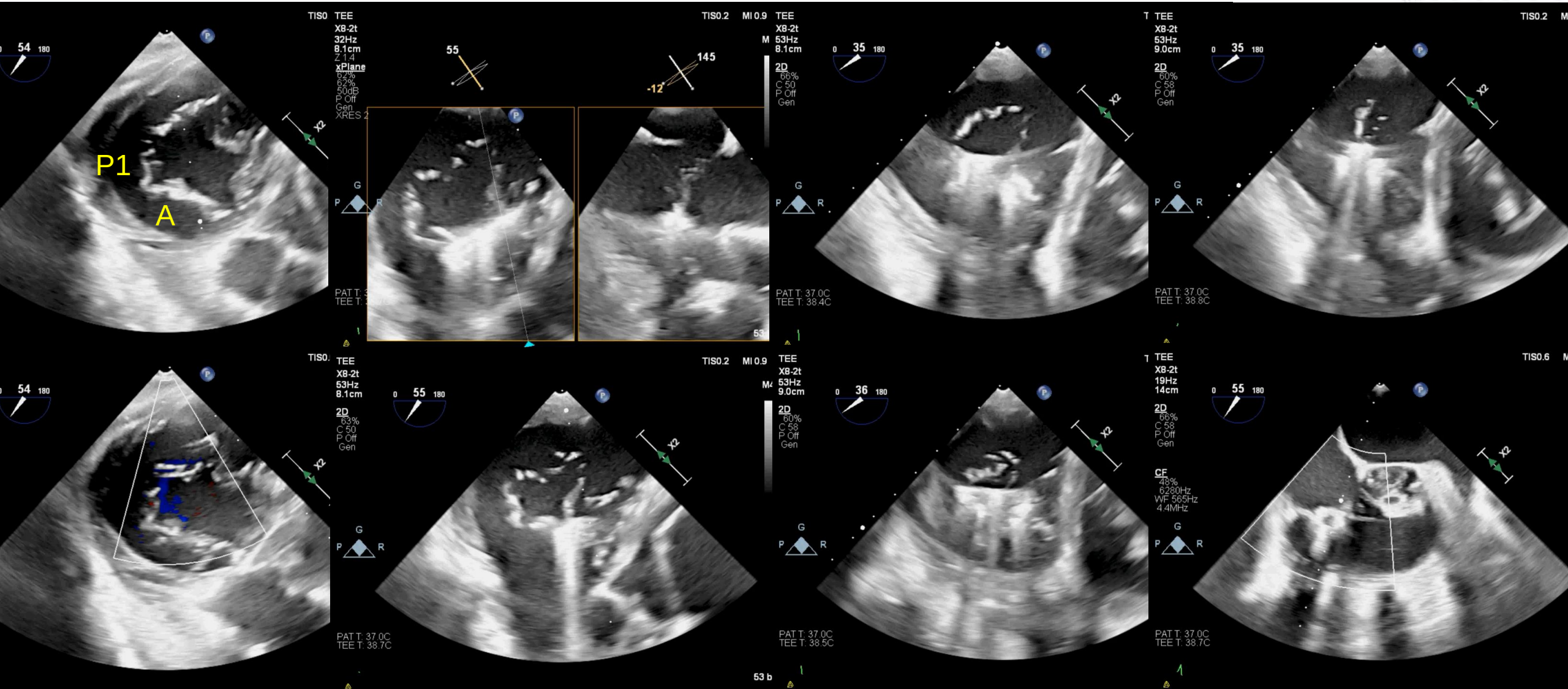
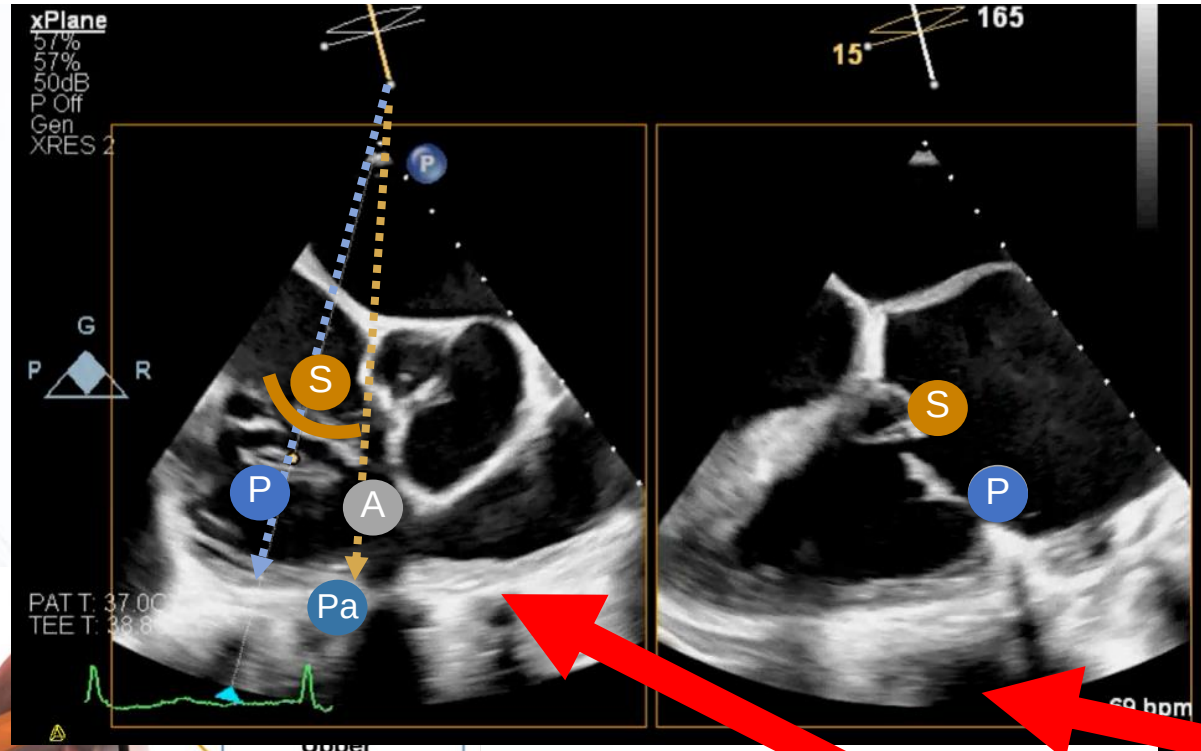
The essential of trans-gastric view: confirm leaflet grasping, especially in patients with mitral protheses

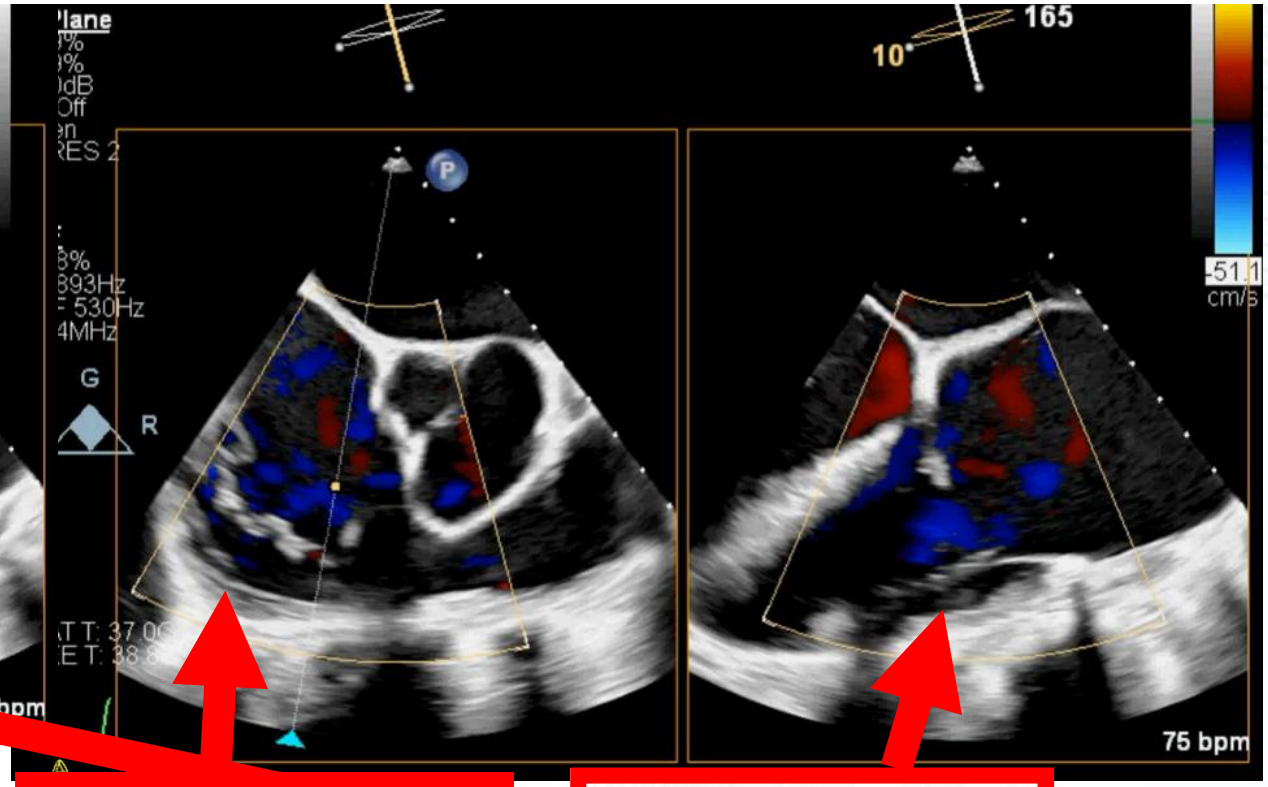


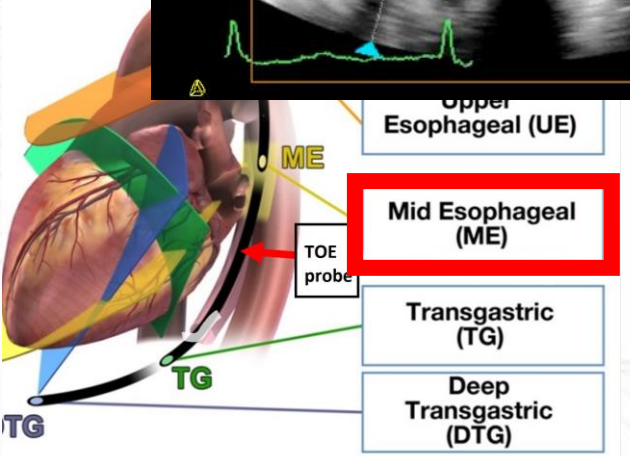
Trans-esophageal view 50-90°

50-90° 140-180°



50-90° 140-180°



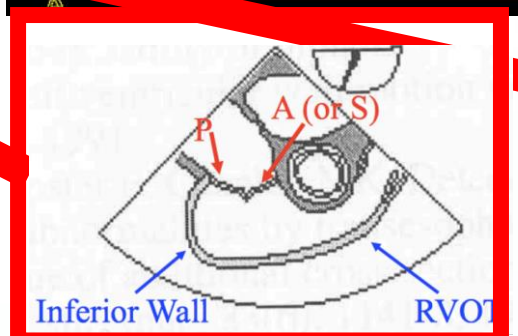


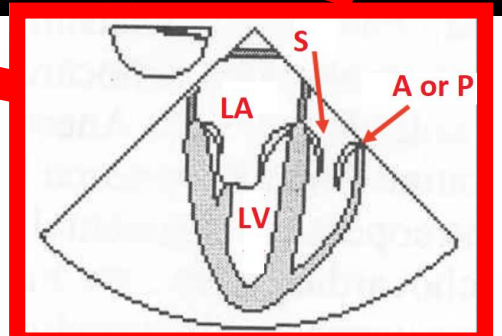
Upper Esophageal (UE)

Mid Esophageal (ME)

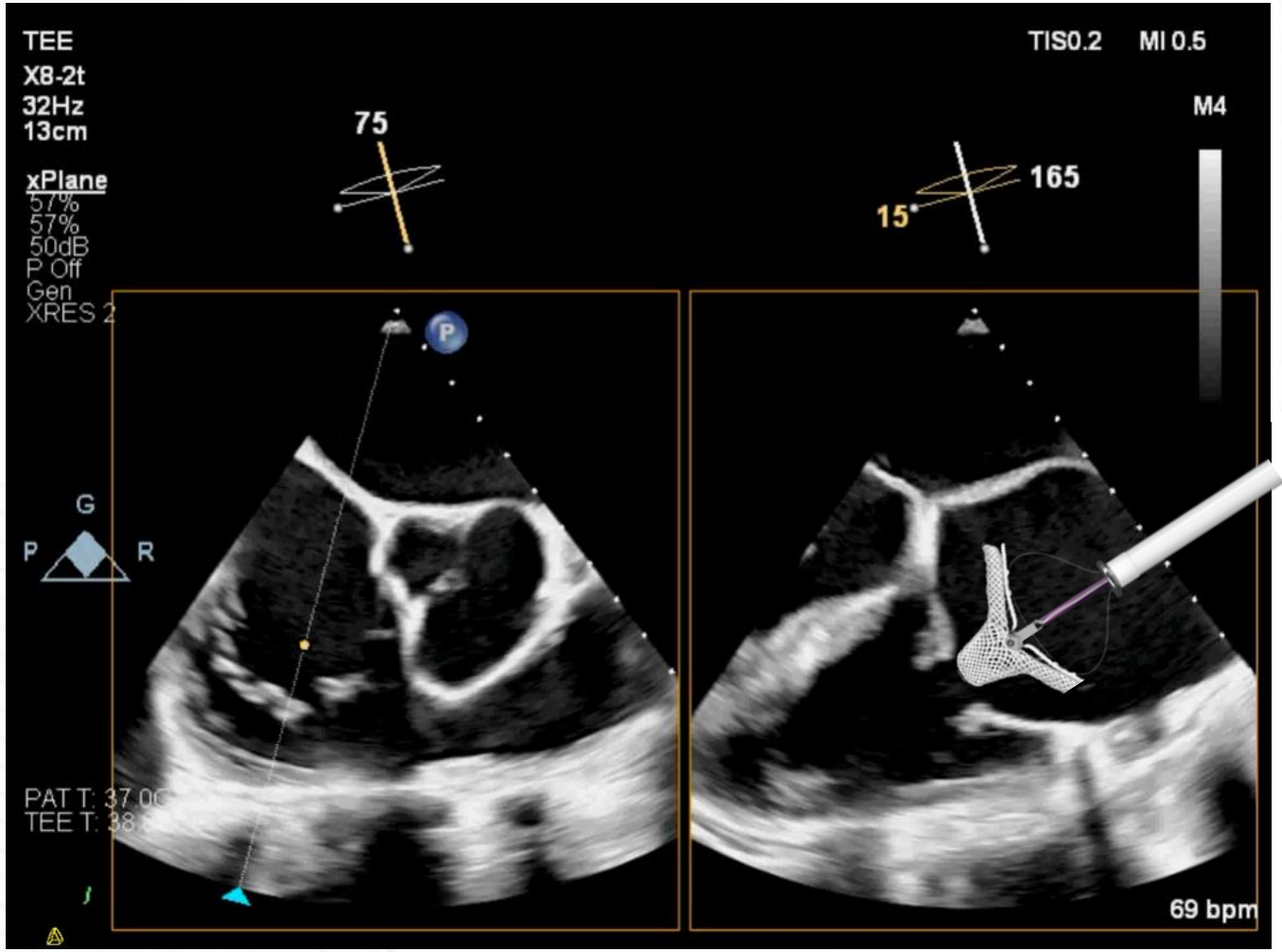
Transgastric (TG)

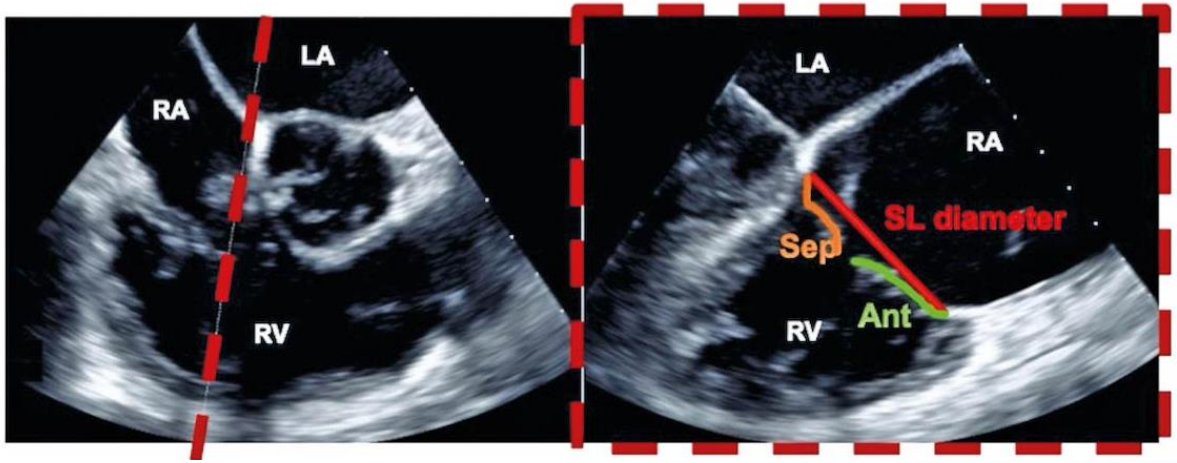
Deep Transgastric (DTG)





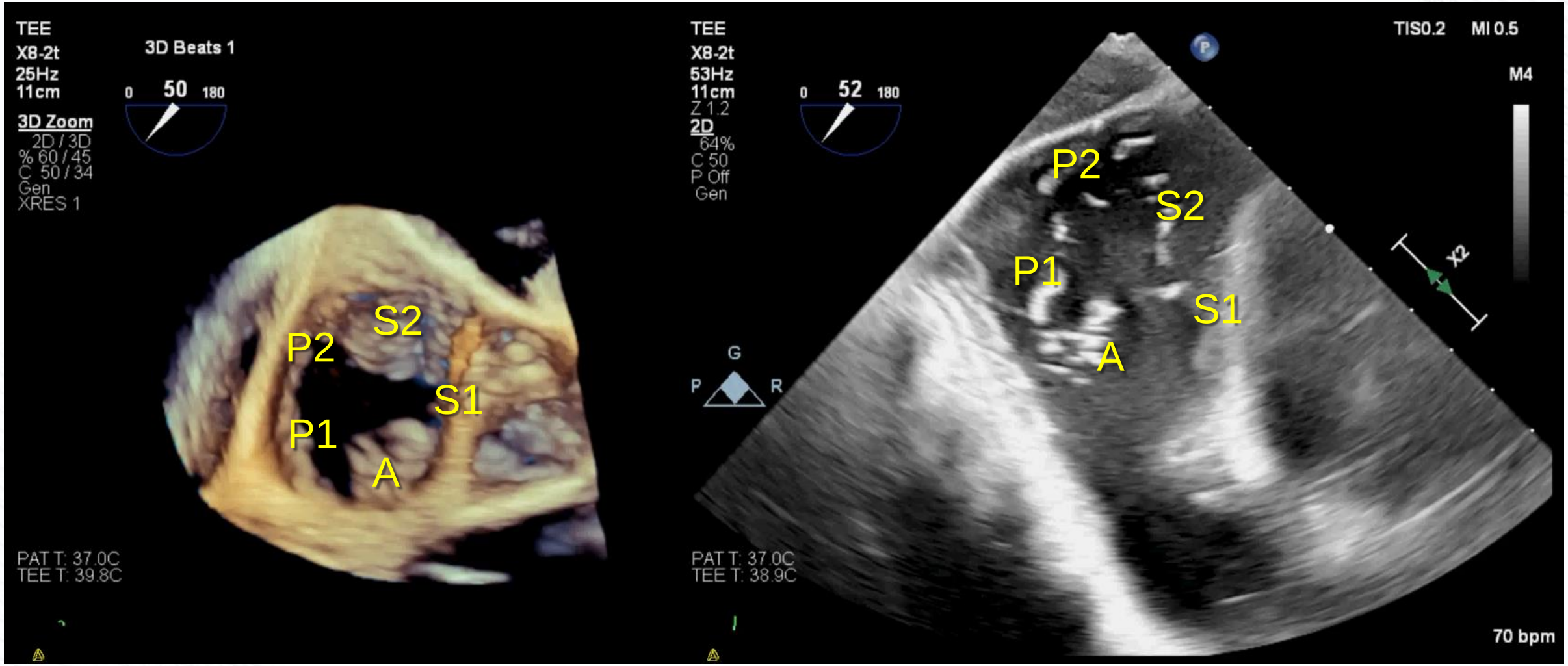
The essential of mid-esophageal view



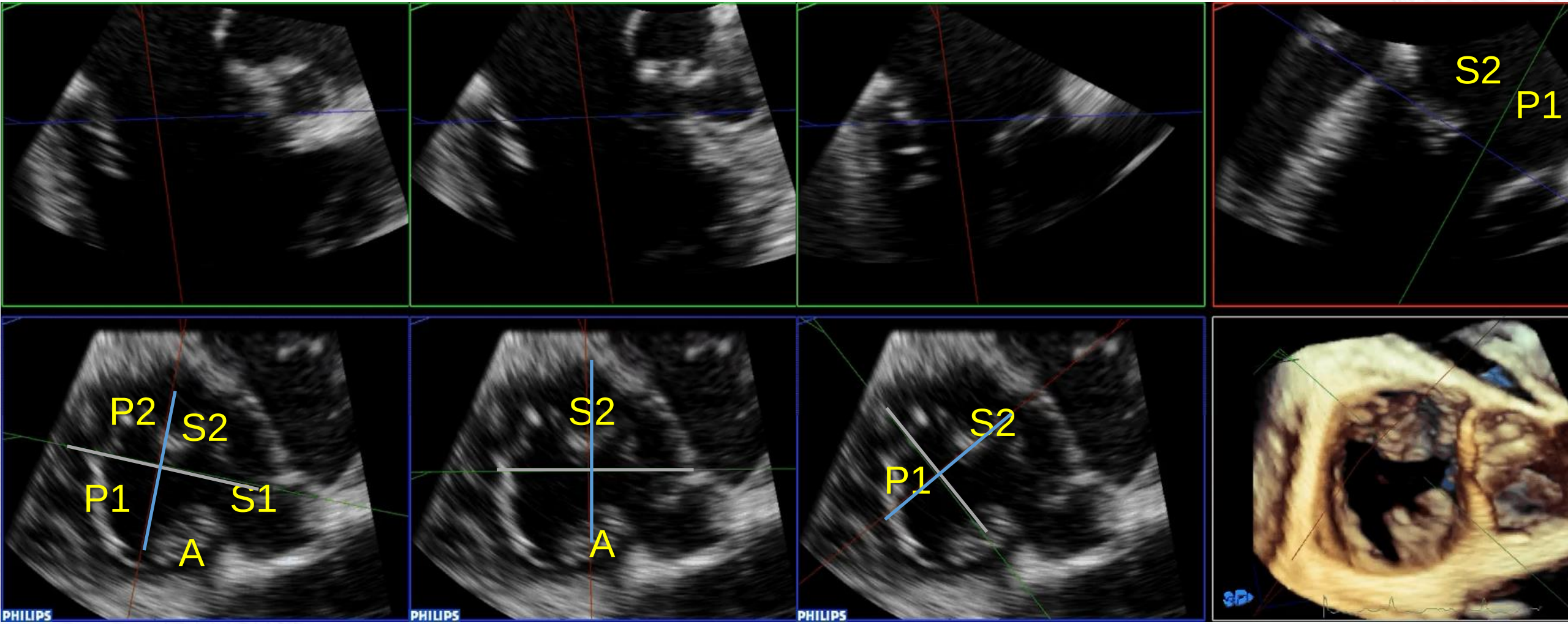


- Etiology of TR
  - Lead-leaflet interaction
- Septolateral gap
- Sepal leaflet mobility

3D images vs. En-face view of tricuspid valve



MPR of 3D images



Conclusion

- The trans-gastric view of TV is essential to evaluate leaflet morphology and jet location for the TEER strategy and clip orientation.
- The mid-esophageal views demonstrate the leaflet length and mobility, and the grasping gap to evaluate the feasibility of TEER procedure.
- The multi-views of 3D images are very useful for pre-TEER evaluation.