LVAD Implantation

Pre ◐ | ◑ Post CPB

- ● **ME4C** 2D
- ● CFD TV*
- ◐ 2D Zm LV Apex
- ◐ ⇣CWD MV
- ◑ CFD LVAD inflow
- ◑ ⇣CWD LVAD inflow
- ◑ ↡PWD LVAD inflow

◐ TV Annulus ↔
● TR Vena contracta ↔
◐ MV ΔP_{mean} ⇣C
● RV function (at least one)
- ▧ RV FAC
- ↔ TAPSE
- RV GL Strain
- RV FW Strain

◑ V_{max} LVAD inflow (⇣C + ↡P)

- ● **MERVIO** 2D RV
- ● CFD TV
- ● CFD PV

- ● **MEBC** 2D IAS
- ● CFD IAS +/- bubble

- ◐ **ME2C** 2D Zm LAA
- ◐ CFD LAA
- ◐ ↡PWD LAA

- ● **AVLax** 2D Zm AV
- ● CFD AV
- ◑ AVLax / **AscAoLax**
- ◑ CFD LVAD outflow
- ◑ ⇣CWD LVAD outflow
- ◑ ↡PWD LVAD outflow

◑ V_{max} LVAD outflow (⇣C+ ↡P)

◐ Pre-surgical assessment

1. **Thrombus**? (LV apex, LAA)
2. **MS**?
3. **RV function**: At least one of FAC / TAPSE / RV strain
4. **TV/PV disease**? Complete TV/PV study if sig. abnormal CFD
5. **Shunt** (PFO/ASD/VSD)? (Risk of R⟶L shunt with LVAD)
6. **AI**? (Risk of circular flow with LVAD)

◑ Post-surgical assessment

1. Adequate **LV decompression**?
2. **RV function**?
3. LVAD **inflow/outflow obstruction**/turbulence? In/outflow V_{max}
4. **Shunt**? (PFO may show new flow after LVAD)
5. **AI**?