

ANGIOPLASTY SUMMIT **TCTAP 2011**

TRANSATHER CARDIOVASCULAR THERAPEUTICS ASIA PACIFIC

4D CT RECONSTRUCTION for PLANNING and IMPLEMENTATION of SHD INTERVENTION

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Lenox Hill Experience

Structural Heart Disease Team

- Carlos E Ruiz, MD, PhD
 - Director Structural Heart Disease Program LHH
- Howard A Cohen MD
 - Director Cardiac Catheterization Laboratories - LHH
- Vladimir Jelnin MD
 - Director 3D/4D Cardiac CT Imaging Laboratory - LHH
- Itzhak Kronzon MD
 - Director, CV Imaging LHH

4D CTA for Planning and Implementation of SHD Intervention

Integration of Imaging Modalities

- 4D CTA
- Fluoroscopy
- 3D TEE

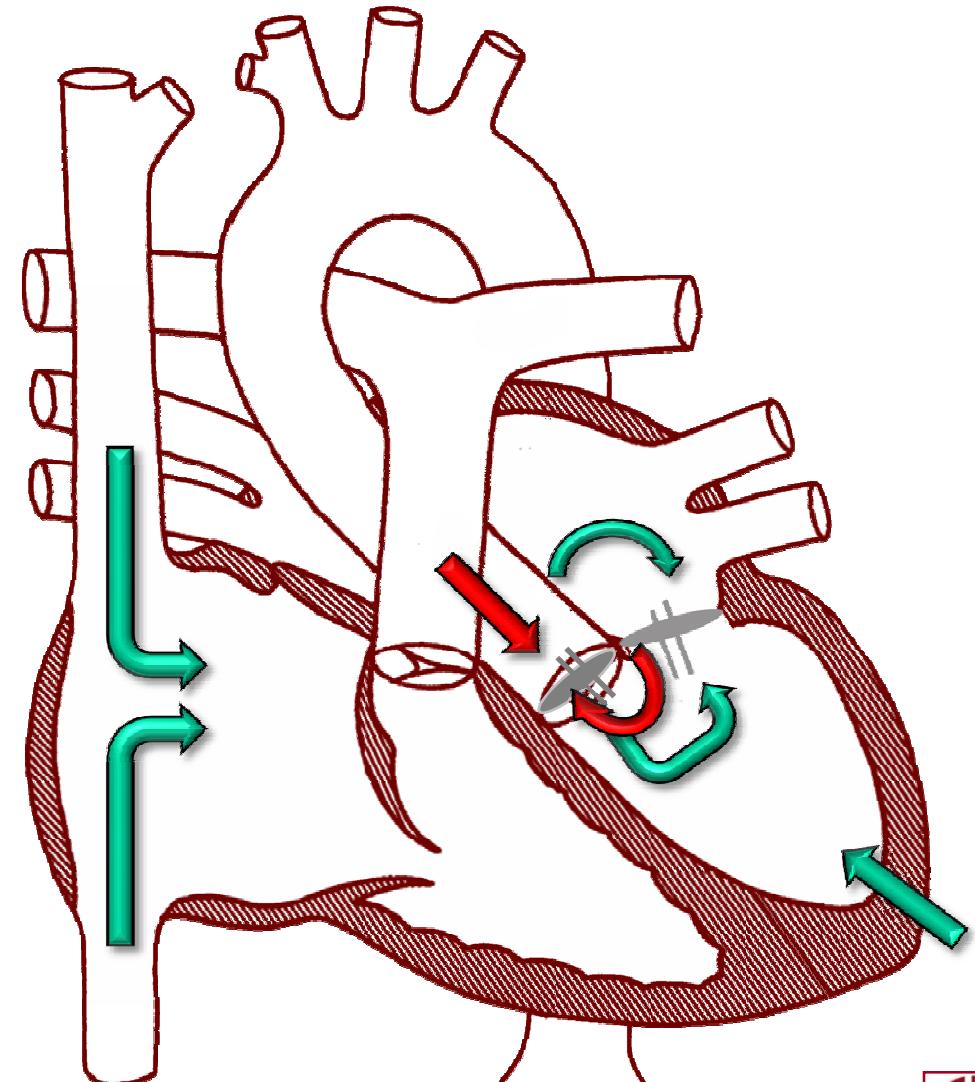
Three applications

- Paravalvular leak closure (Mitral)
- Transapical puncture
- TAVI (CoreValve)

Paravalvular Leaks

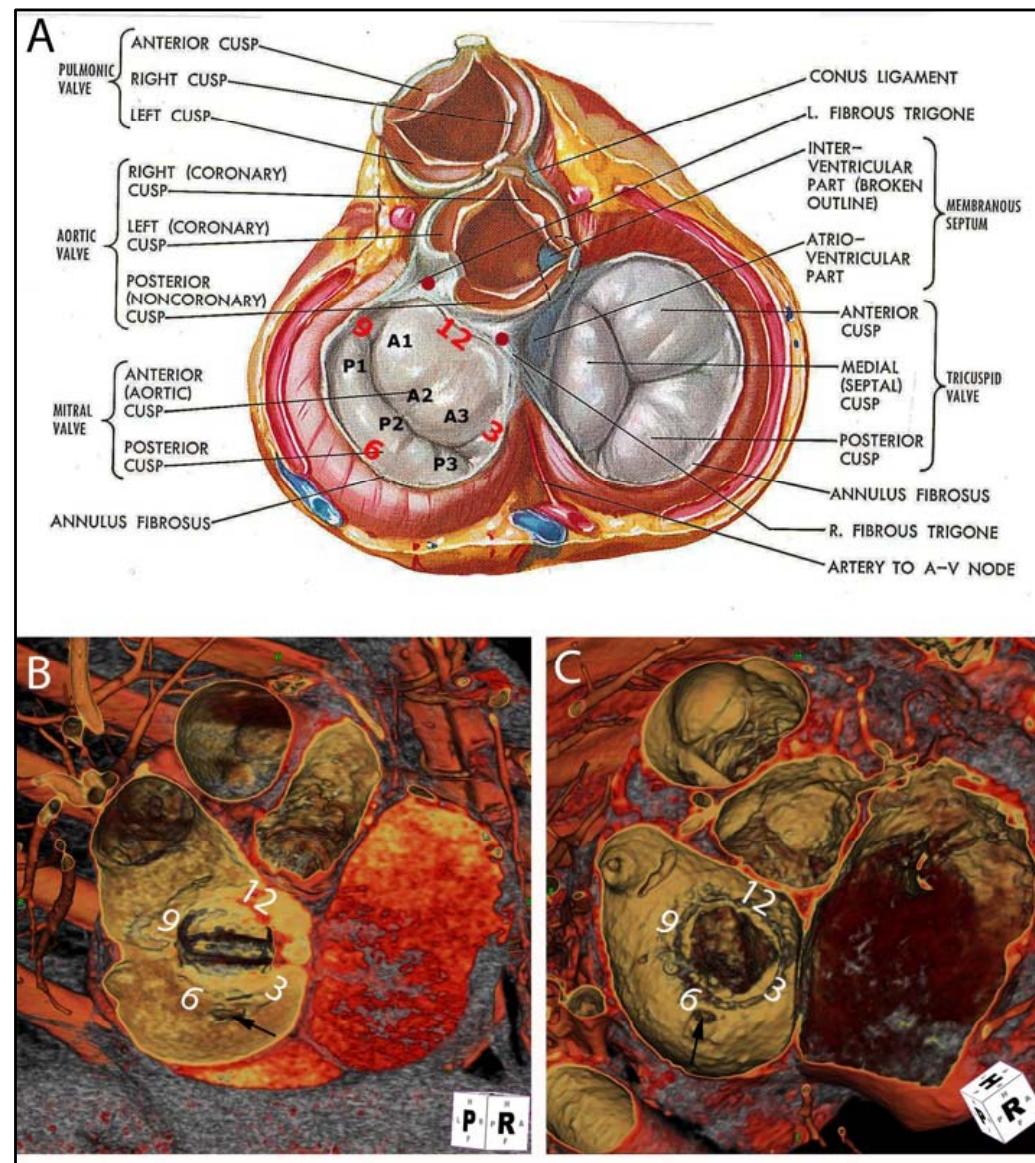
Access

- Location will determine the best access
- Access
 - Antegrade (transseptal)
 - IVC
 - SVC
 - Retrograde
 - Transapical

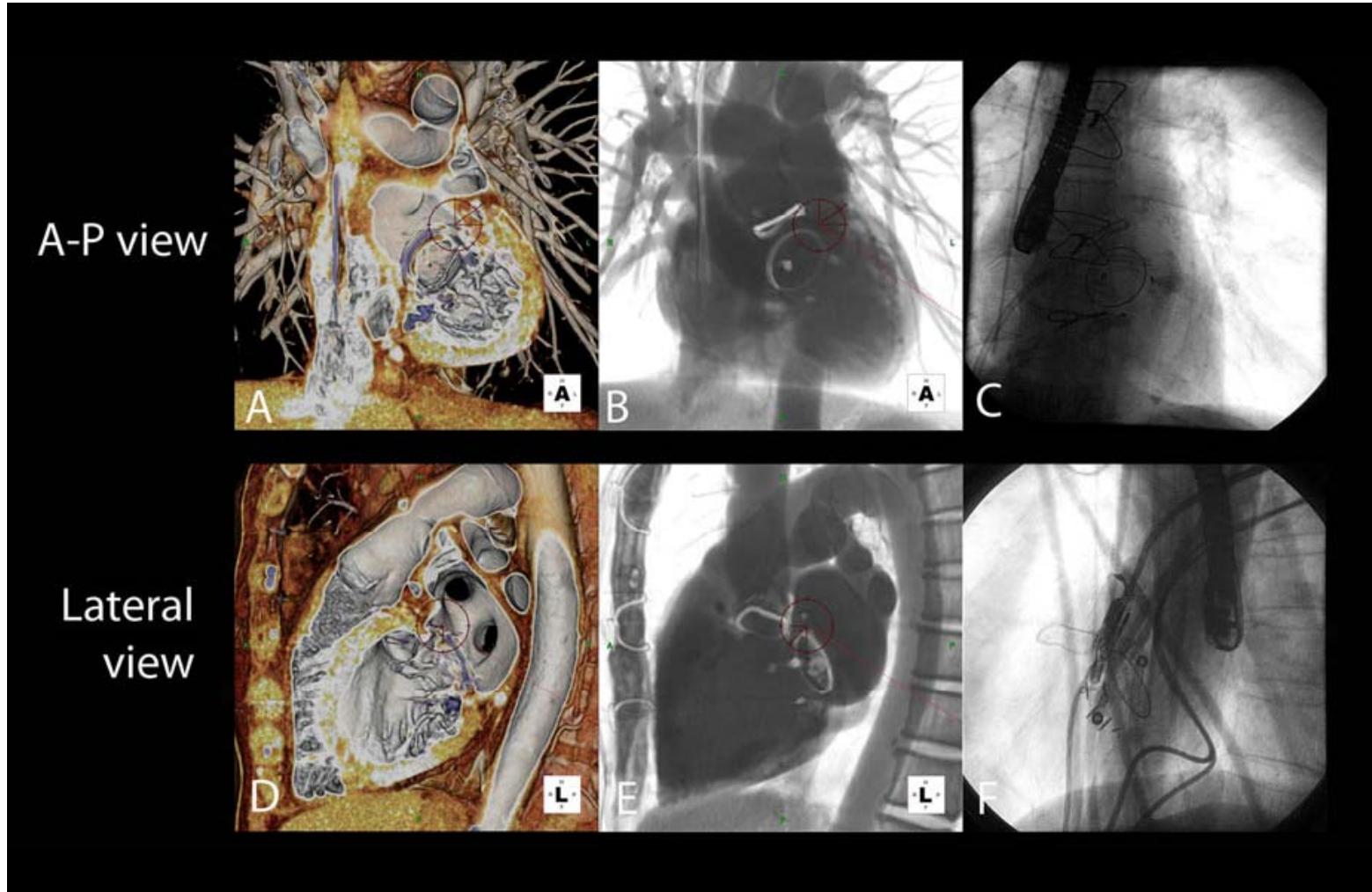


Paravalvular Leaks

Mitral Valve



4D CTA and Mitral PVL Closure



4D CTA and Mitral PVL Closure

February 2011

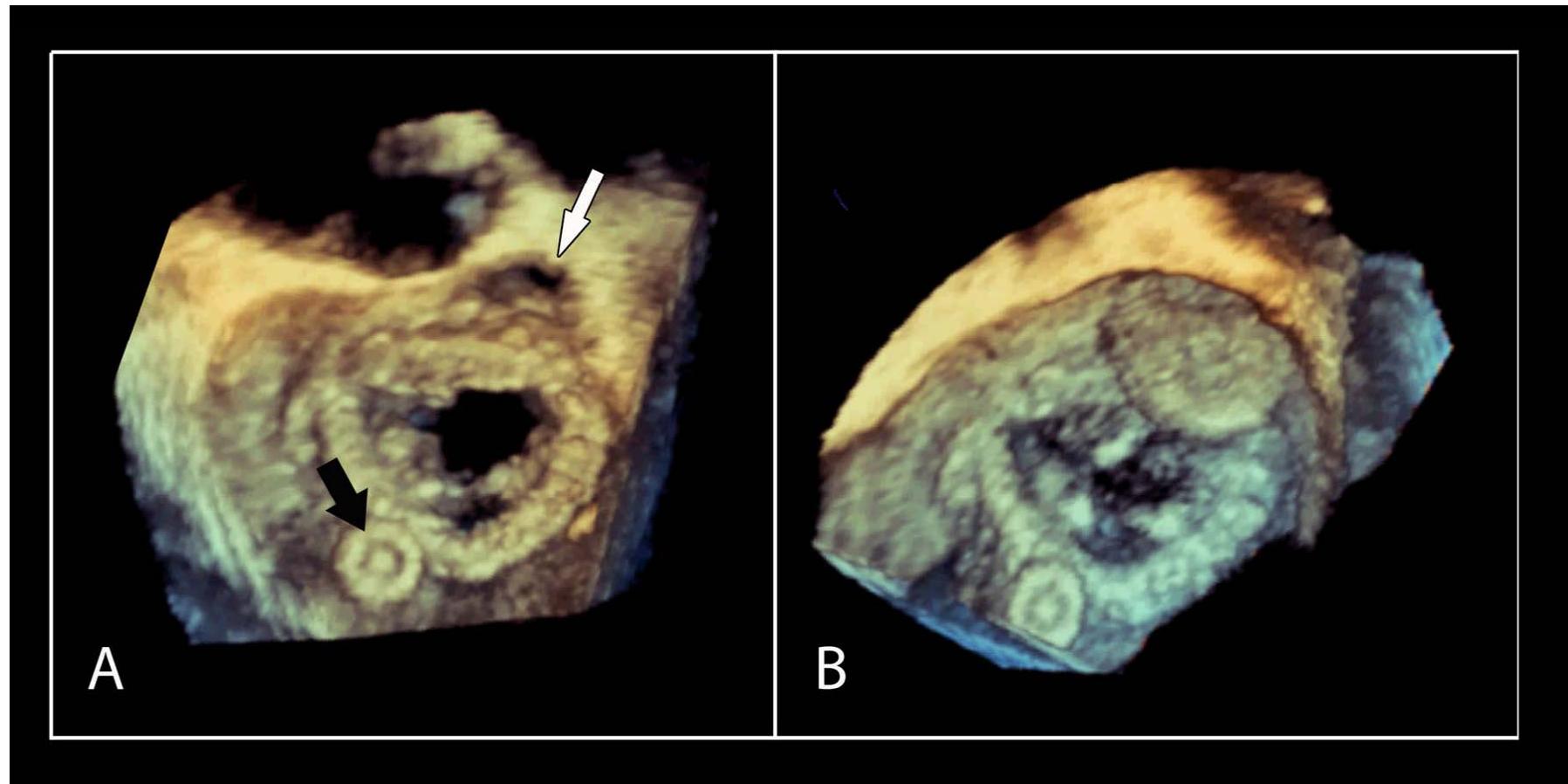
68 y/o male with multiple mitral paravalvular leaks

Transapical PVL closure procedure
with CTA guidance.



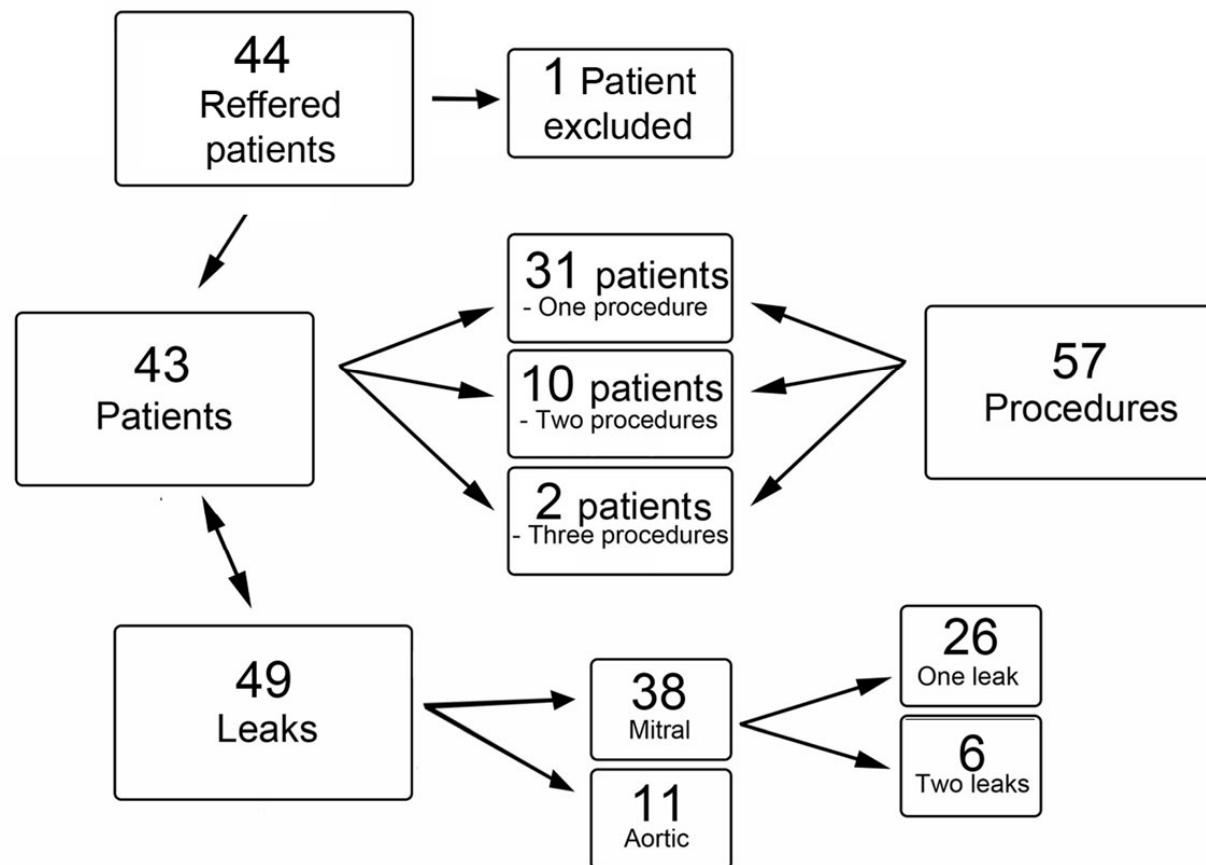
Operators: Carlos E. Ruiz, MD, PhD
Howard A. Cohen, MD

3D TEE and Mitral PVL Closure



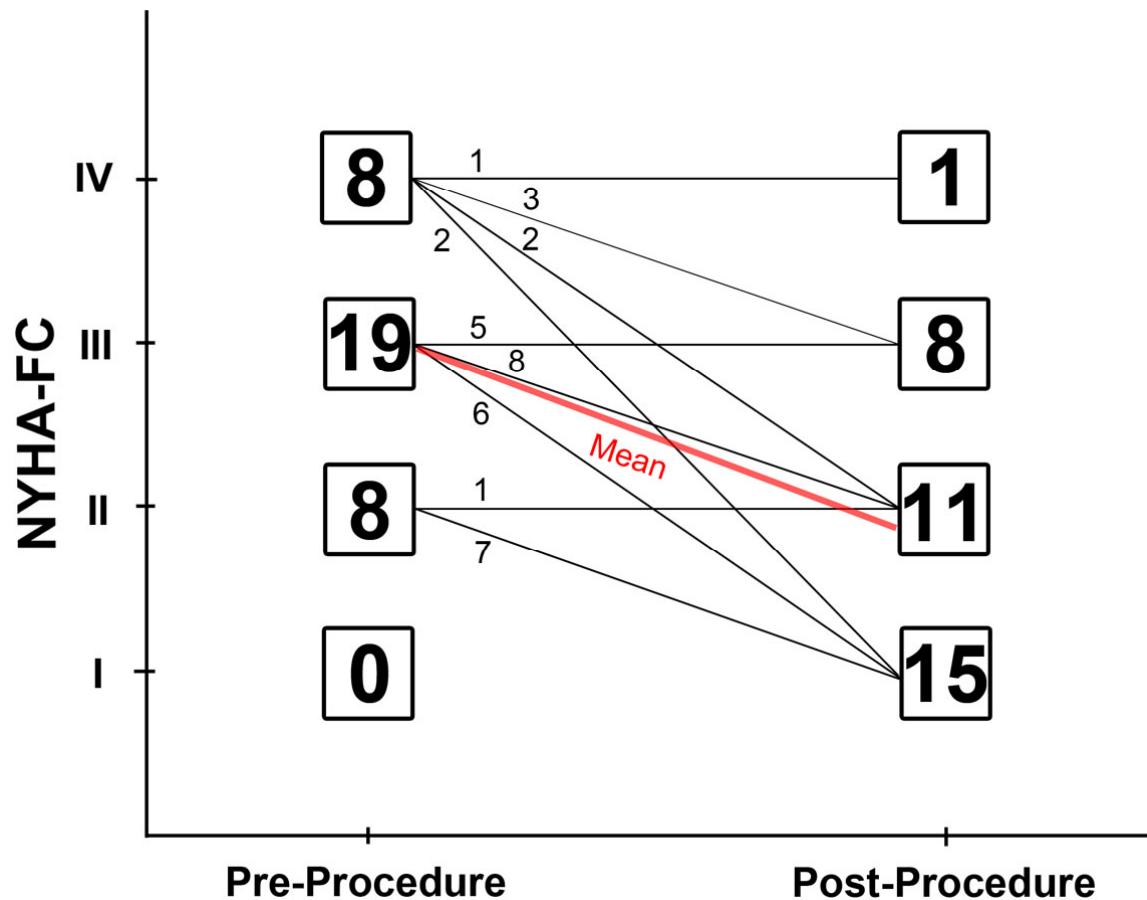
PERCUTANEOUS PVL CLOSURE

LHH EXPERIENCE



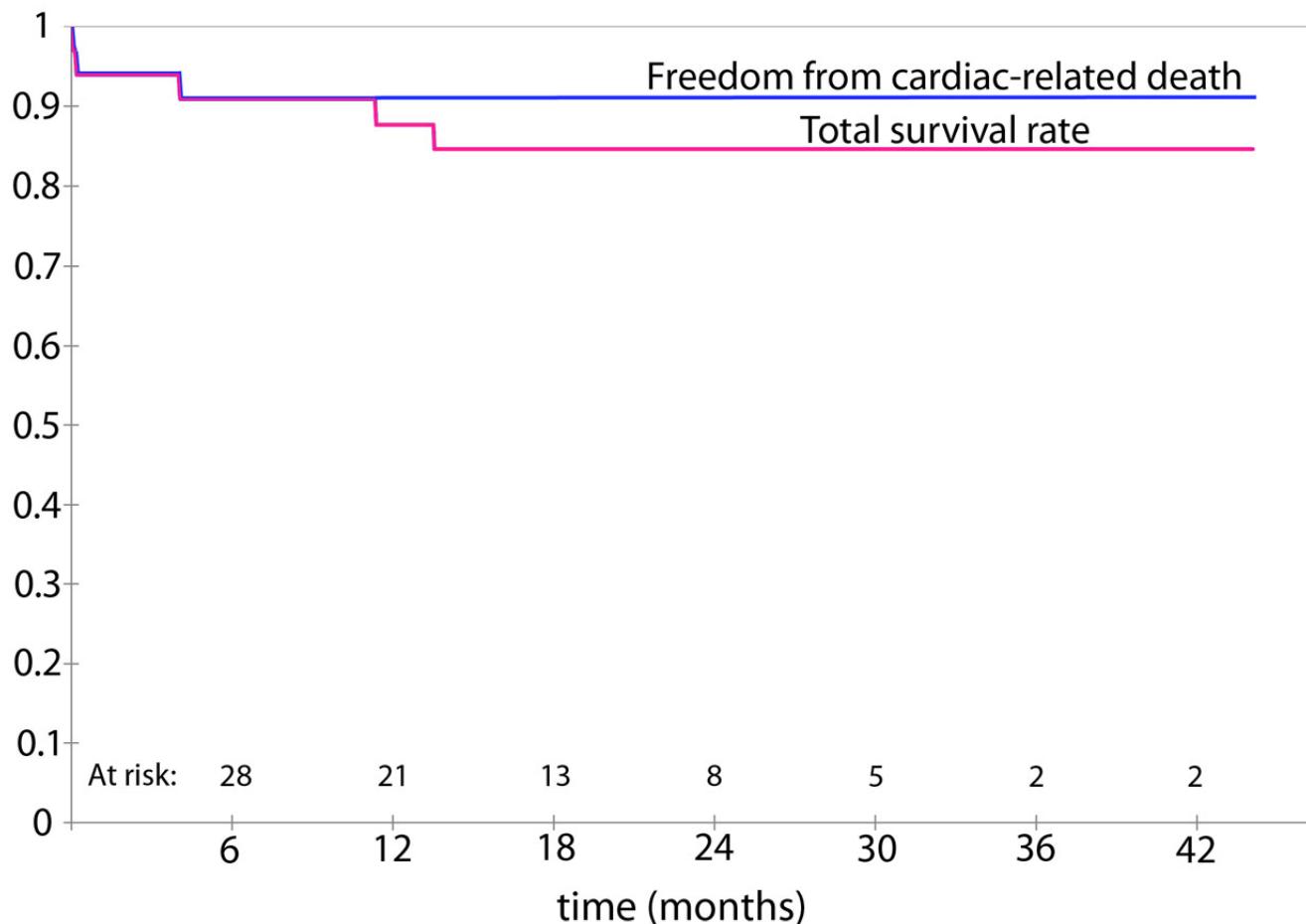
PERCUTANEOUS PVL CLOSURE

LHH EXPERIENCE

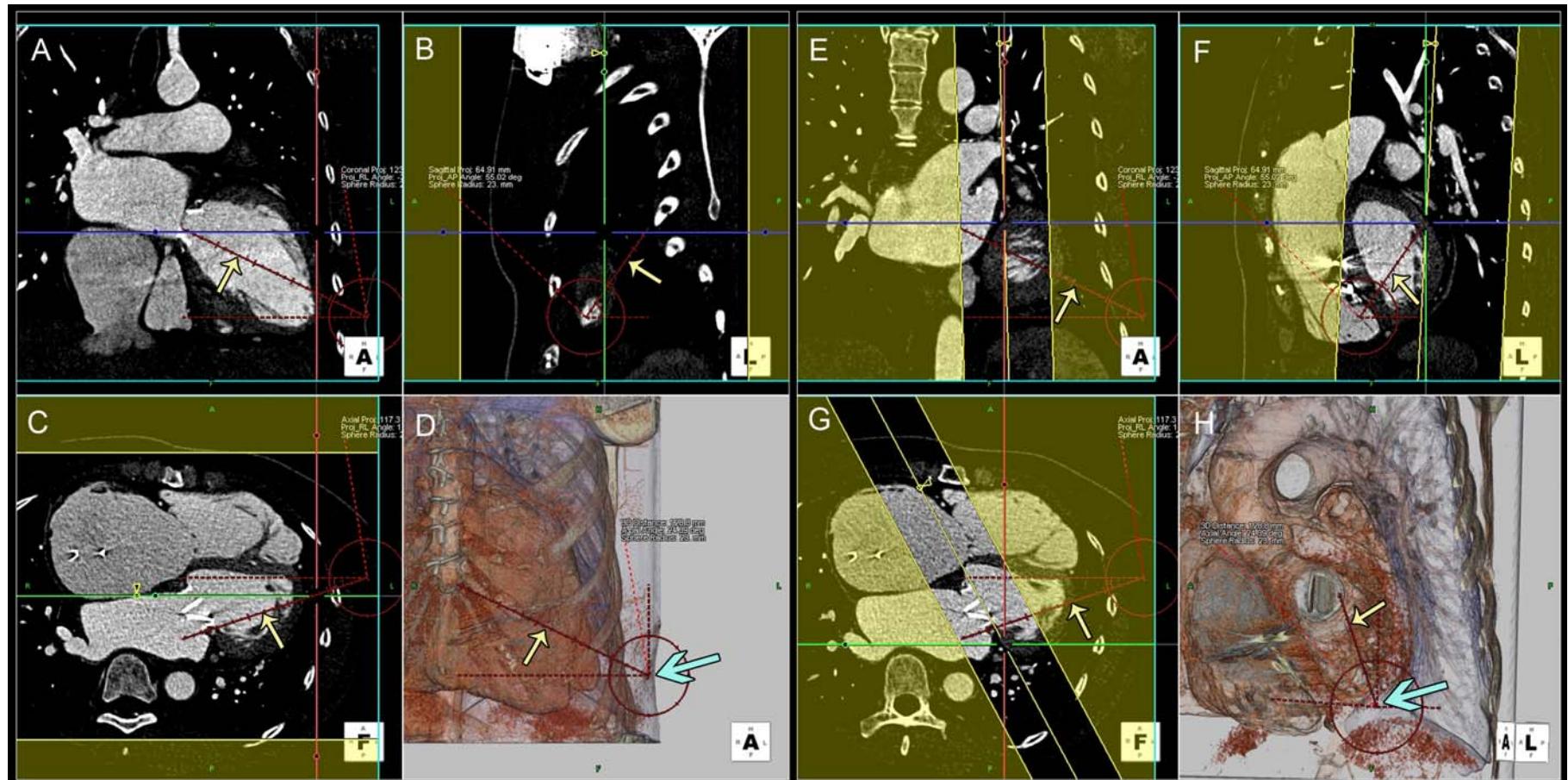


PERCUTANEOUS PVL CLOSURE

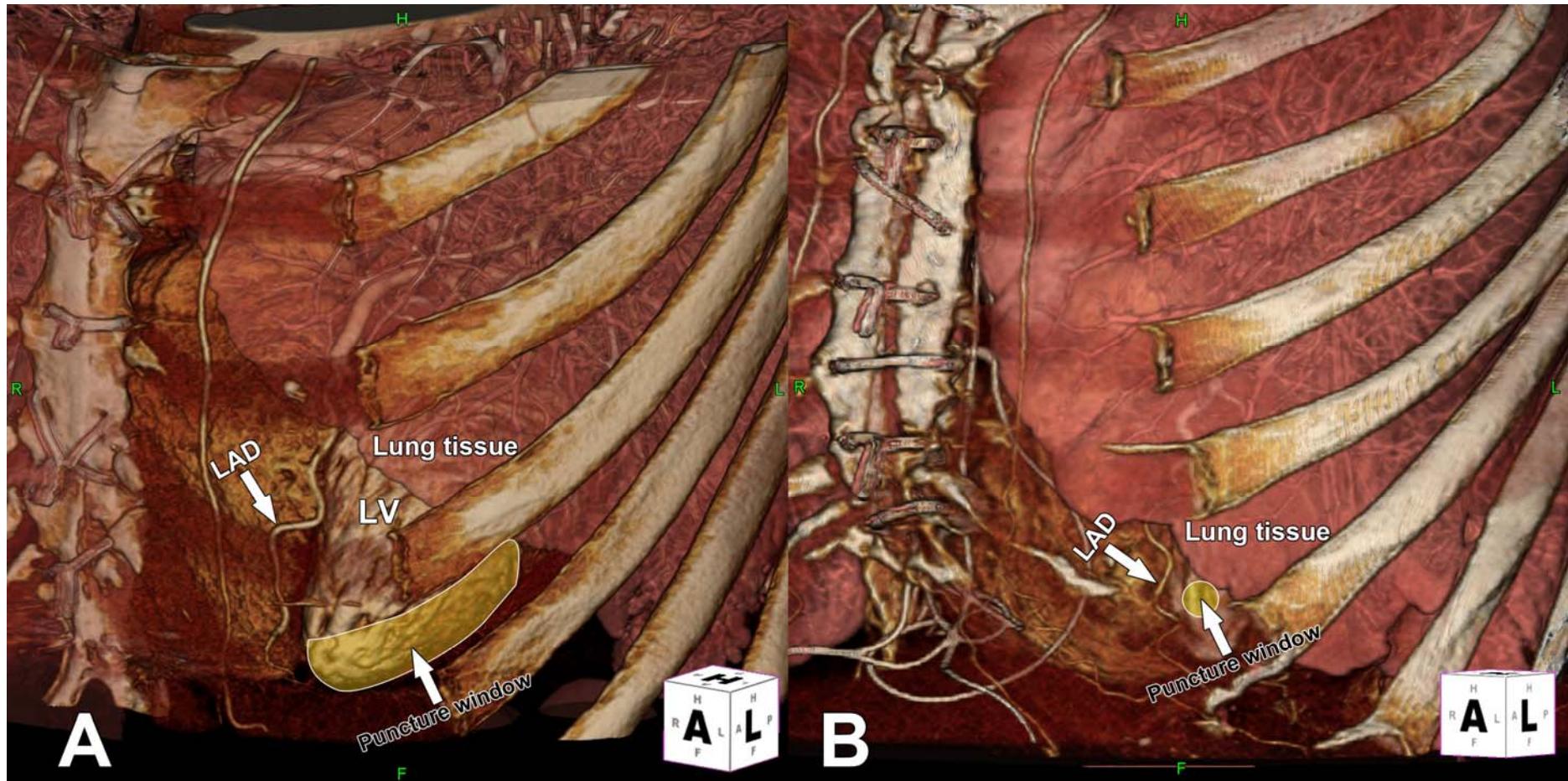
LHH EXPERIENCE



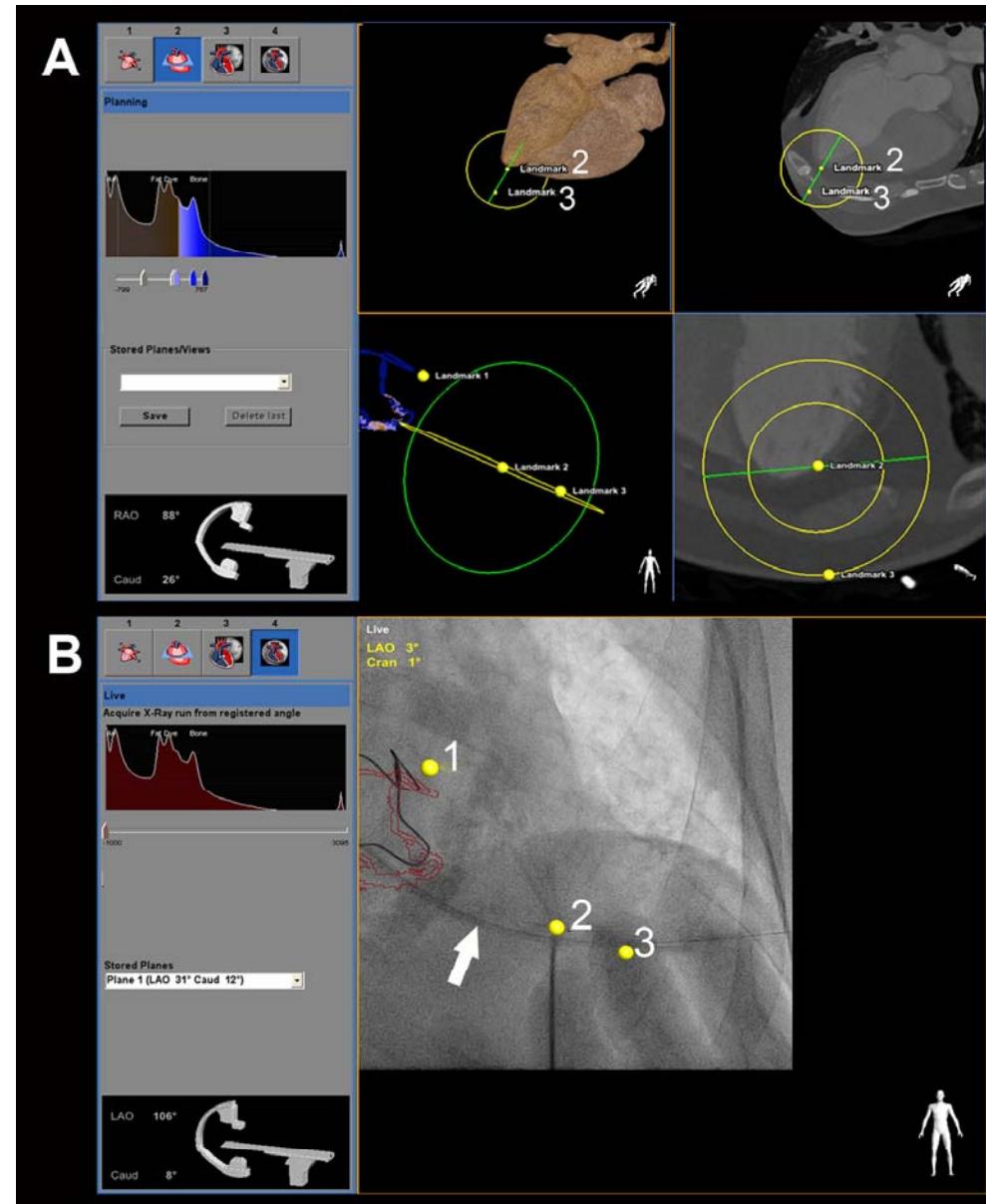
4D CTA and TRANSAPICAL ACCESS



4D CTA and TRANSAPICAL ACCESS



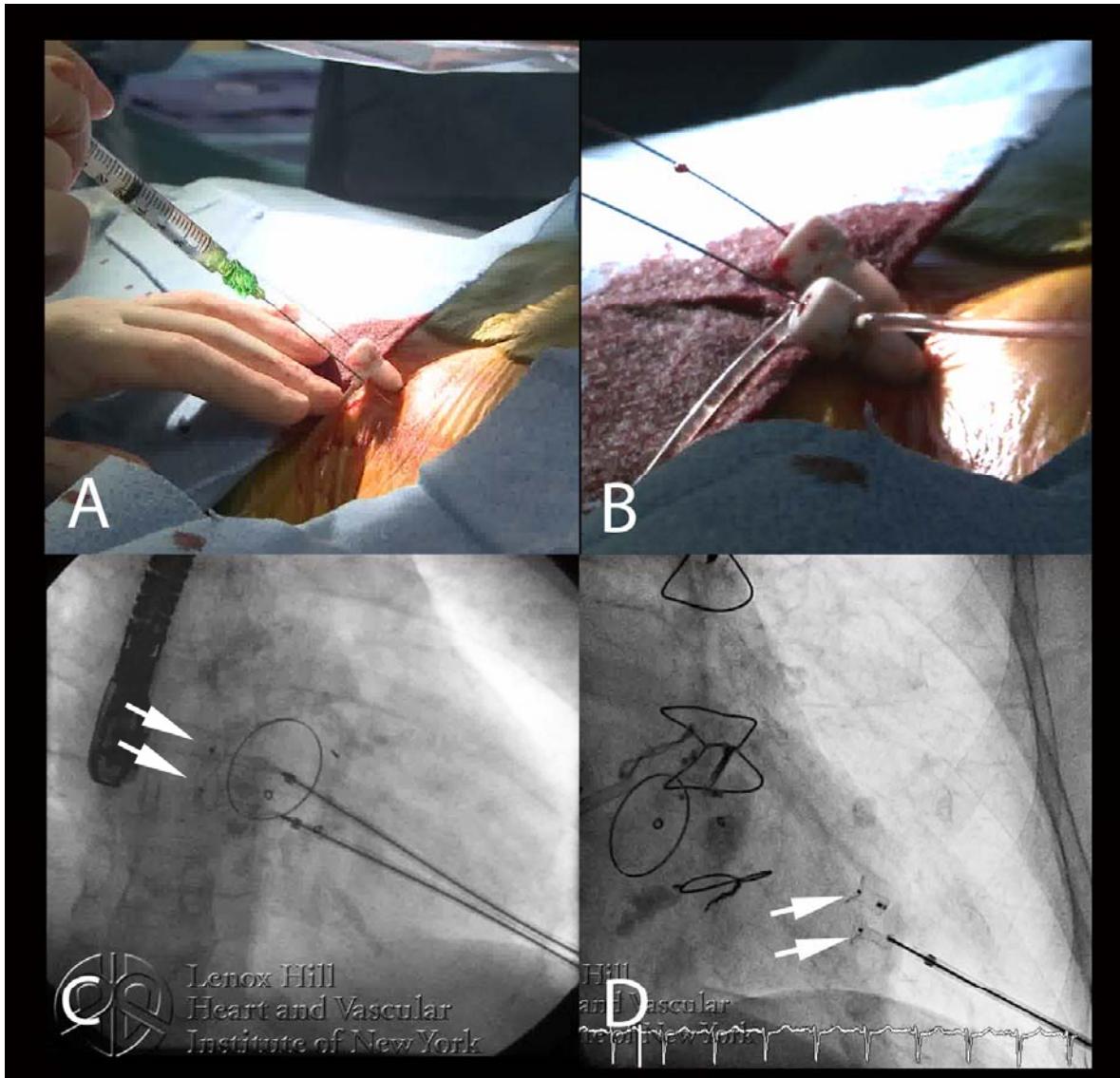
4D CTA and FLOUROSCOPIC COREGISTRATION



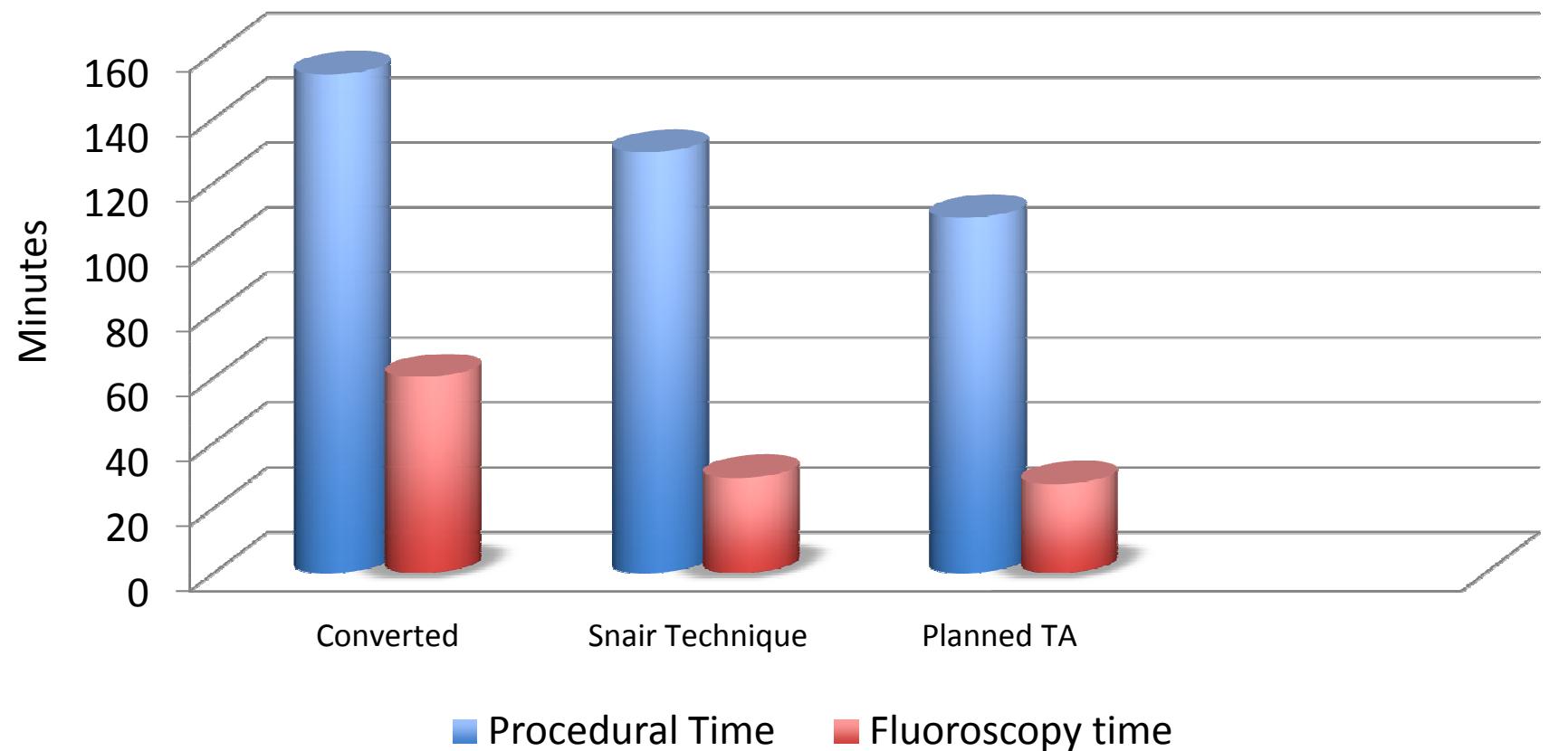
4D CTA and TRANSAPICAL ACCESS



4D CTA and TRANSAPICAL ACCESS



TRANS-APICAL ACCESS FOR MITRAL PVL CLOSURE



4D CTA AND TAVI

TAVI Imaging Requirements

- Fluoroscopy
- TEE
- CTA coregistration
 - Arterial puncture site
 - Precise deployment of CoreValve

4D CTA AND TAVI

82 y/o female with severe aortic stenosis.

TAVI (Corevalve)

Operators: Carlos E. Ruiz, MD, PhD
Howard A. Cohen, MD
Valavanur Subramanian, MD



Lenox Hill
Heart and Vascular
Institute of New York

March, 2011



THANK YOU

