

Aortic Valve

Pre ● | ● Post CPB AI / AS only



● **3D Ao Root** (opt)

● 3D CFD (opt)



● **AVSax 2D**

● CFD AV



● **MELax 2D Zm AV**

● CFD AV & LVOT

● **M-mode CFD LVOT**



● **AAoLax 2D**

● **DTG CFD AV**



● \ddagger PWD LVOT

● \downarrow CWD AV

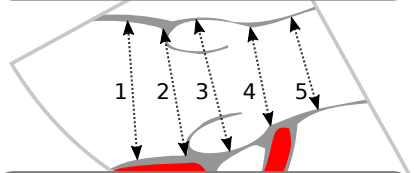
● **DAoLax CFD**



● \ddagger PWD DAo

- LVOT \uparrow 1
- Annulus \uparrow 2
- SOV \uparrow 3
- STJ \uparrow 4
- Proximal Asc. Aorta \uparrow 5
- AI 3D VC area \square (opt)
- AI VC
- Coaptation length \downarrow
- AI jet : LVOT

2D measures can also be made in 3D MPR



- **LVOT VTI & V_{max} (\ddagger PW)**
- VTI & V_{max} (\downarrow CW)
- $\Rightarrow \Delta P_{peak}, \Delta P_{mean}, AVA$
- **PHT (\downarrow CW)**

● Pre-surgical assessment

1. Confirm **diagnosis & severity**

AS: 2D, 3D, gradients & AVA;

AI: 2D, 3D, VC, PHT, %LVOT, DAo diast. rev.

2. Identify **mechanism & viability of repair** (if planned)

3. **Sub-valvular** or **supra-valvular** / **aortic** pathology?

4. Associated **LV** pathology: **Dilation**? **Hypertrophy** / **LVOTO**?

5. Associated **MV** pathology?

● Post-surgical assessment

1. **Coaptation length** (valve sparing repair; MELax)

2. Proximal end of coaptation above **annular plane**? (MELax)

3. Paravalvular or central **leak**? (MELax, MEAVSax)

4. New **SAM** or **LVOTO**? (MELax)

5. **Iatrogenic AS**? ΔP_{mean} & V_{max} (DTG)

6. New **SWMA** suggesting **coronary injury**? (TGMSax; AVSax RCA/LM)

7. Iatrogenic **aortic injury** or dissection? (AAo / DAo)