Establishing a Program for Structural Heart Interventions

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Disclosure Information

The following relationships exist:

Grant support: Abbott, Atritech, BSC, Cardiac Dimensions, Edwards, Evalve, Myocor, St Jude
Consultant: Abbott, Cardiac Dimensions, CoAptus, Coherex, Cordis, WL Gore, Myocor, Quantam-Cor
Speaker: Boston Scientific

Off label use of products and investigational devices will be discussed in this presentation
Structural Intervention

- Balloon valvuloplasty
- Aortic valve replacement
- Mitral repair
- ASD & PFO closure
- L Atrial Appendage occlusion
- Para-valvular leak closure
Guidelines for training in adult cardiovascular medicine

- **Level 1**
  - 4 months
  - Initial observational role
  - Minimum 100 diagnostic procedures

- **Level 2**
  - 8 months
  - Progressive responsibility for diagnostic procedures
  - Additional 200 diagnostic procedures

- **Level 3**
  - 20 months
  - Progressive responsibility for interventional procedures
  - 250 interventional procedures

*ACC training statement on recommendations for the structure of an optimal adult interventional cardiology training program: a report of the ACC task force on clinical expert consensus documents. JACC. 34(7):2141-7, 1999*

Structural Interventional Procedures

Complexity vs. Frequency

- Frequency decreases as Complexity increases.
Structural Interventional Procedures

![Graph showing frequency and complexity of structural interventional procedures.]

- 1 vessel PCI
- Transseptal puncture
- Percutaneous valve repair or replacement
Structural operators

- perform procedure with general anesthesia
- use TEE during an intervention
- use 8-19F ICE catheters
- film the levophase of a R sided injection
- inject contrast into the LA
- place 12-24F sheaths (venous and arterial)
  - use 10F suture pre-closure
- use a 24-30mm diameter balloon catheter
- snare and exteriorize a wire
- implant a vascular plug or coils
- cut or modify a wire, sheath, catheter or guide
Accurate Navigation

10 French / 3.3 mm

90 cm length

Four-way steering

Imaging from the right heart
PFO??
Evalve

High Posterior Stick
>3cm Height
A B

Left Atrium

ASD

Left Atrium

Amplatzer Device

Itzhak Kronzon, James Slater
New York University School of Medicine
Transcatheter Valve Replacement
Physician Training Program

Edwards
Medical Simulation - Proctoring / training implanting physicians...

Deploying the WATCHMAN

Checking release criteria
Interventions 2008
2/3 Structural
Challenges: Phase 2 Trials

*from proof of concept to proof of efficacy*

- **LAA occlusion**
  - *Watchman follow-up completed*

- **Mitral regurgitation**
  - *EVEREST II enrollment completed*

- **Aortic stenosis**
  - *PARTNER still enrolling*
Projected Number of Adults with Atrial Fibrillation in the US up to 2050

Go: JAMA, 2000