Less is MORE!

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4 valves but dozens of possibilities

- The most common valve requiring repair/replacement in the adult is the Aortic valve
- Mitral valve more often repaired than replaced in today’s surgery
- Tricuspid valve often requires repair replacement in the setting of severe heart failure or endocarditis
- Pulmonic valve usually as a result of congenital defects
Which ones have minimally invasive options?

- Min invasive AVR/MVR
- Mitral Clip
- Melody valve
- TAVI (TAVI)

- Just to name a few
“MINI” incisions for aortic and mitral valves

Fig. 6 - Access options for minithoracotomies for surgical treatment of aortic valve. Right anterolateral minithoracotomy: A: Access via the 2nd right intercostal space, B: 3rd right intercostal space and upper hemisternotomy, C: access of the falcula to the 3rd J intercostal space.
Mitral clip

Catheter-Based Mitral Valve Repair
MitraClip® System

Investigational Device only in the US; Not available for sale in the US
TAVR

• Indications
  – Severe AS with symptoms
  – High risk open surgical candidate
  – Life expectancy >3 yrs
TAVR

• Contraindications
  – Mod to severe AI
  – Low coronary ostia
  – LV thrombus

– Alternative access approaches allow for treatment of pts with PAD
TAVR

A catheter is used to thread a balloon device, with the new valve attached, to the diseased valve.

The interventional cardiologist or surgeon places the artificial valve in the diseased valve and inflates the balloon.

Once in place, the replacement valve starts to work as a normal valve would.
TAVR Performance

2002 was first in man

PARTNER 1A results

all cause mort 68% TAVR, 62% high risk surg
stroke 15.9% TAVR, 14.7% surg
among 5 yr survivors TAVR 85% NYHA class I-II, 81% surgical

5 year durability confirmed

PARTNER 1B results

22% survival benefit to non op pts over medical RX (71.8 % mort vs 93.6%)
28% reduction of CV mort over medical RX
Group Think

• TAVR could be considered for:
  – A) 91 yo pt with breast CA history 5 years ago with XRT
  – B) 80 yo pt with HTN, DM and severe symptomatic AS
  – C) 65 yo pt with history of 4 prior sternotomies, CKD stage III and distant stroke
  – D) none of the above