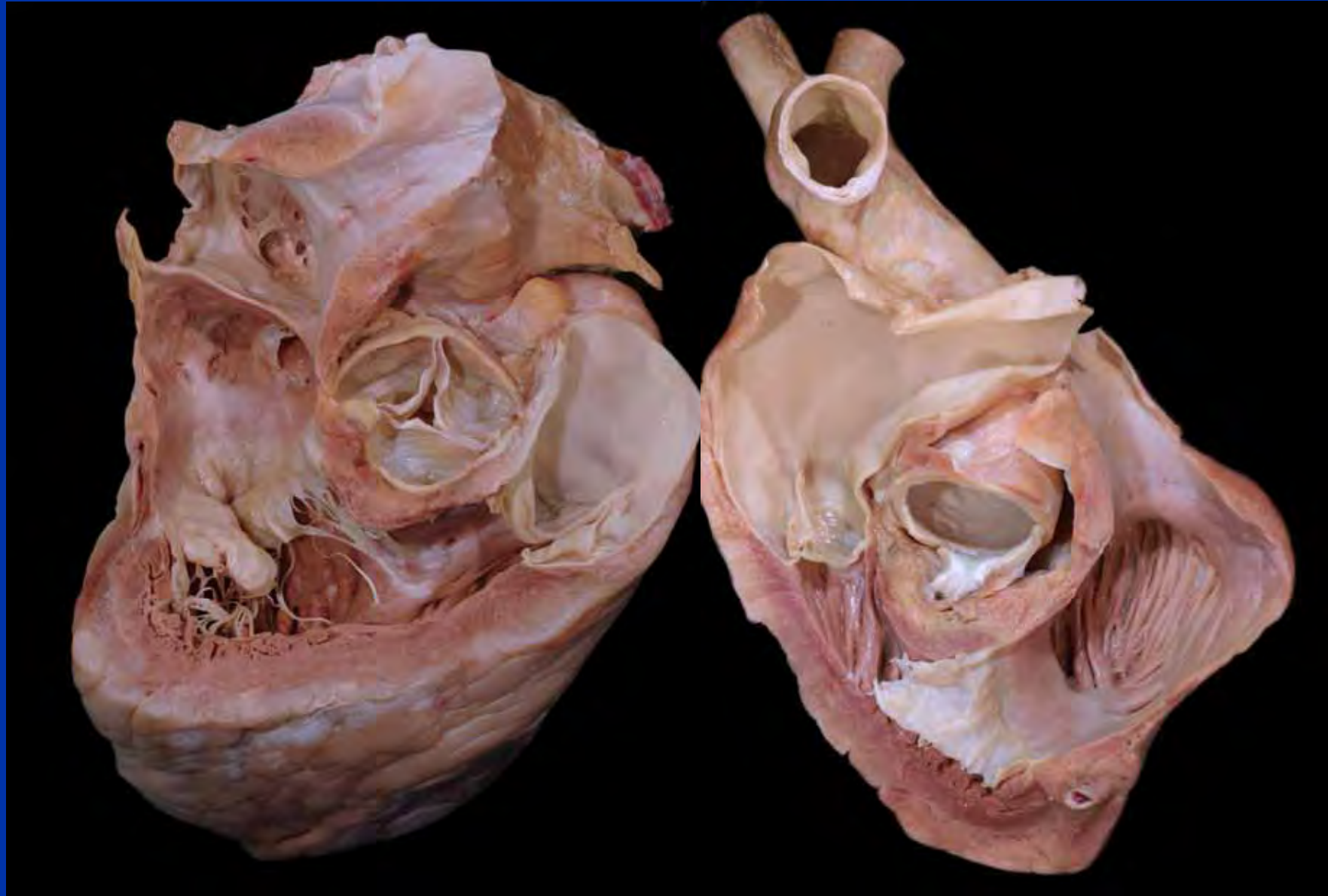


# Implication of Septal Anatomy for ASD and PFO Closure

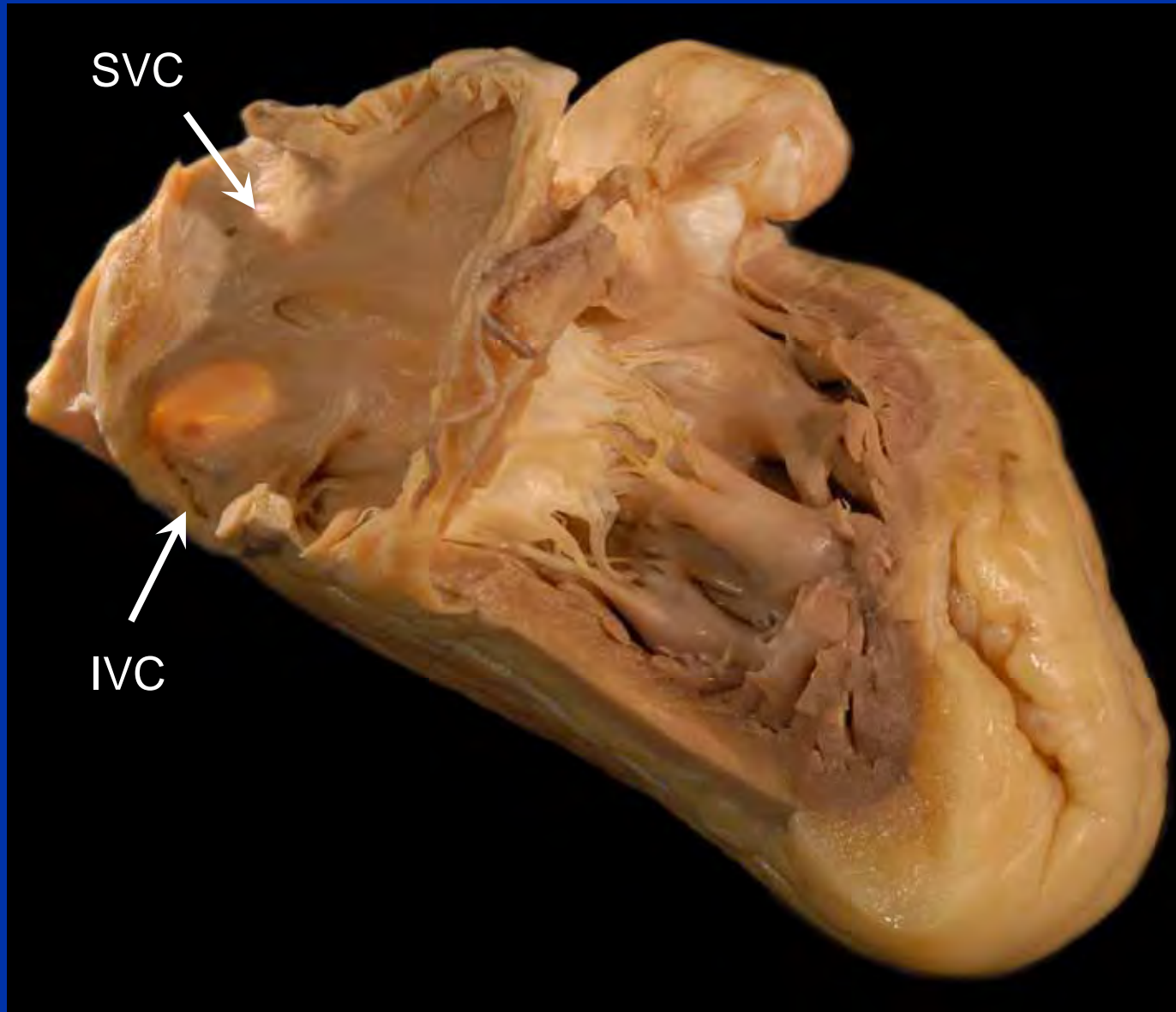
**Samir Kapadia, MD**

Professor of Medicine  
Director, Cardiac Catheterization Laboratories  
Cleveland Clinic, USA

# Cardiac Anatomy



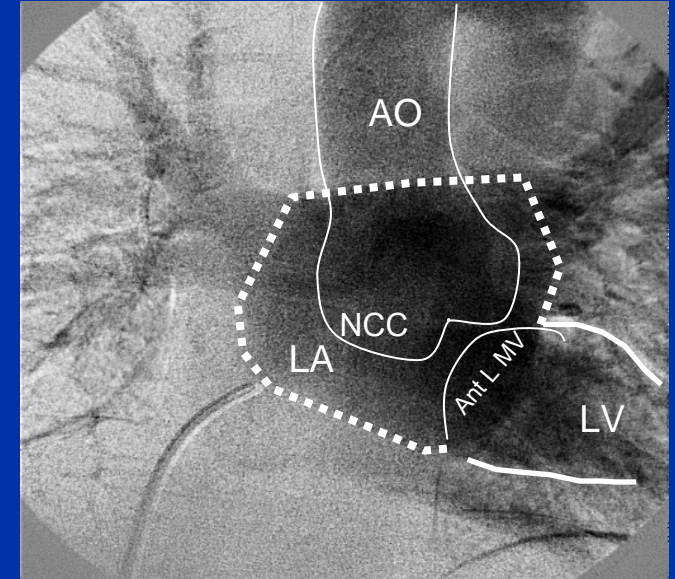
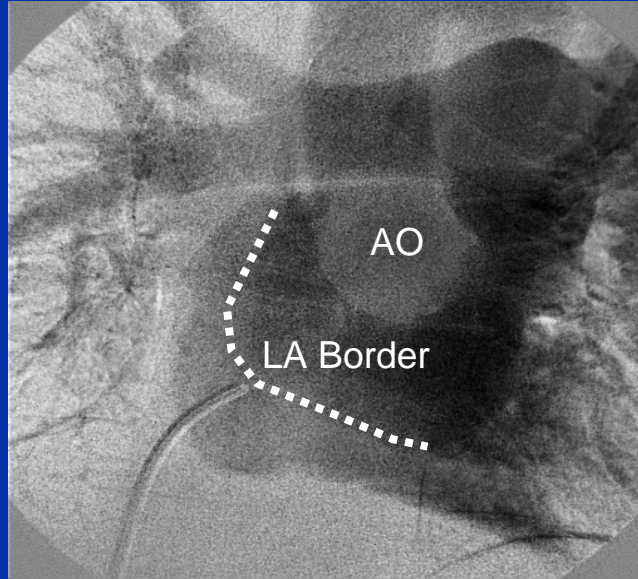
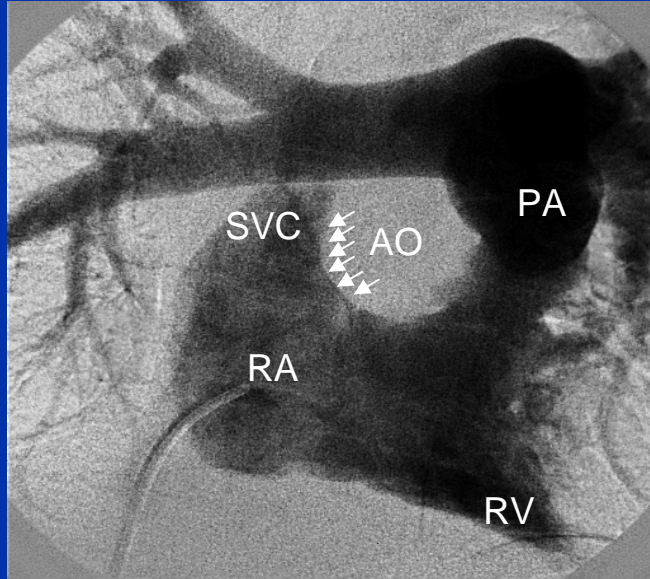
# Interatrial Septum



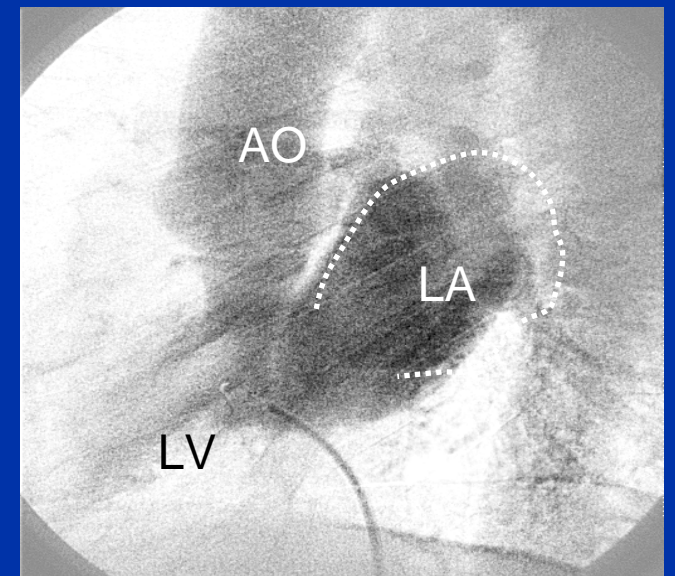
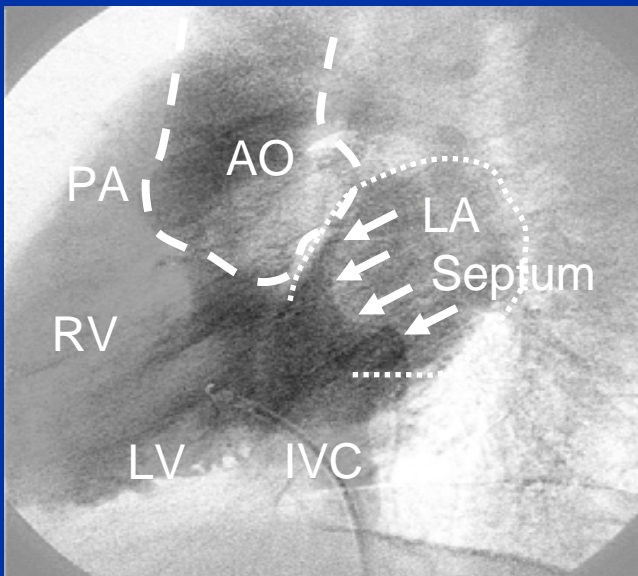
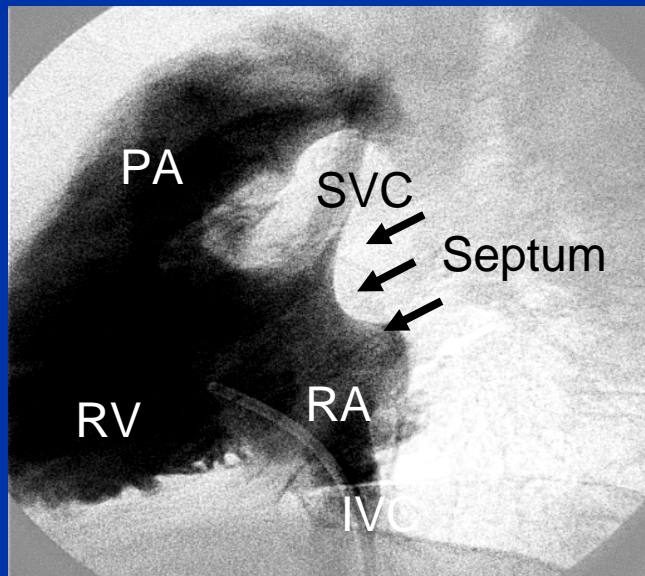
# Aortic – Mitral and Septal Relations



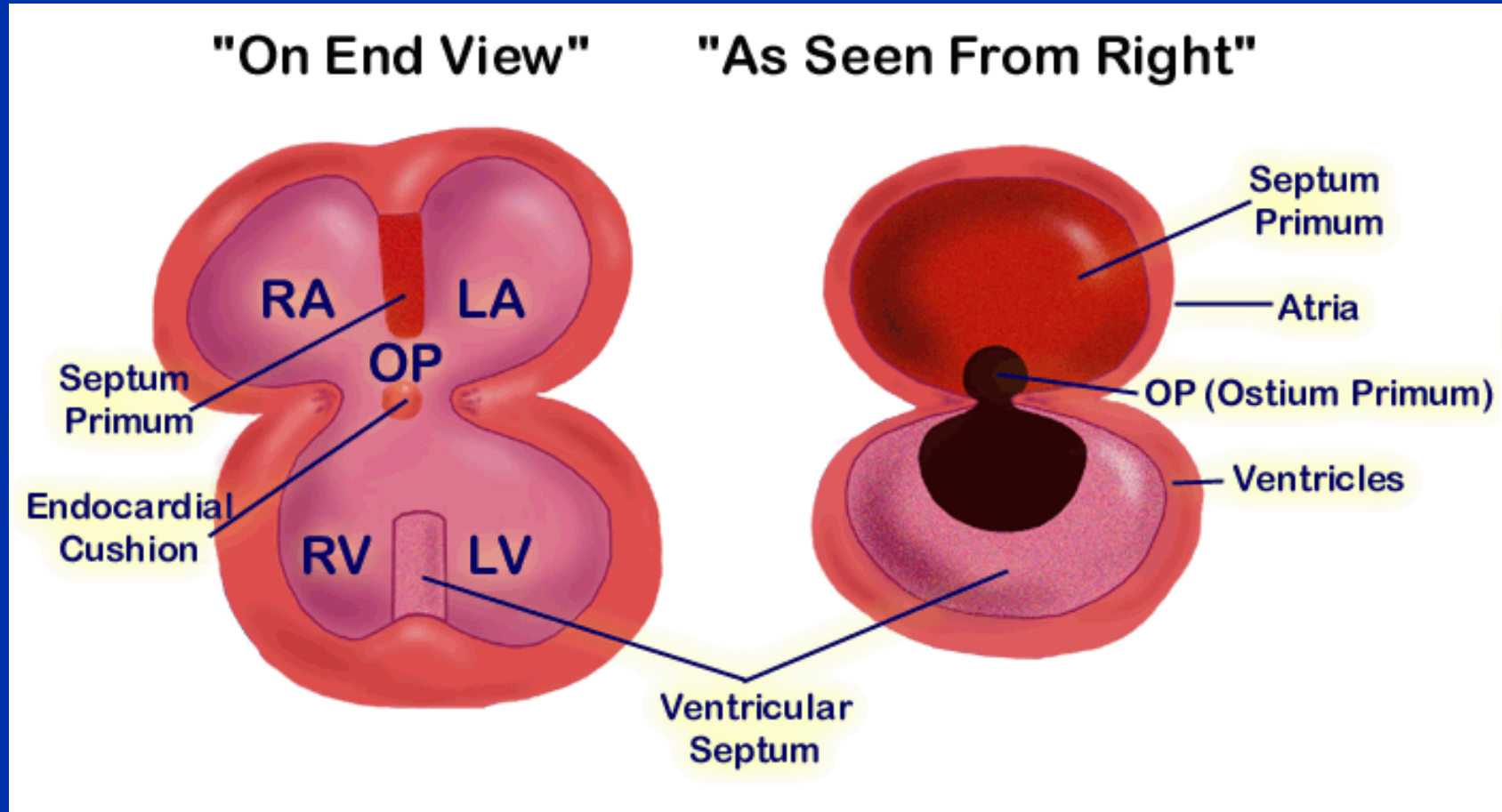
## Flouro Anatomy: AP



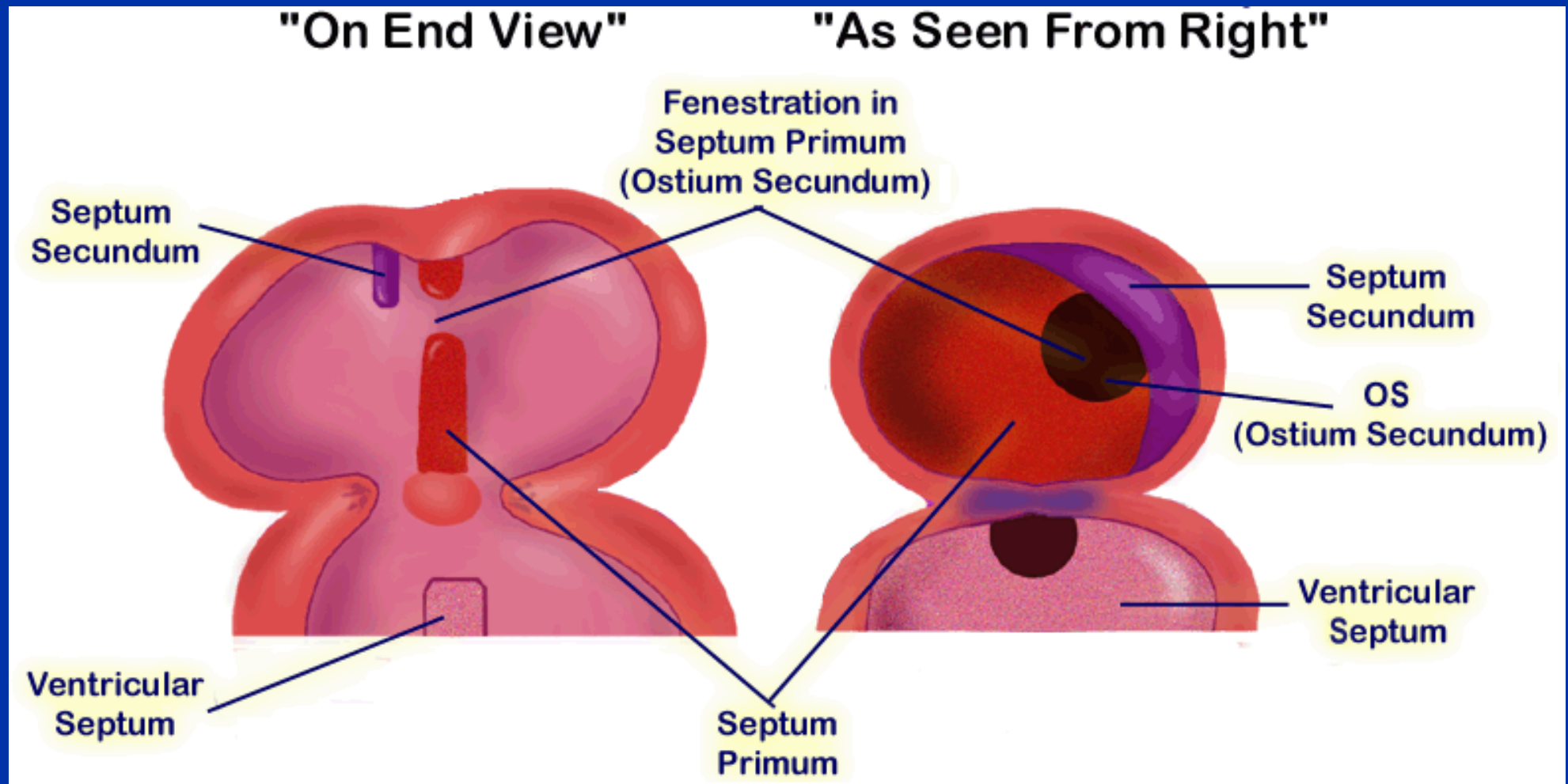
## Flouro Anatomy: LATERAL



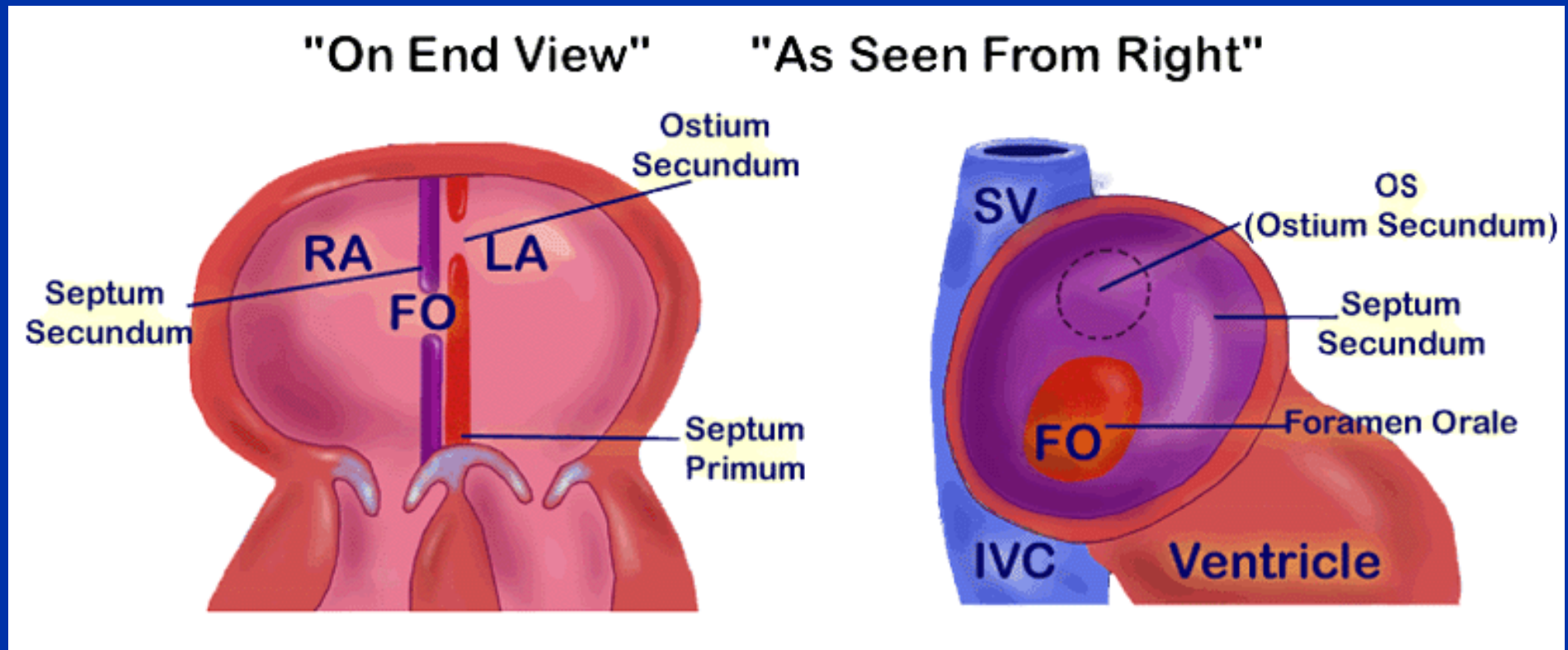
# Development of Interatrial Septum



# Development of Interatrial Septum

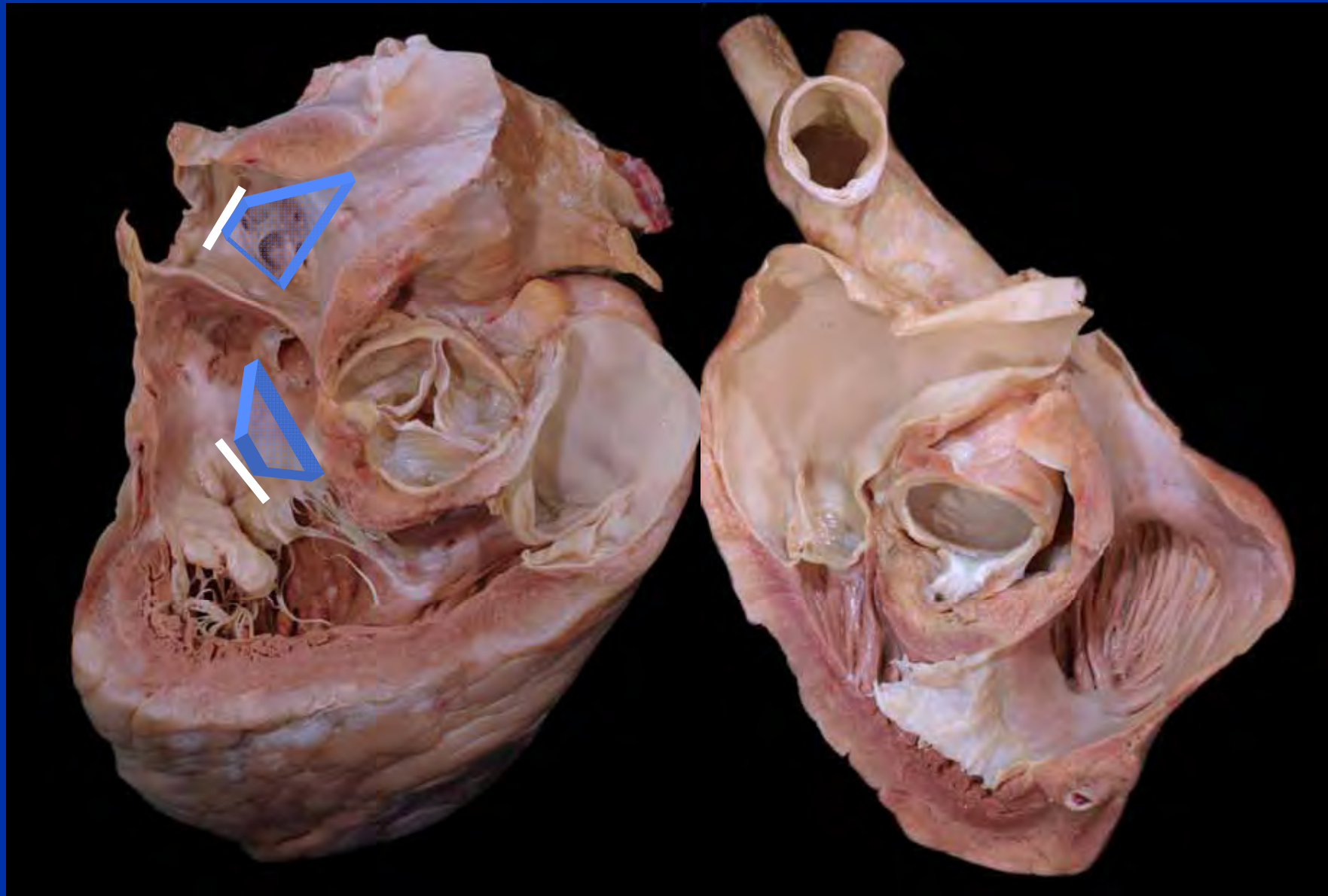


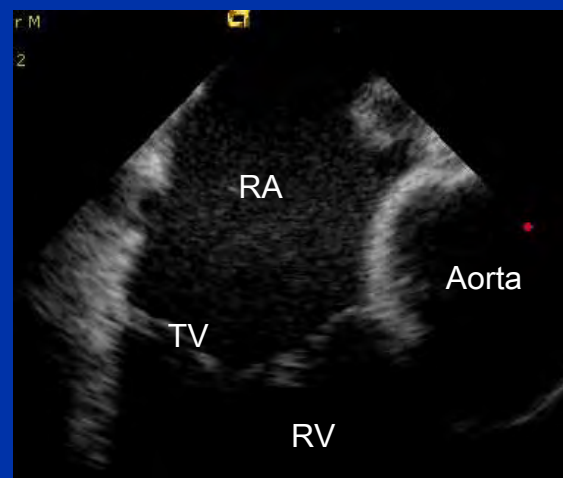
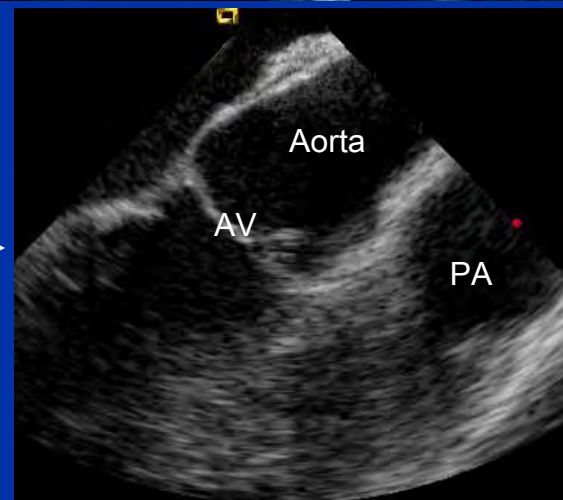
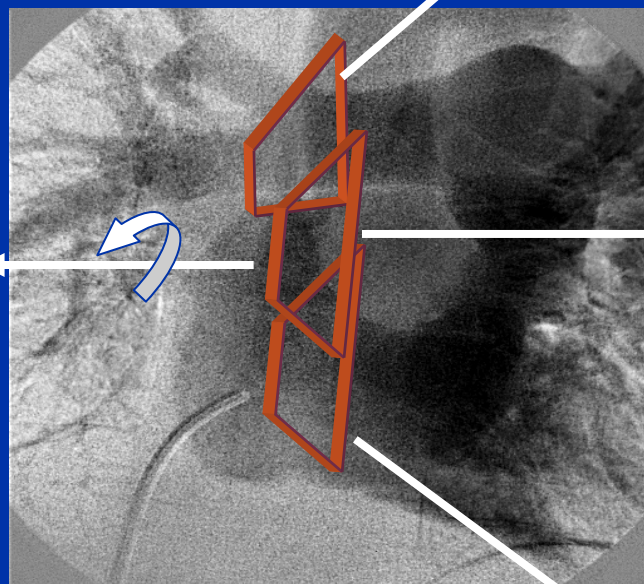
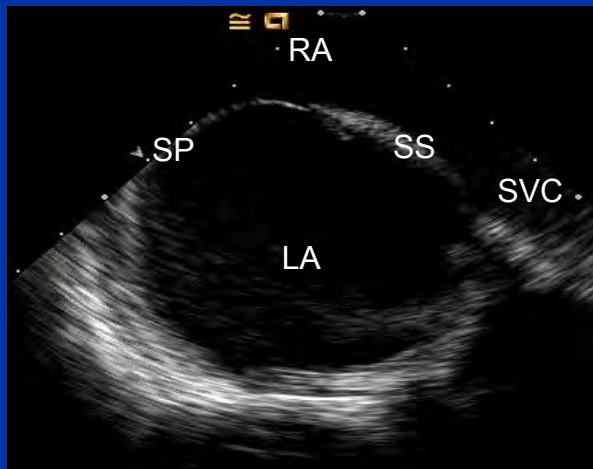
# Development of Interatrial Septum



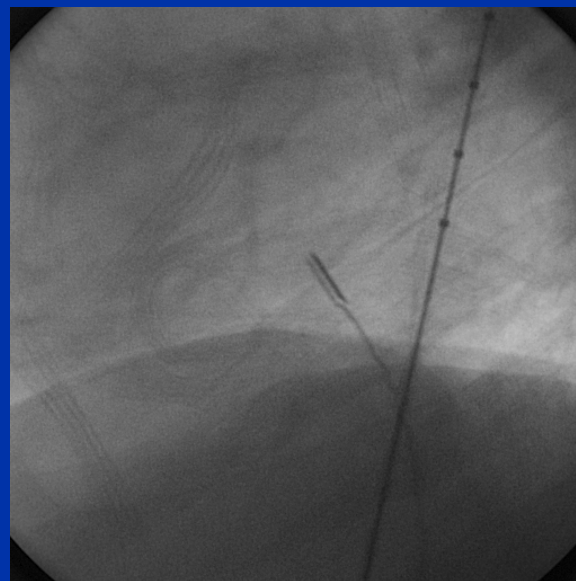
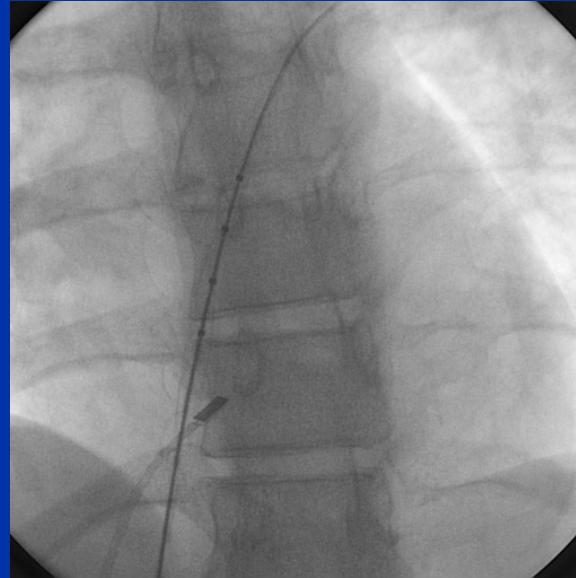
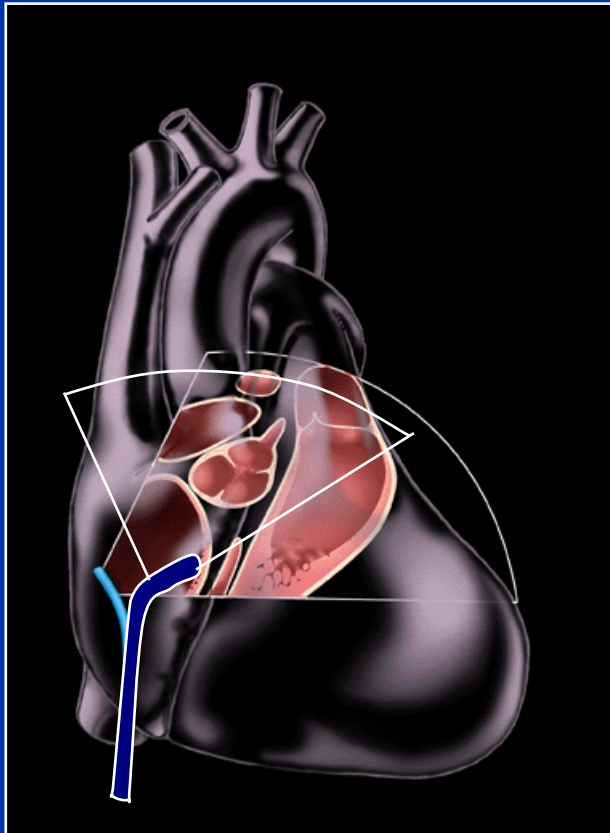


# Cardiac Anatomy by ICE

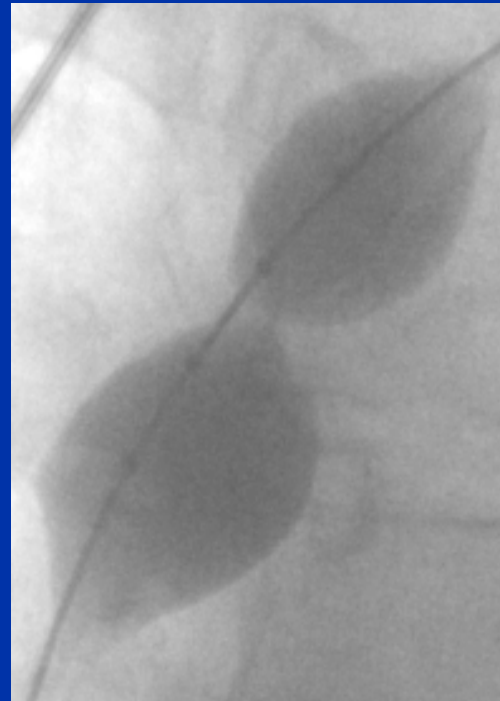
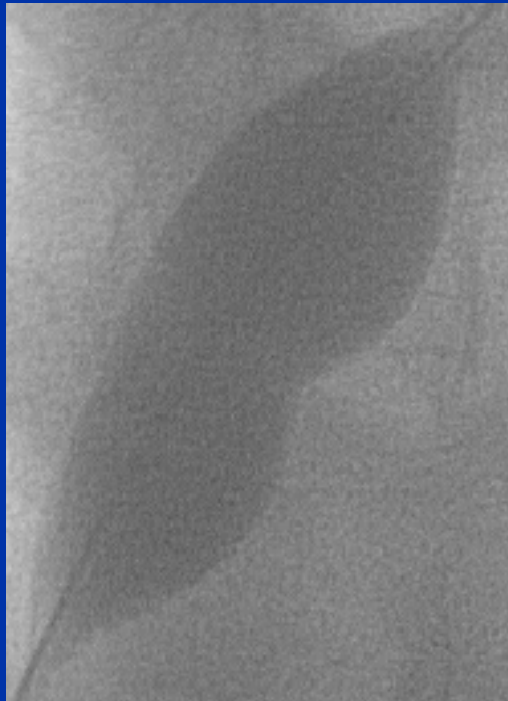
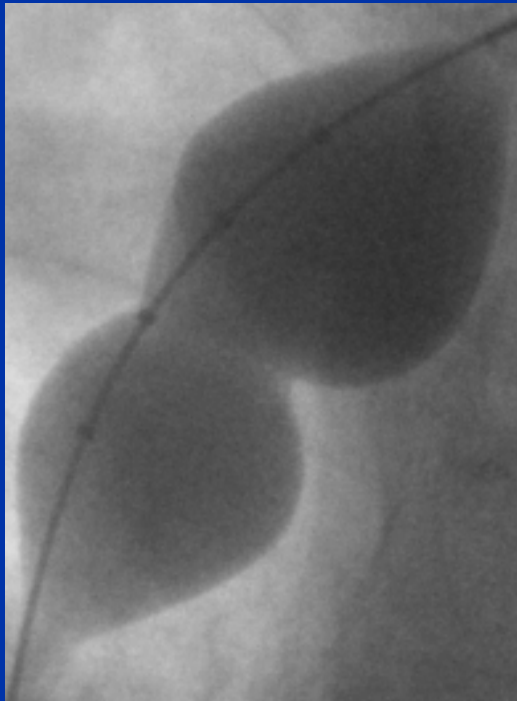




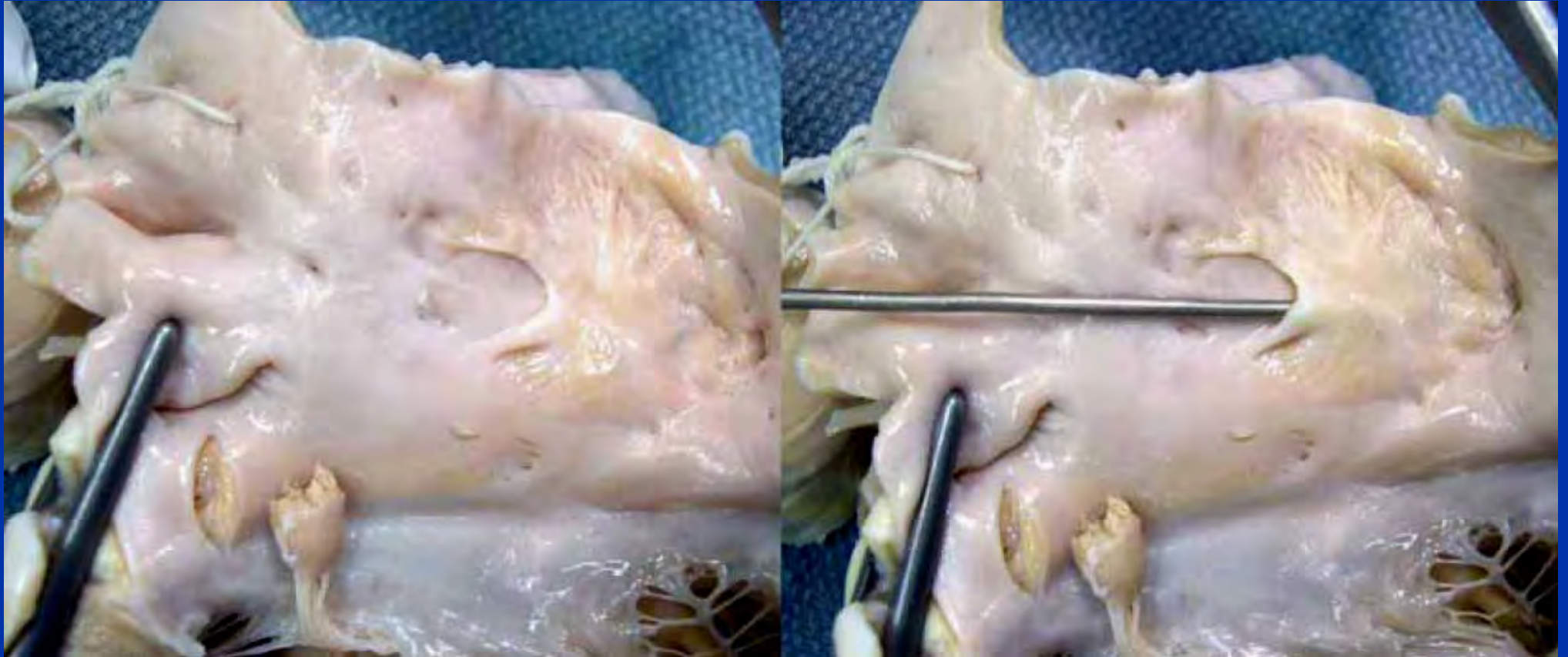
# Anterior Horizontal View



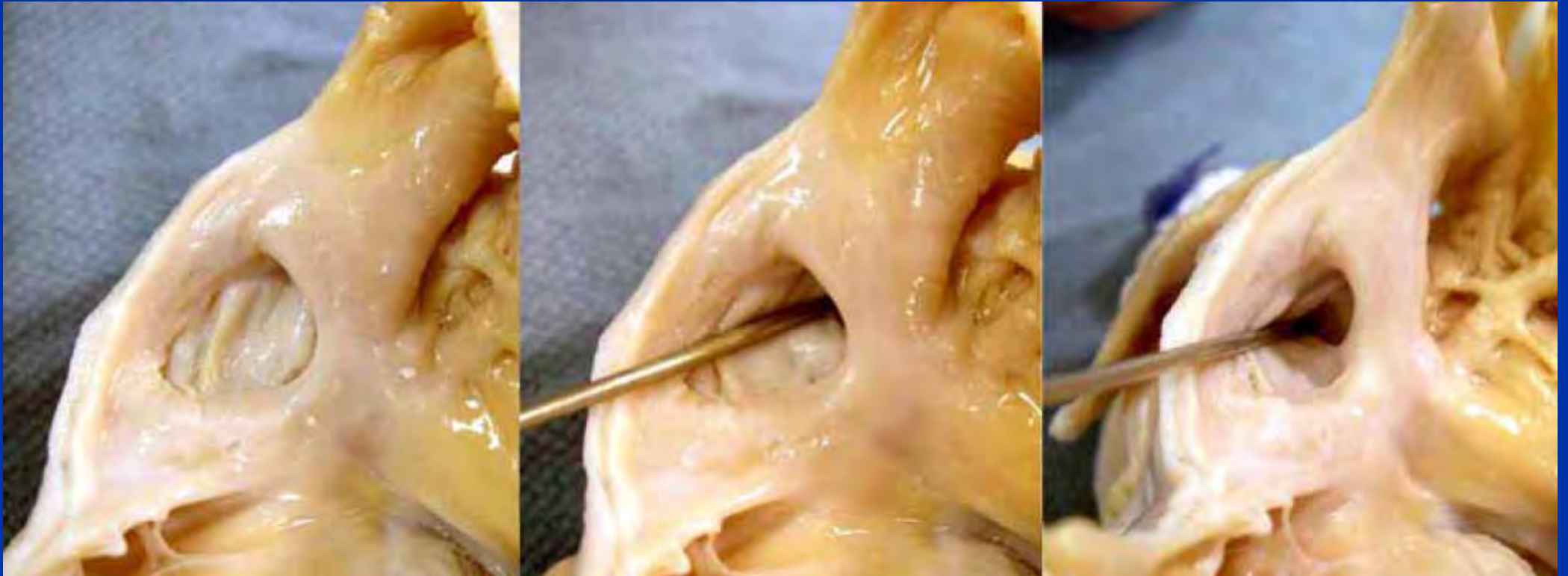
# Various Shapes and Sizes of PFO



# PFO Anatomy



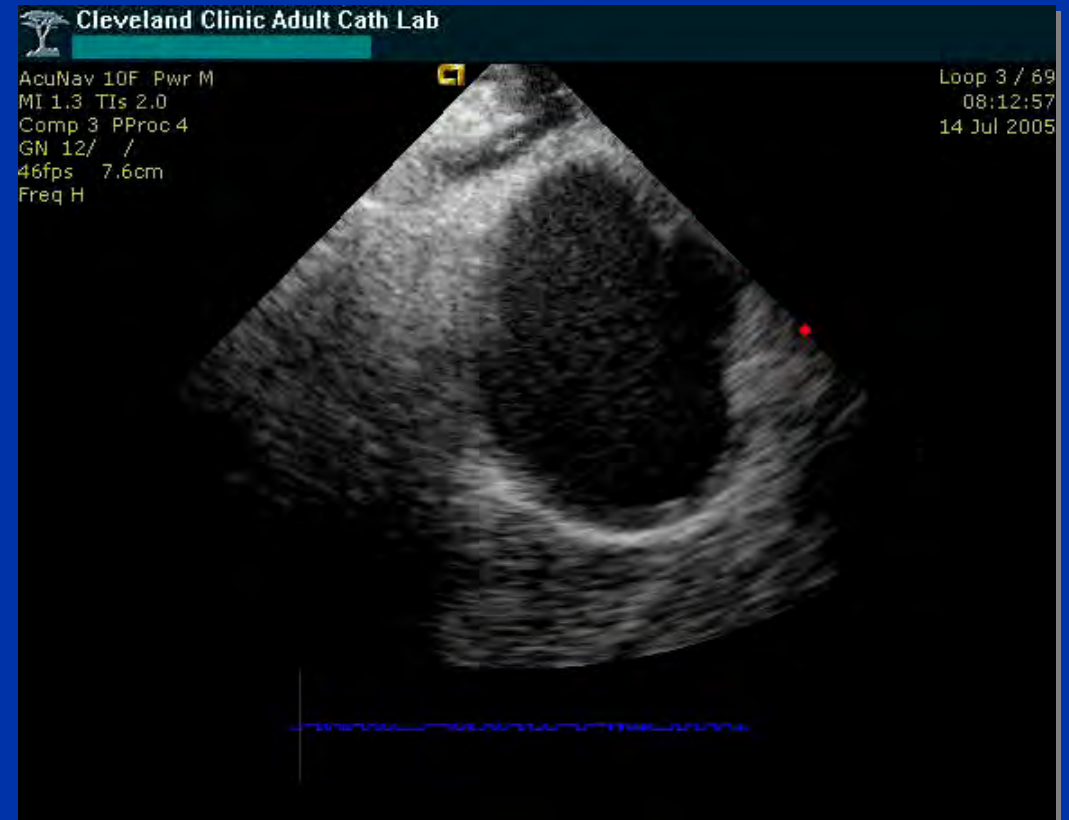
# Mobile Septum with Thick SS



# ASA

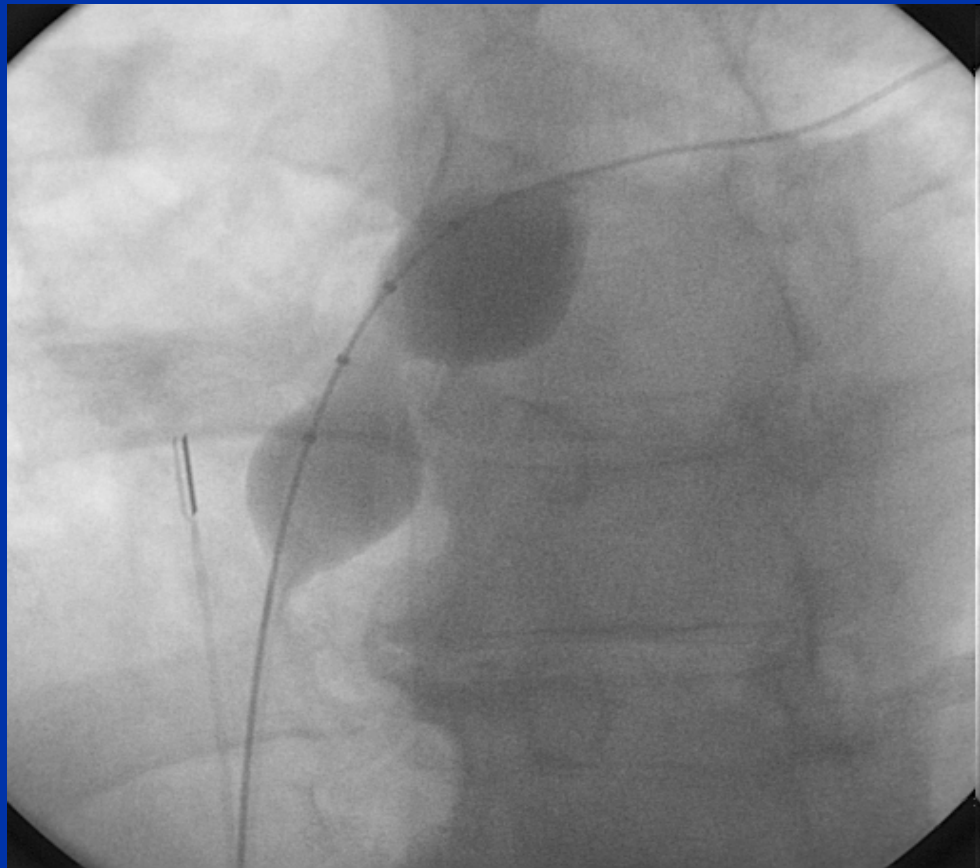


# Hypertrophied Septum Secundum and a Long Tunnel

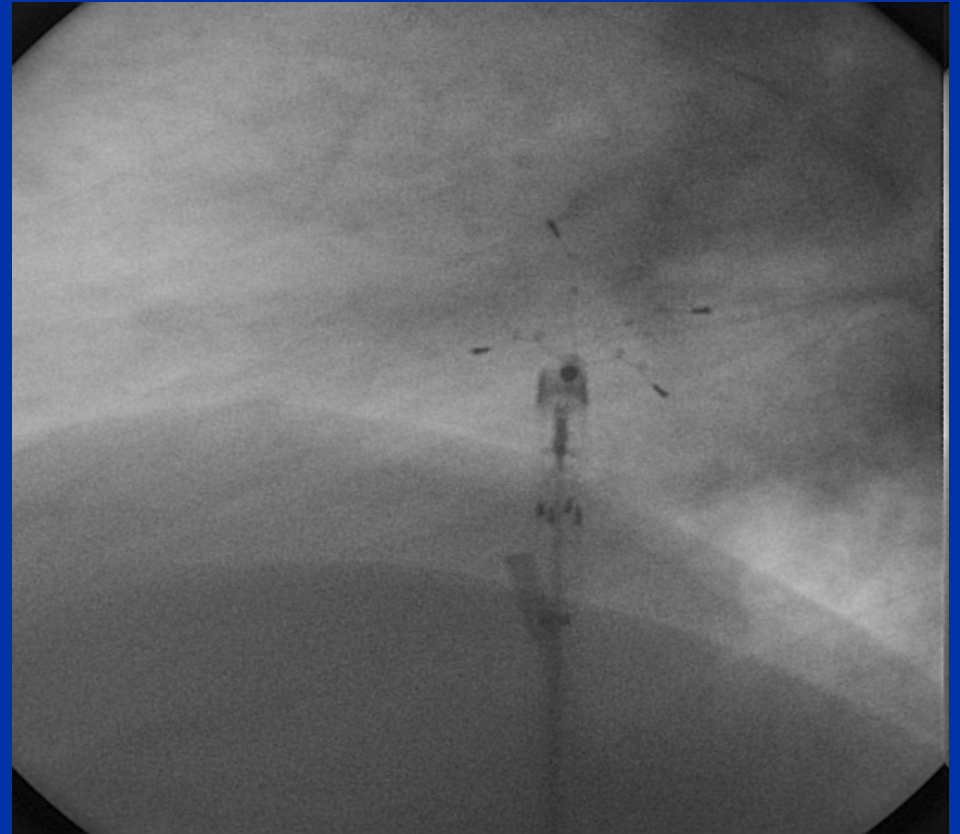
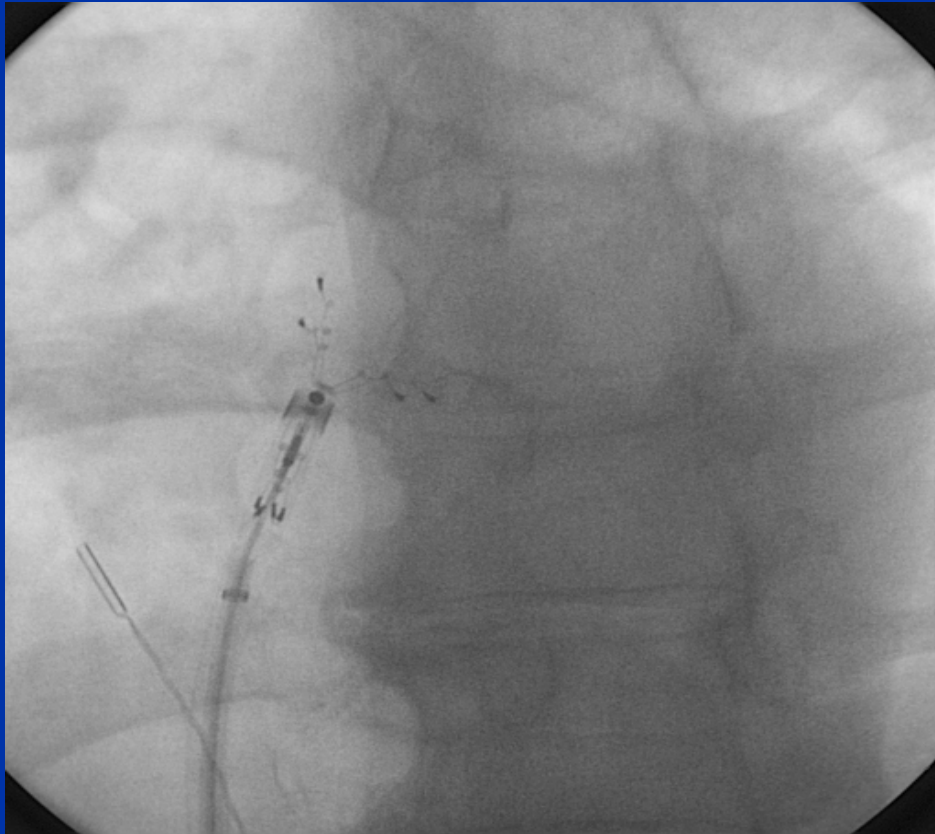




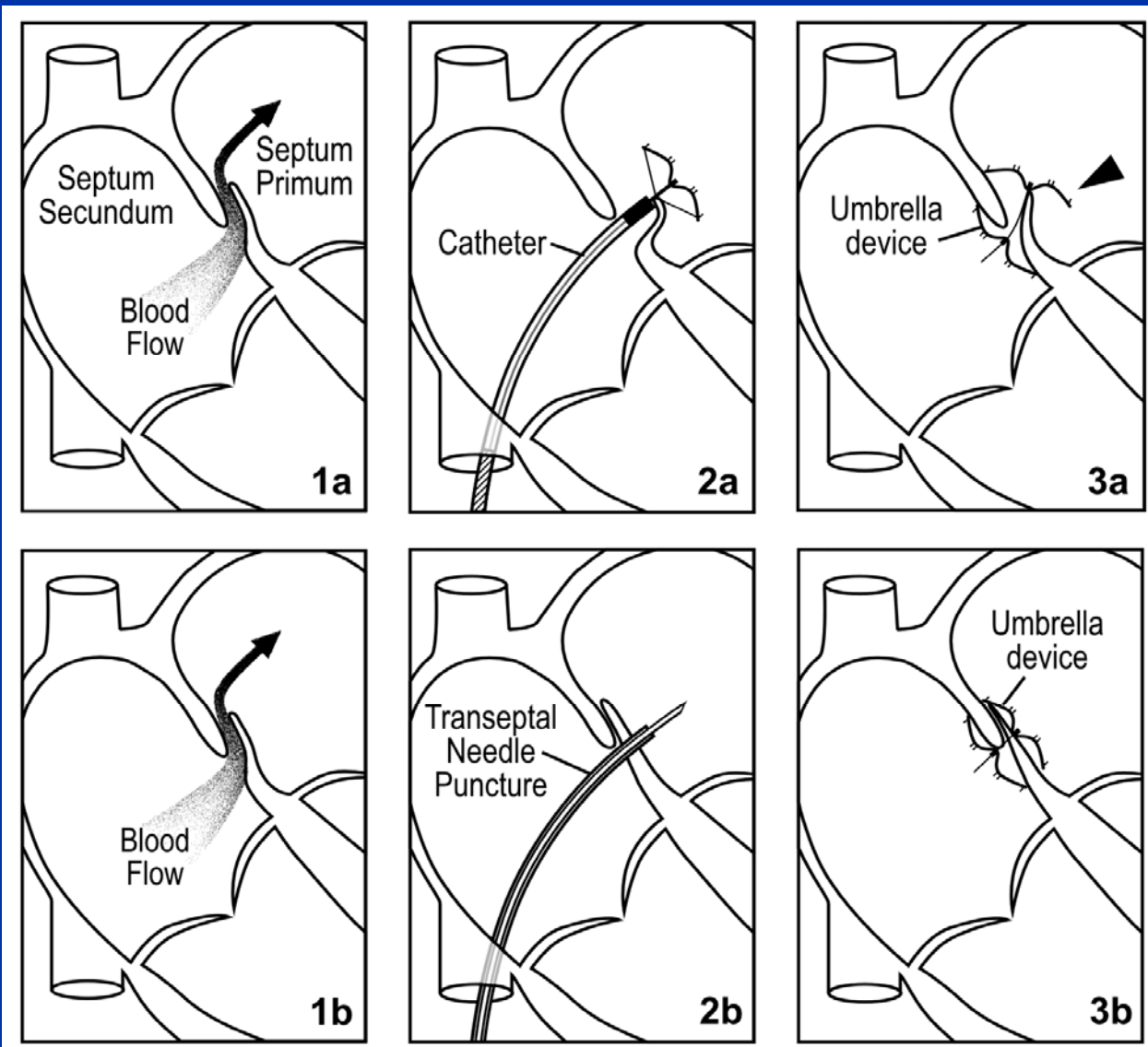
# Restrictive “Tunnel”



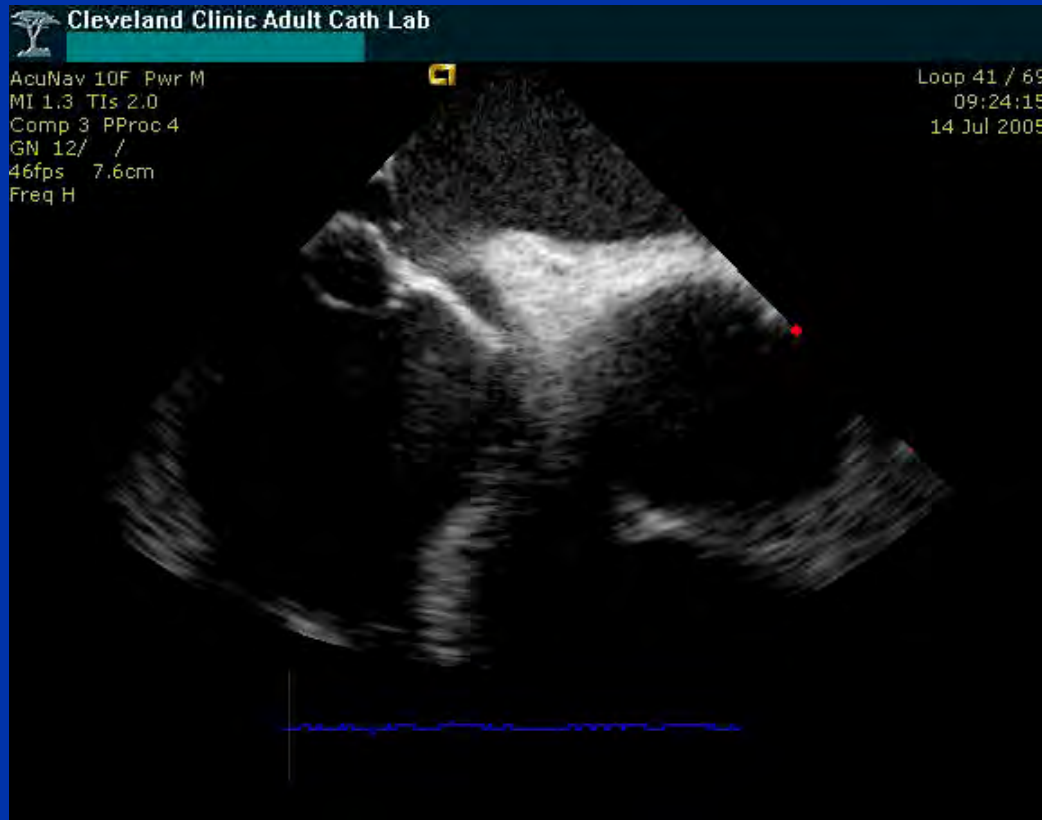
# Device in Tunnel



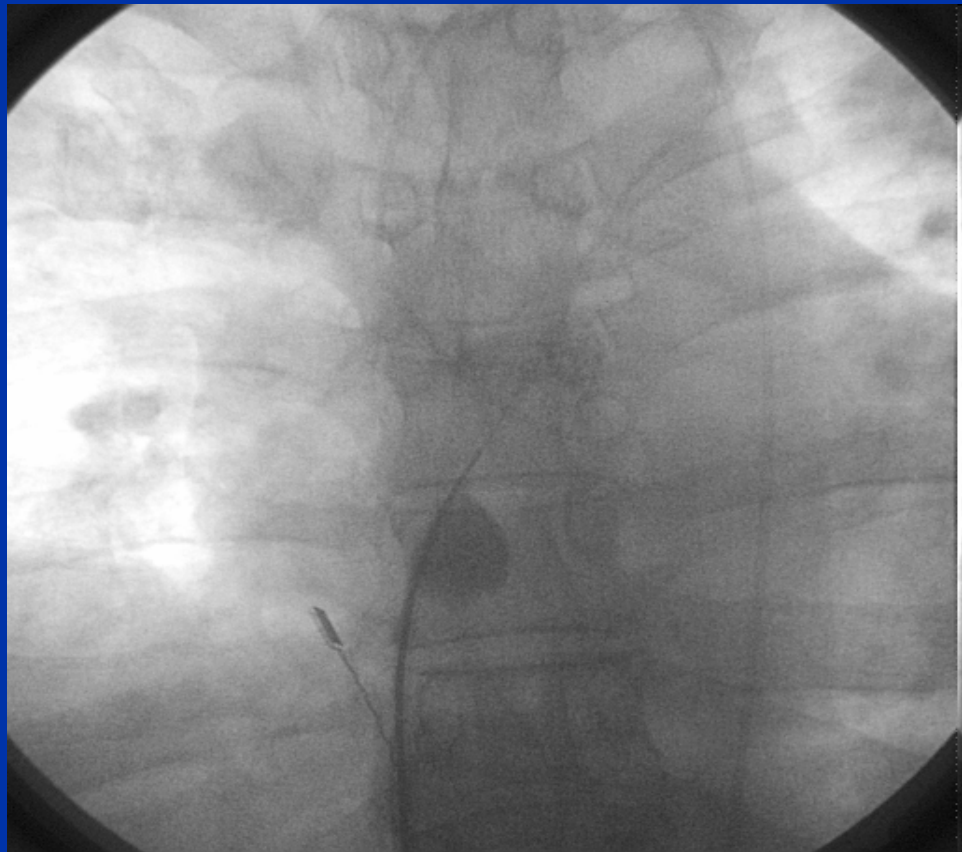
# “Tunnel” PFO



# Trans-septal Puncture Technique



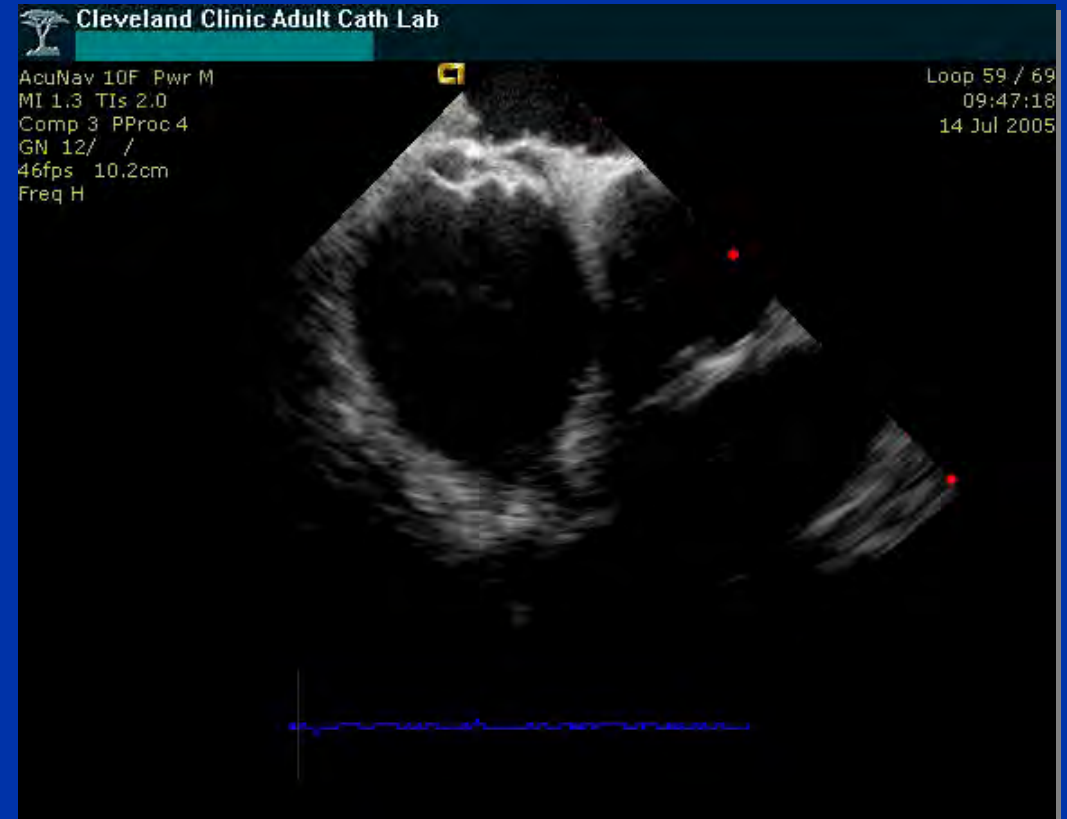
# Trans Septal Puncture



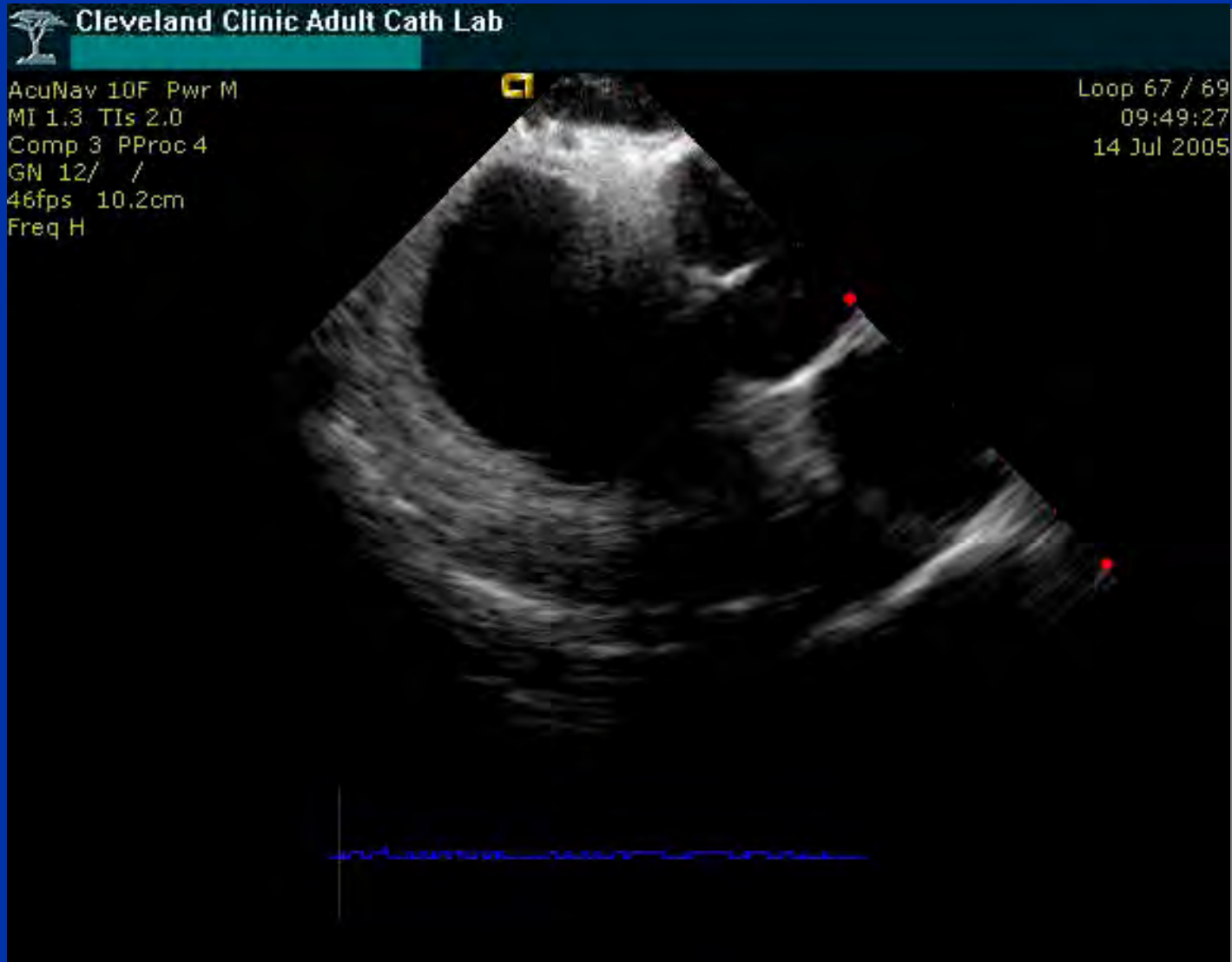
# Device Through Trans-septal



# Deployment of Device



# Post Contrast Study

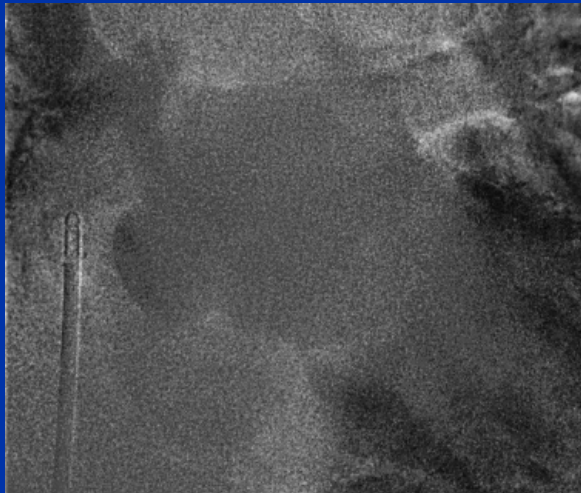
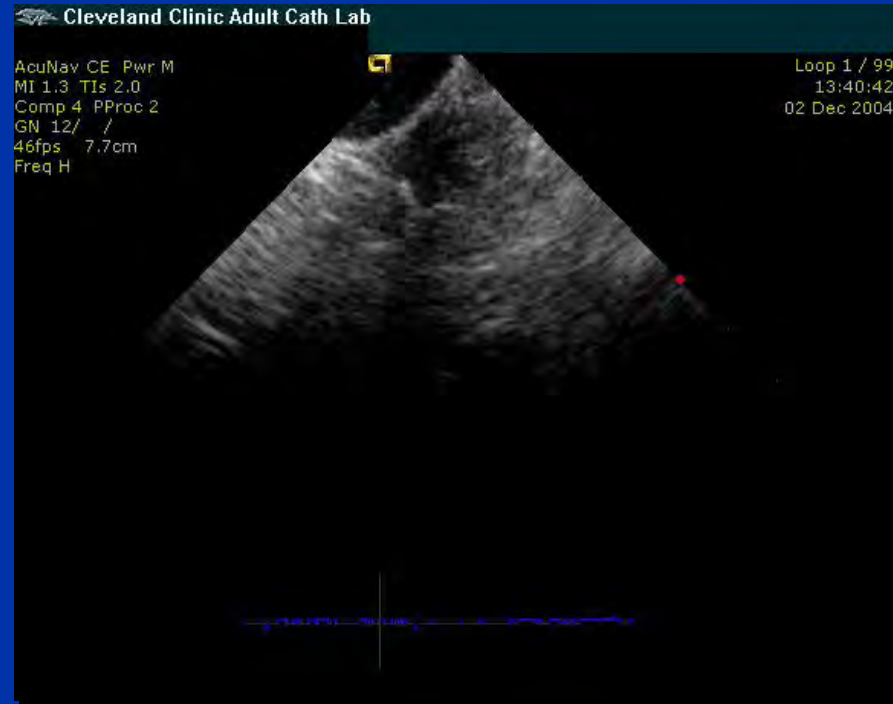
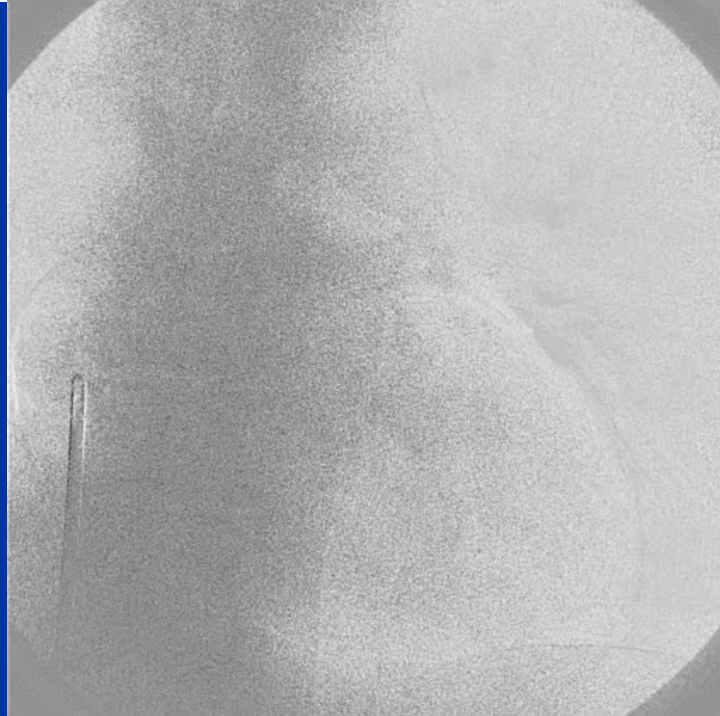




# Mobile Septum Primum and Hypertrophied Secundum: Device can Slip

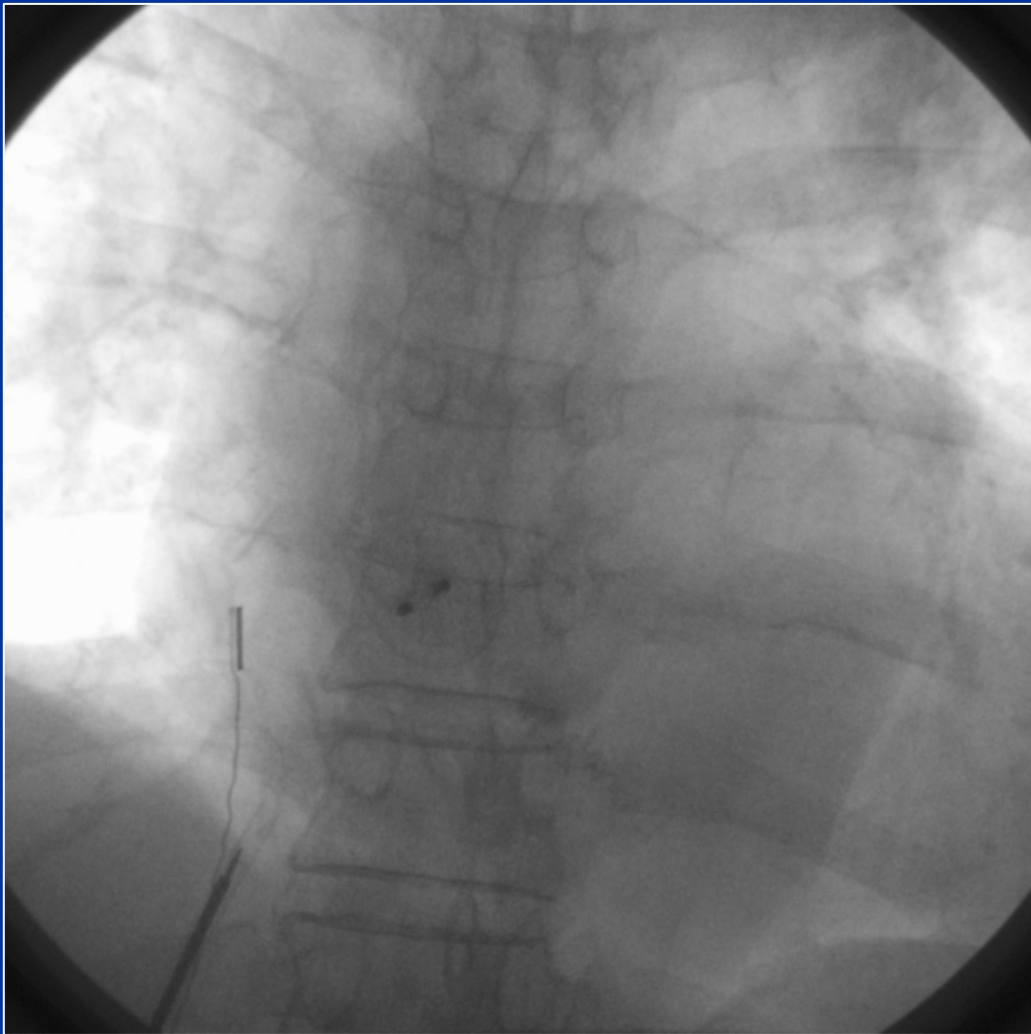


# Atrial Septal Aneurysm

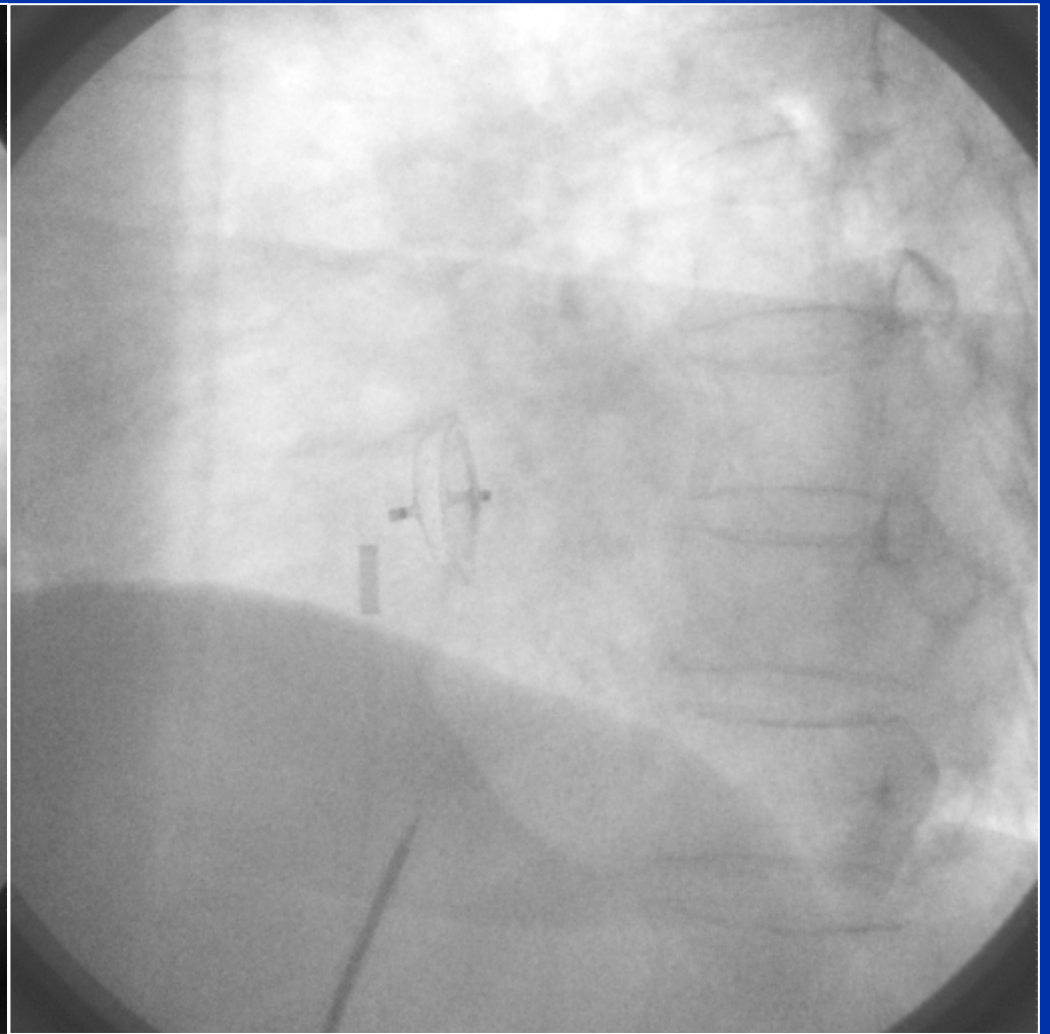


# Fluoroscopy Post-Deployment (Release)

PA

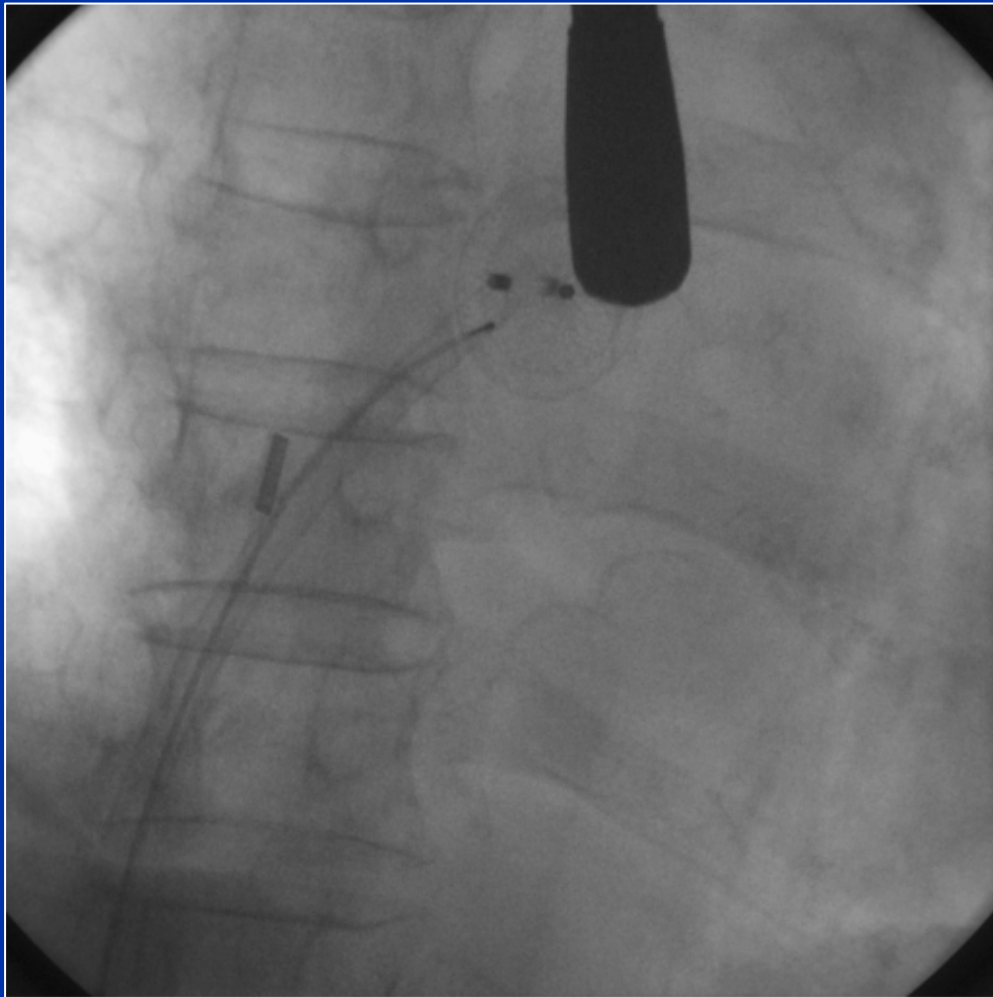


Lateral



# Device Embolization into Left Atrium → LV → Abdominal Aorta

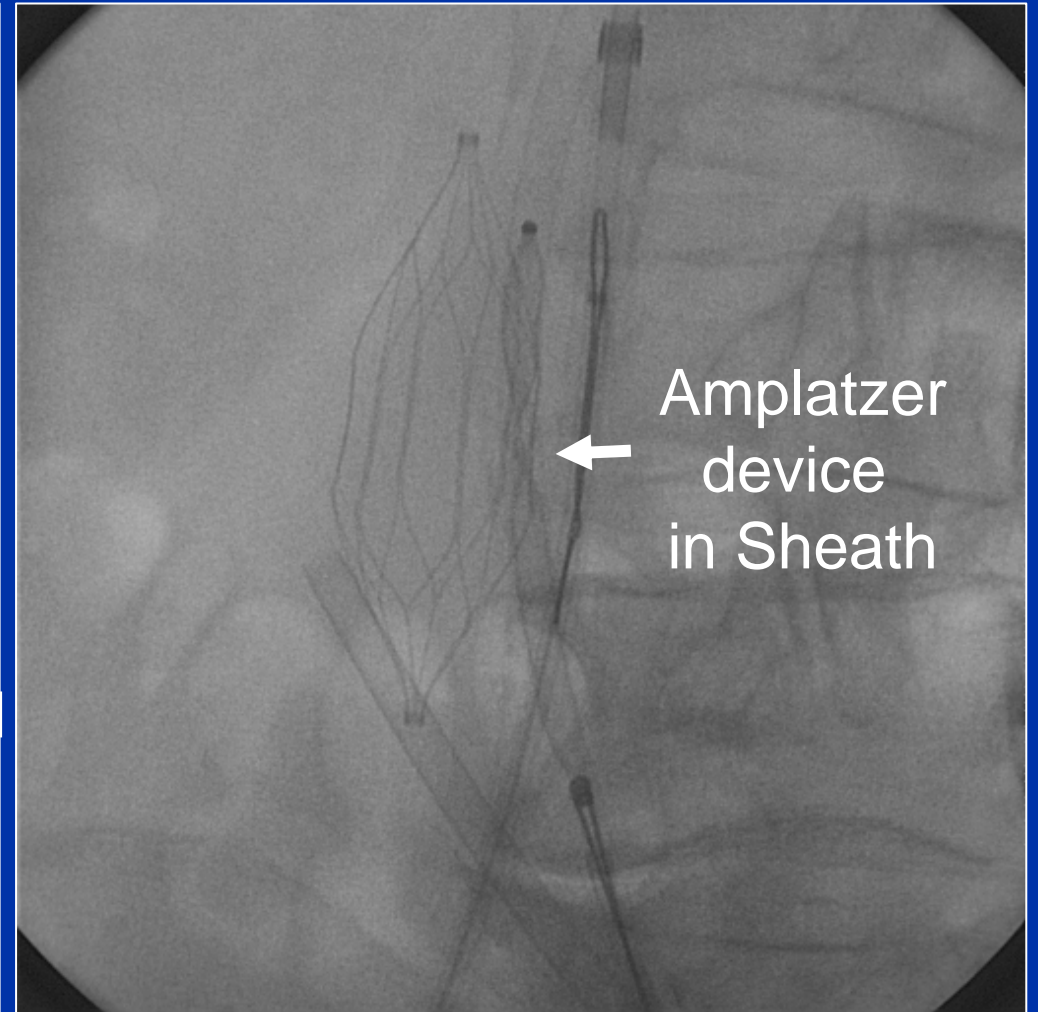
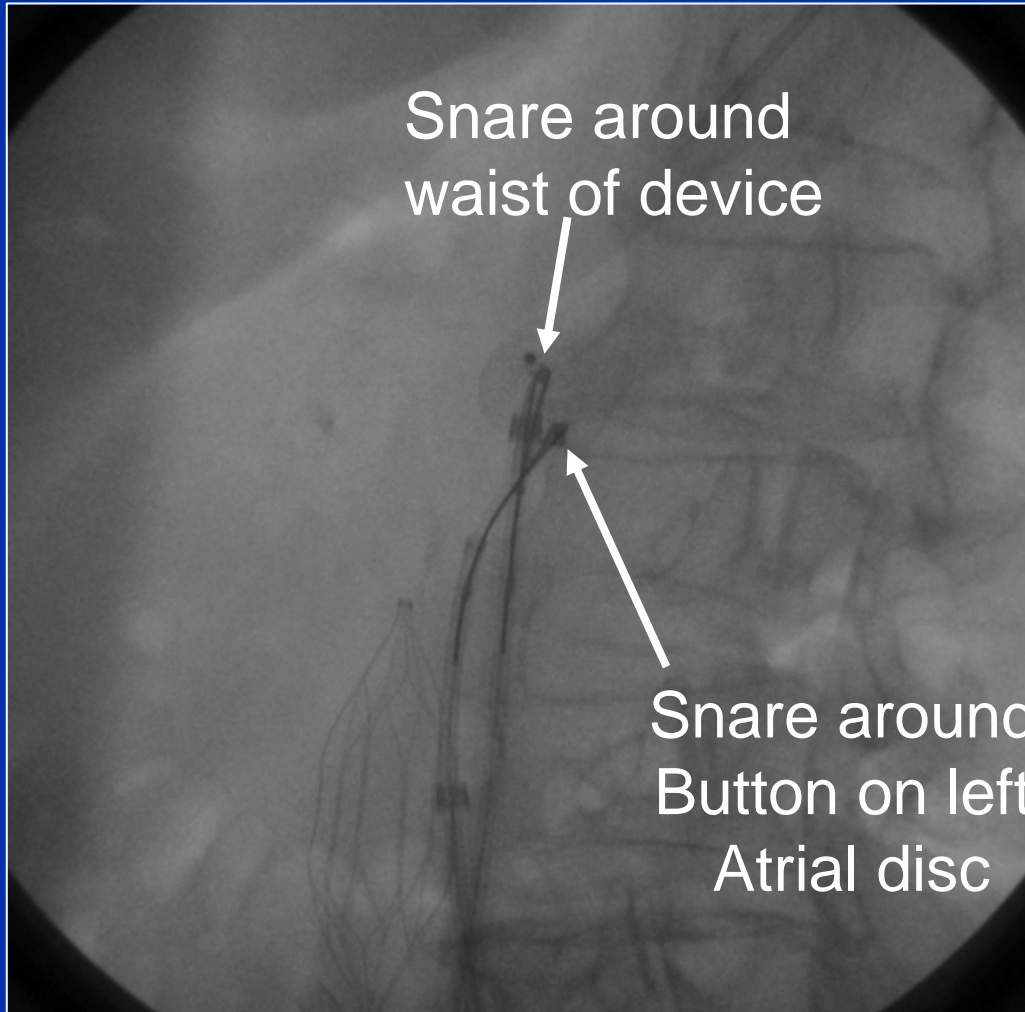
Embolization to Left Atrium



Embolization to Abdominal Aorta



# Device Snared and Removed



# Helex Embolization

Proper Location



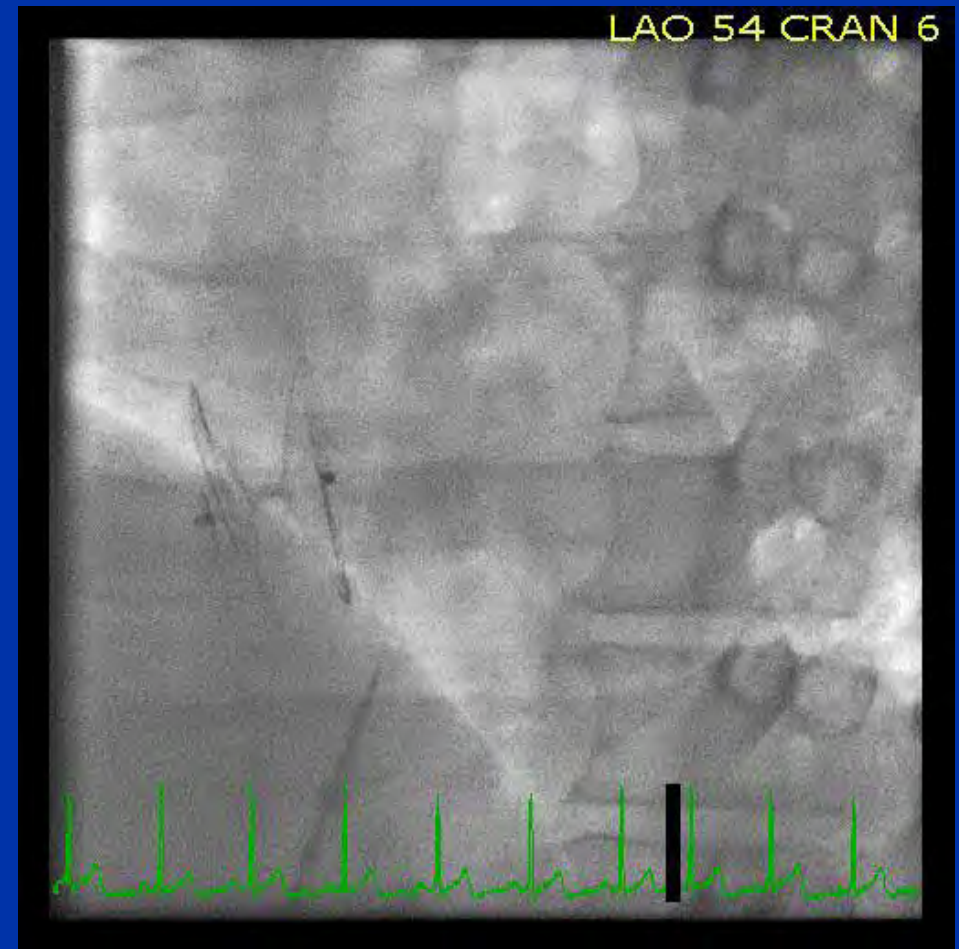
Device Embolized to LA



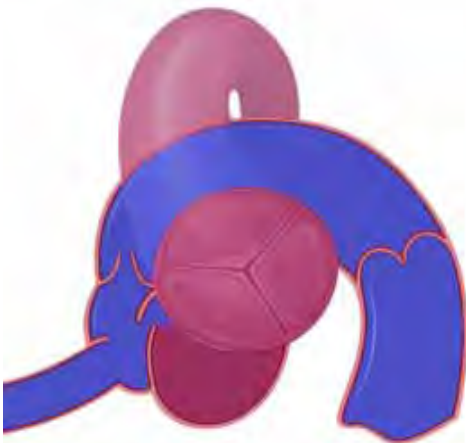
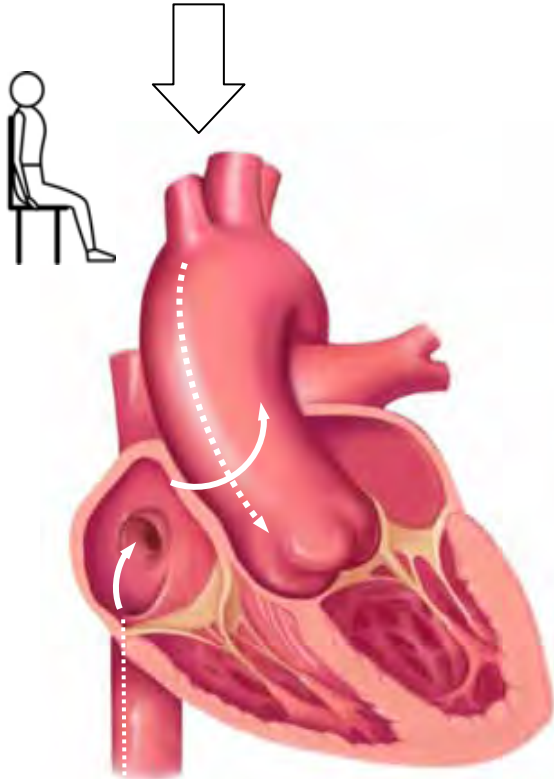
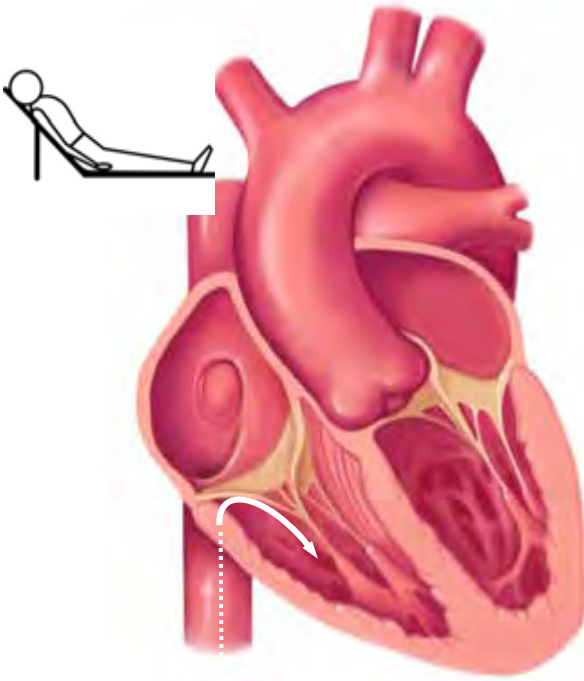
## Device being snared



## Cribriform Deployed

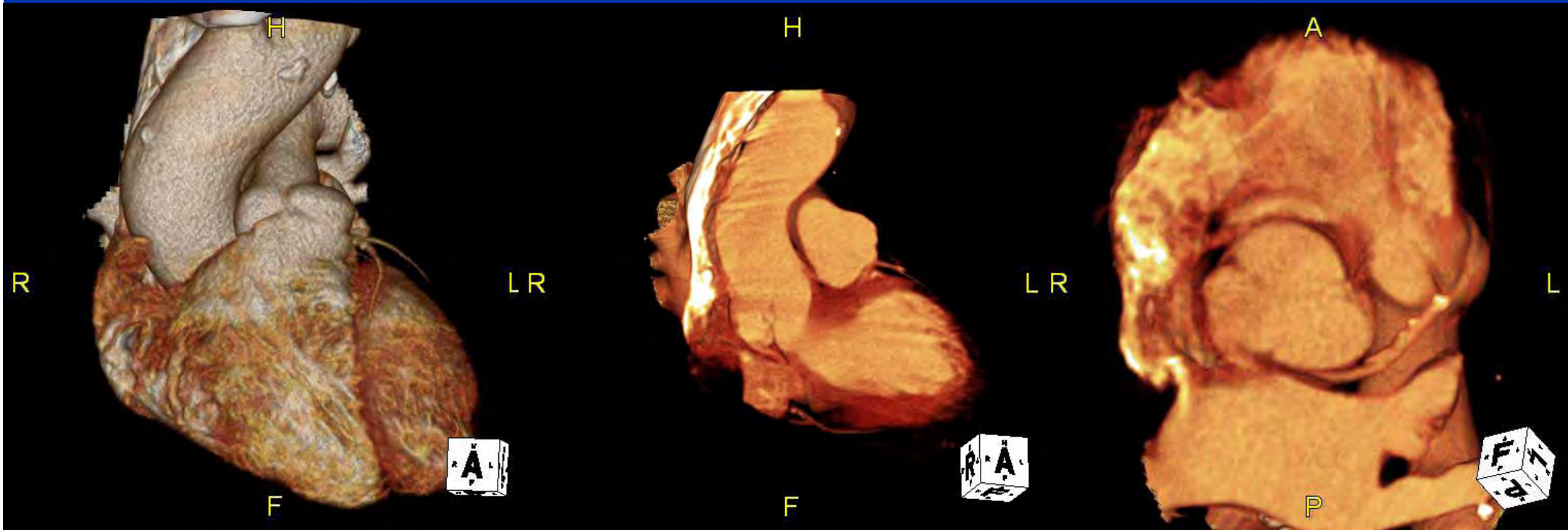


Normal



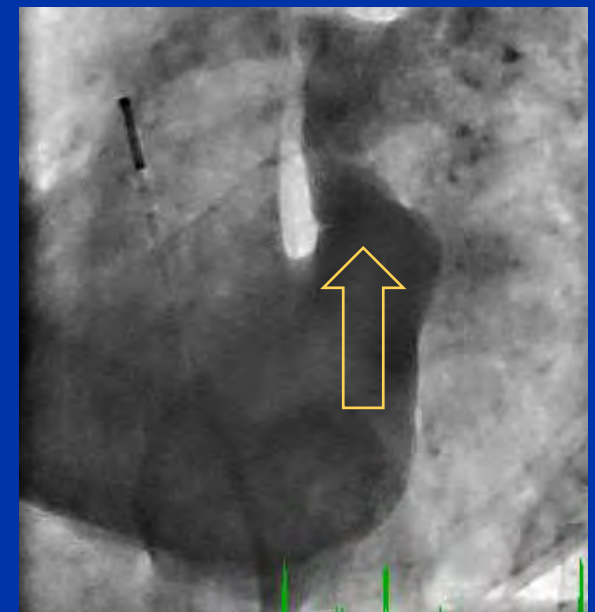
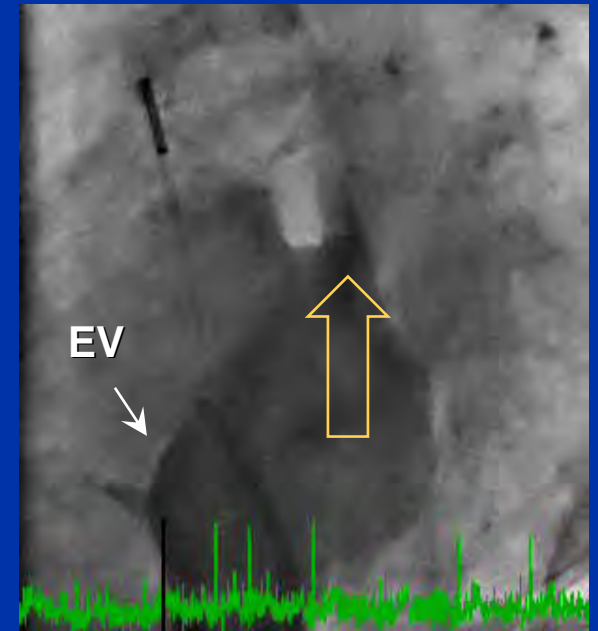
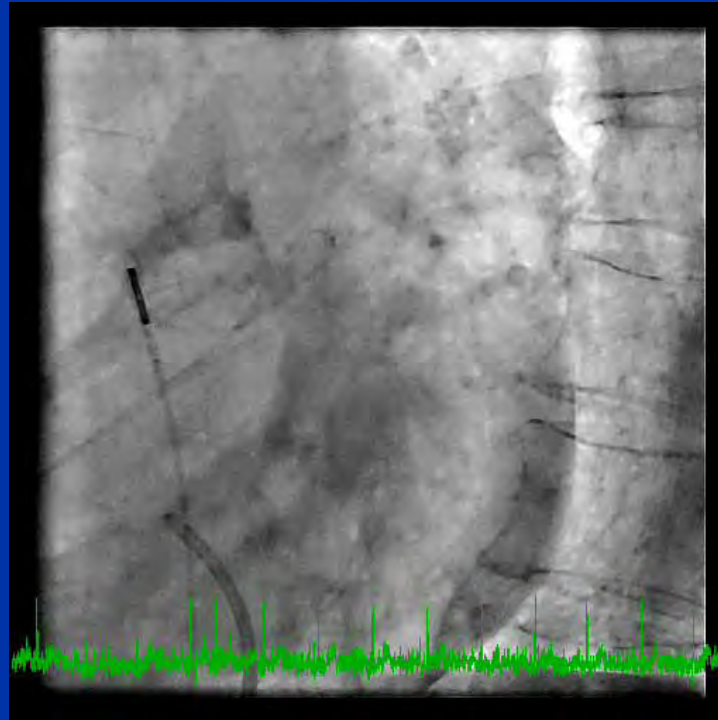


# Platypnea Orthodeoxia



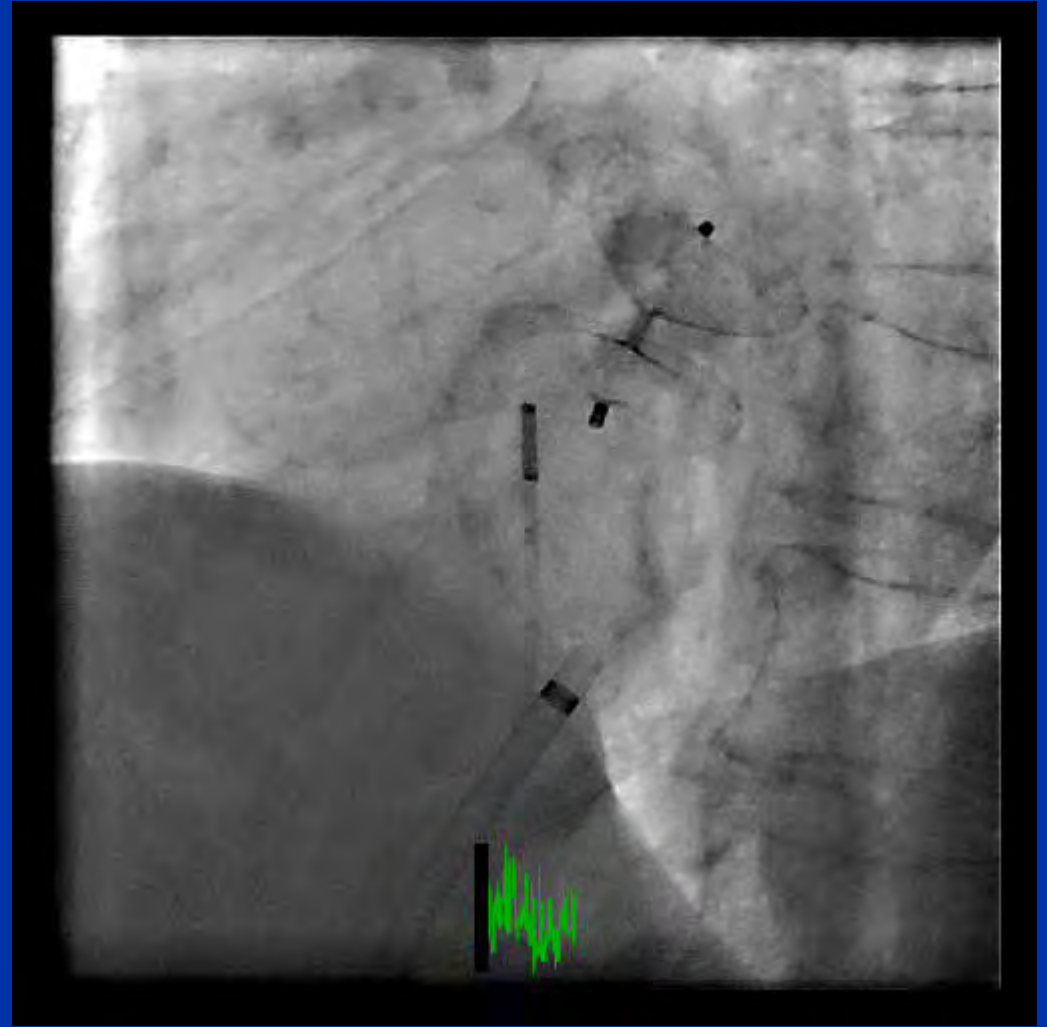
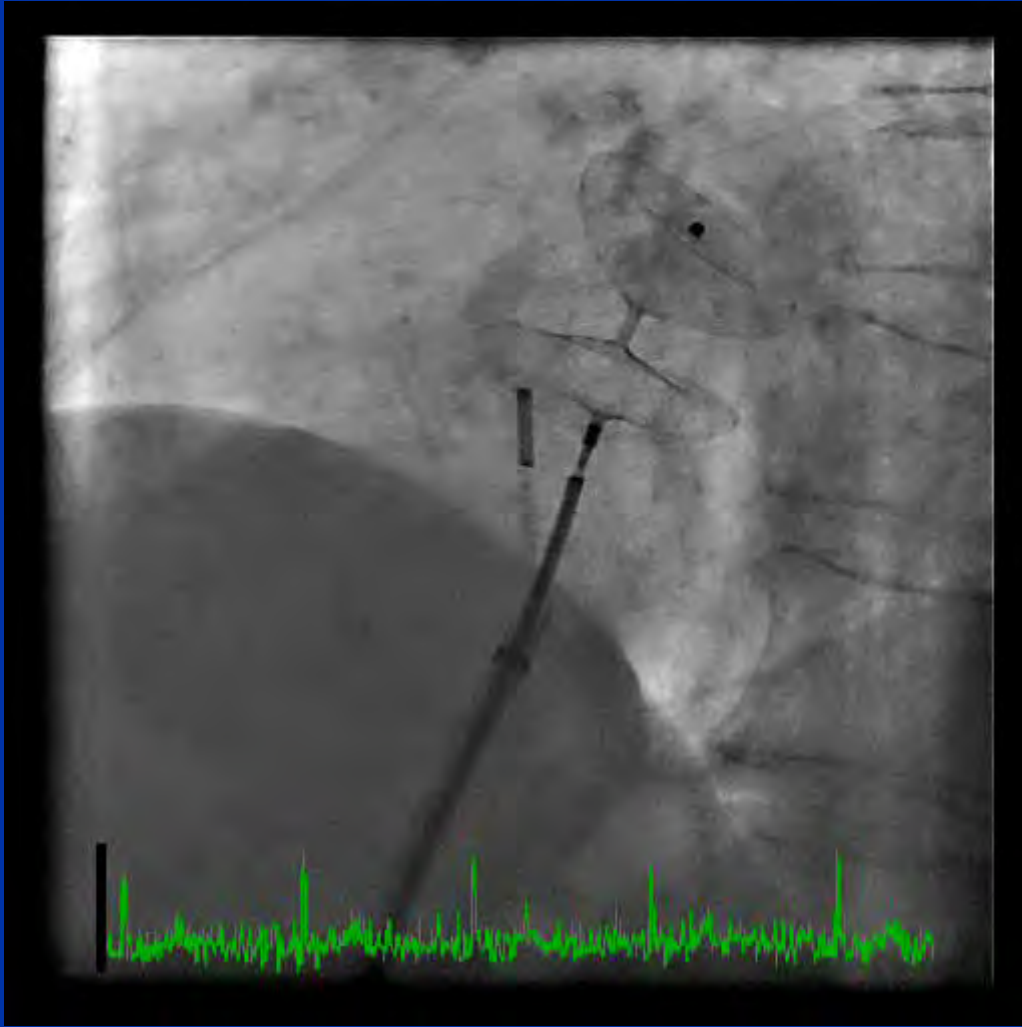
# Intracardiac Echo

## Platypnea Orthodeoxia



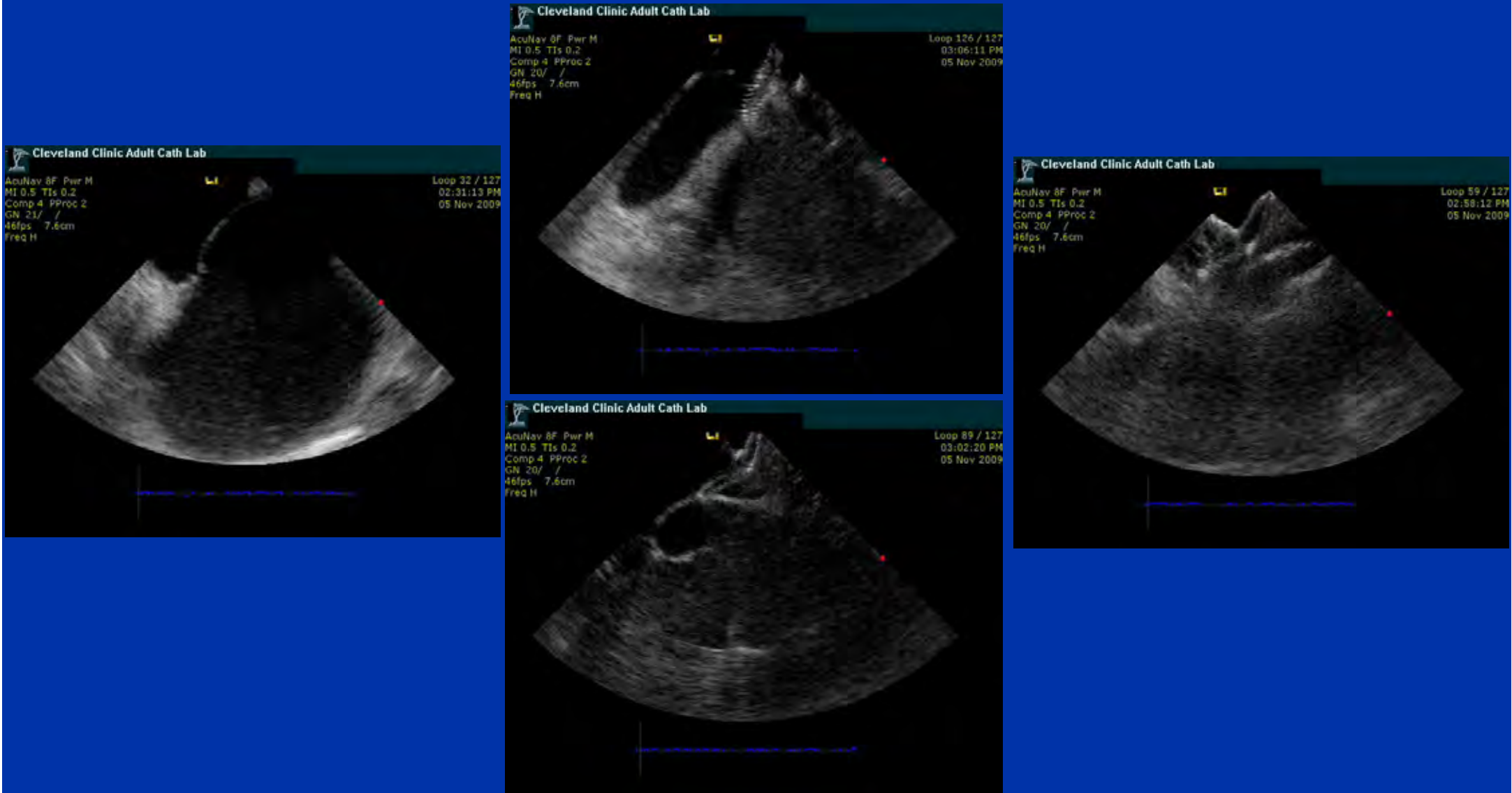
# Intracardiac Echo

## Platypnea Orthodeoxia



# Intracardiac Echo

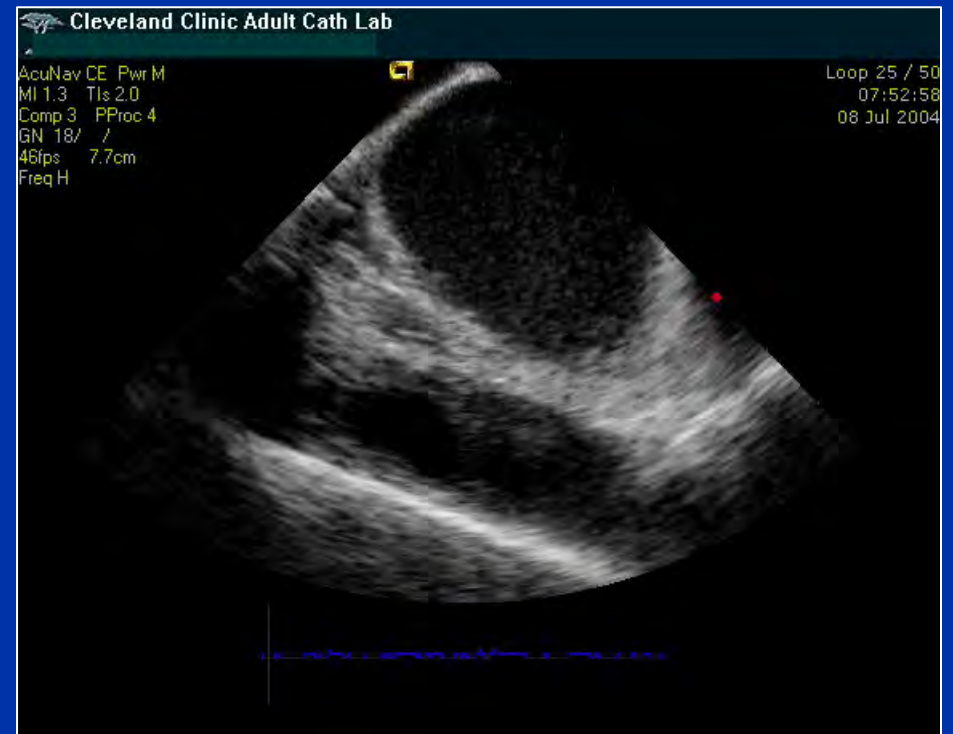
## Platypnea Orthodeoxia



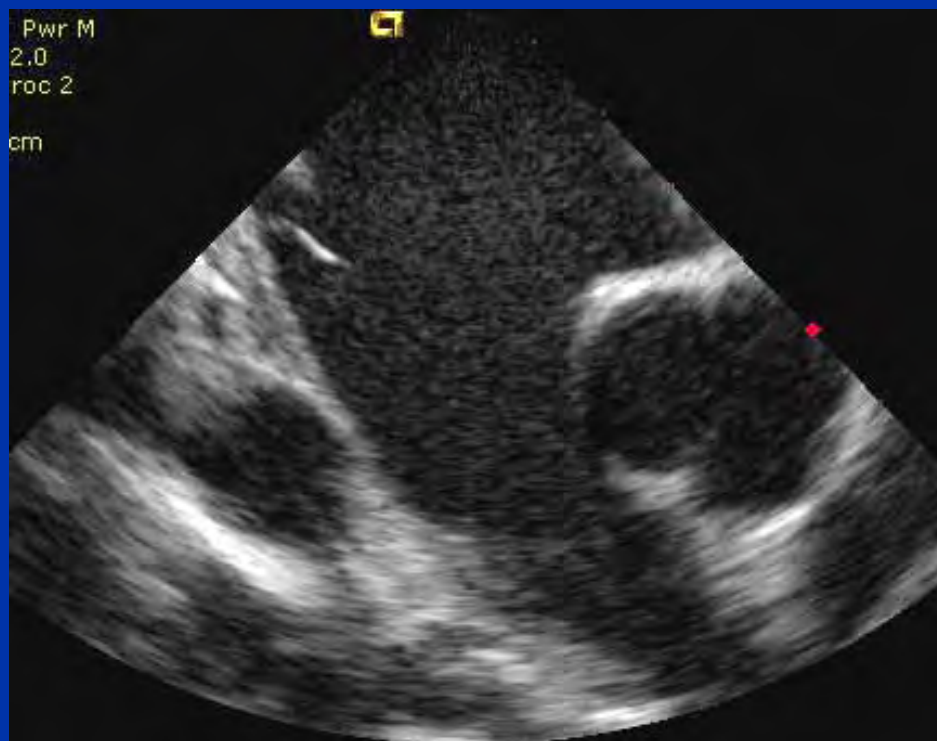
# ASD Assessment : Superior Inferior Rim



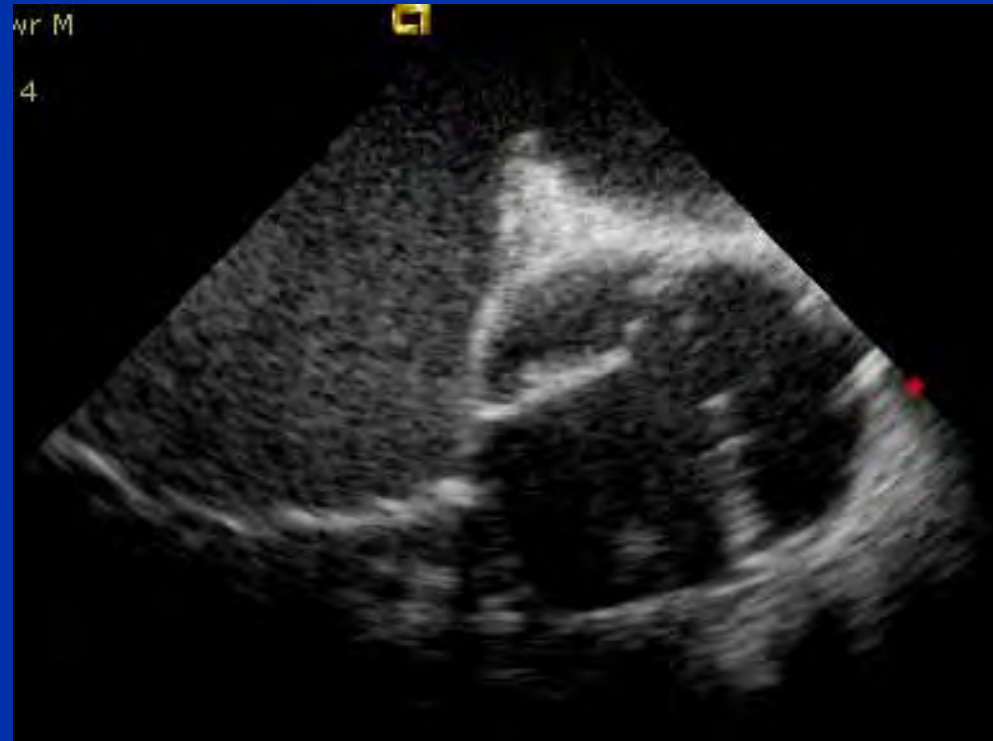
# ASD Assessment: Posterior Rim



# ASD Assessment: Anterior Rim

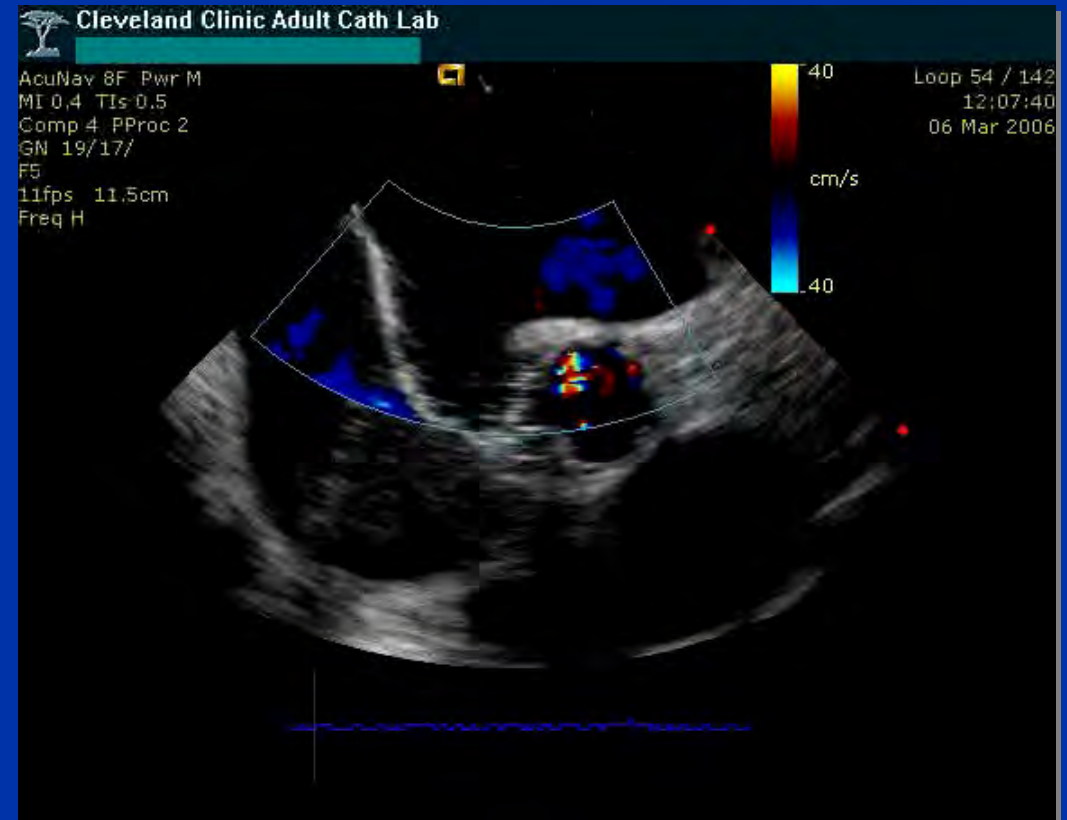
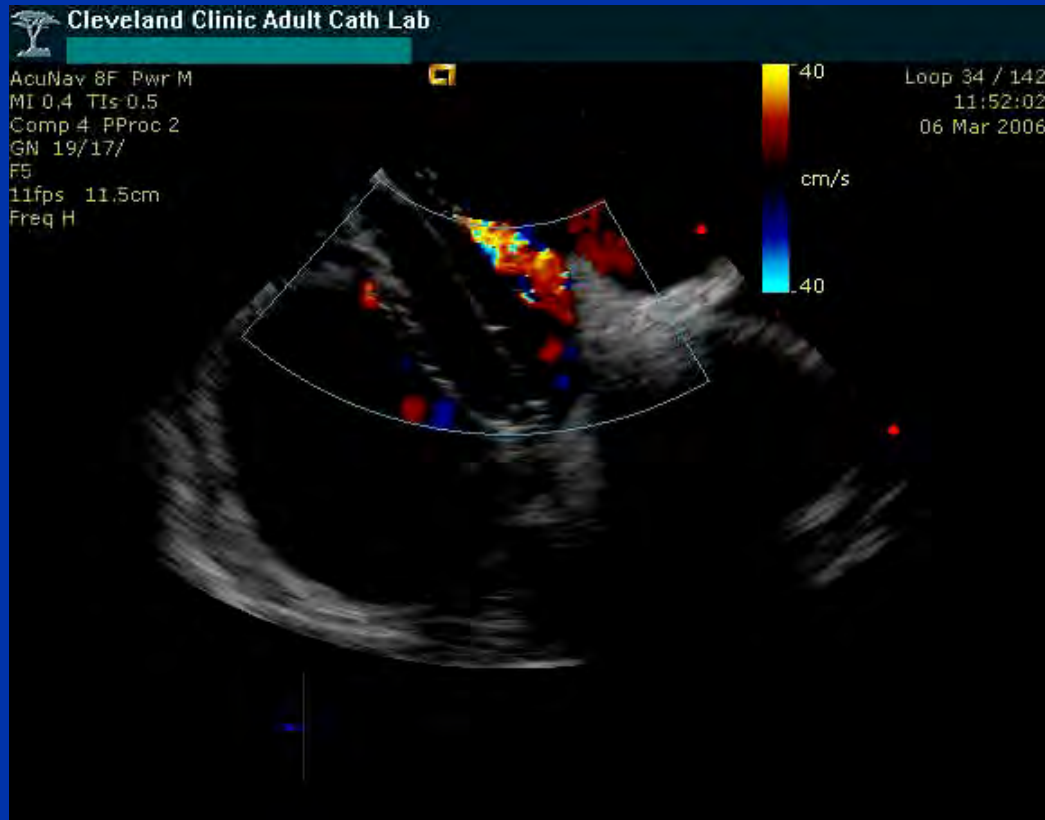


No Anterior Rim



Small Anterior Rim

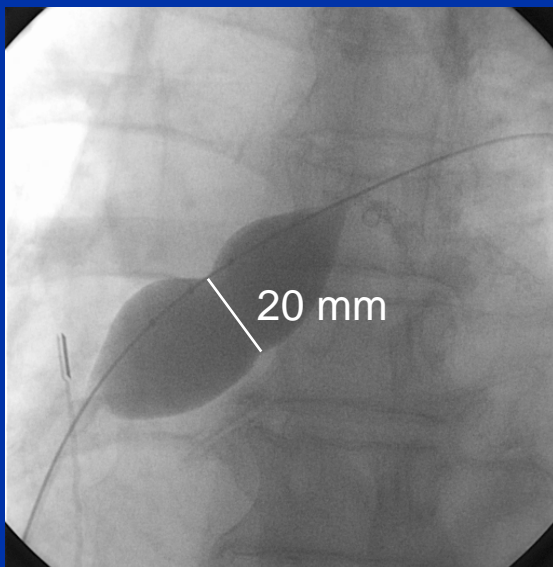
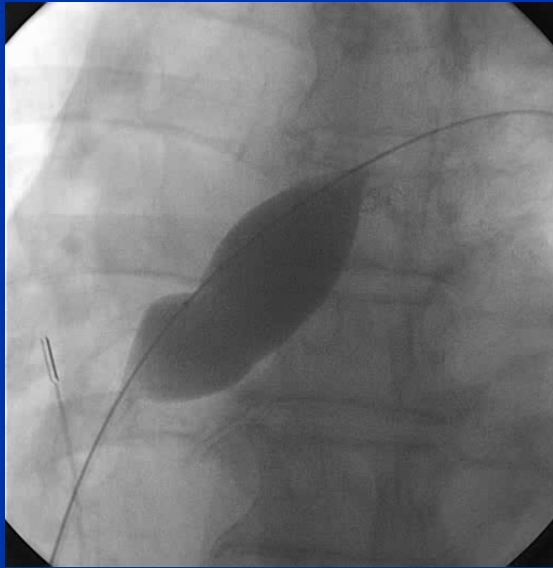
# Sizing Of ASD





# Sizing of ASD

Angiography



ICE



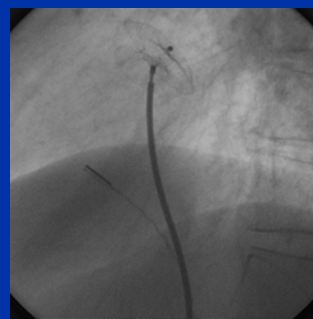
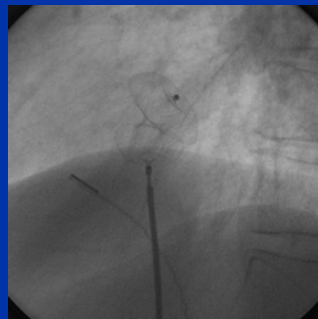
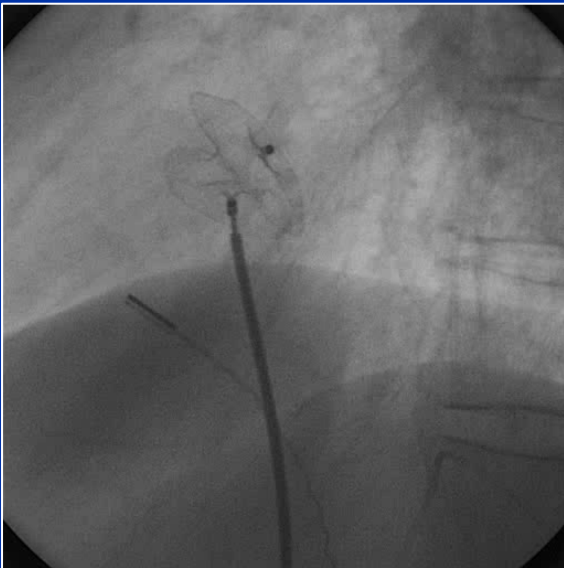
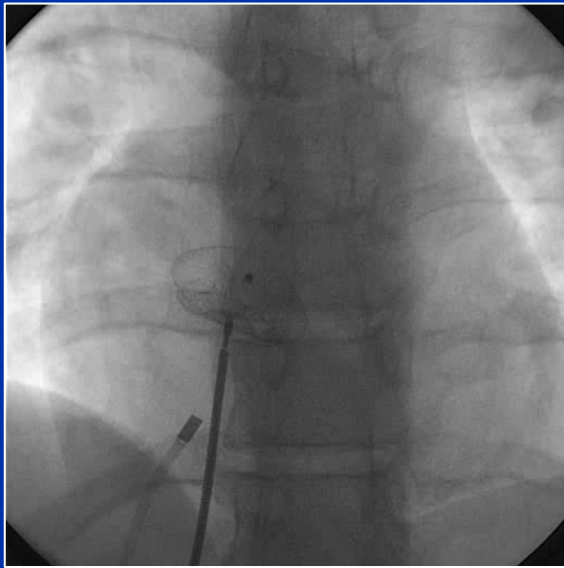
# ASD Closure



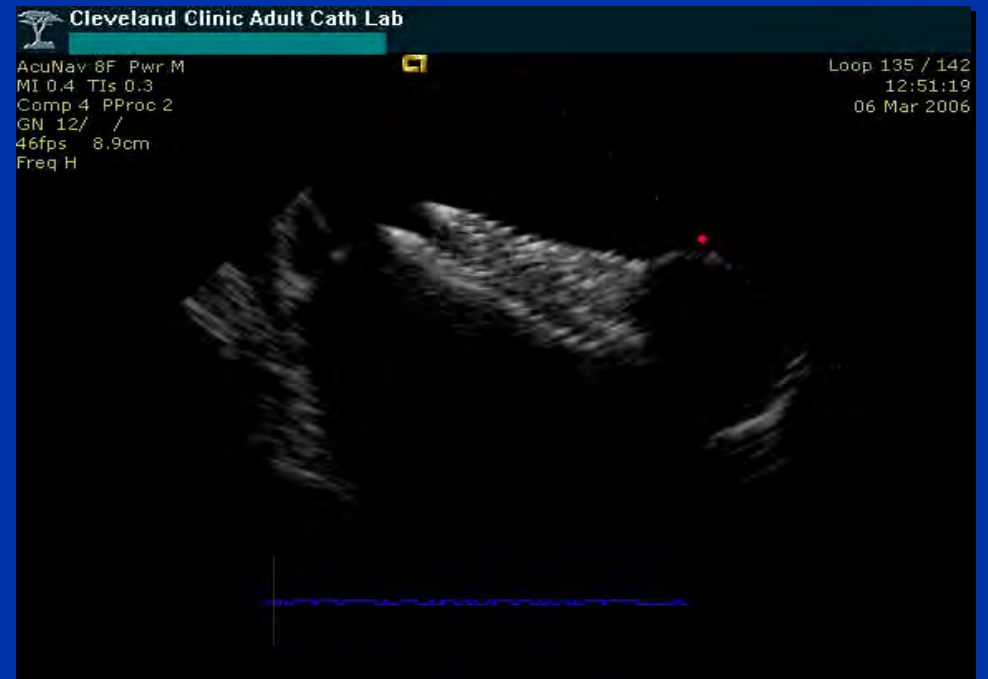
# ASD Closure



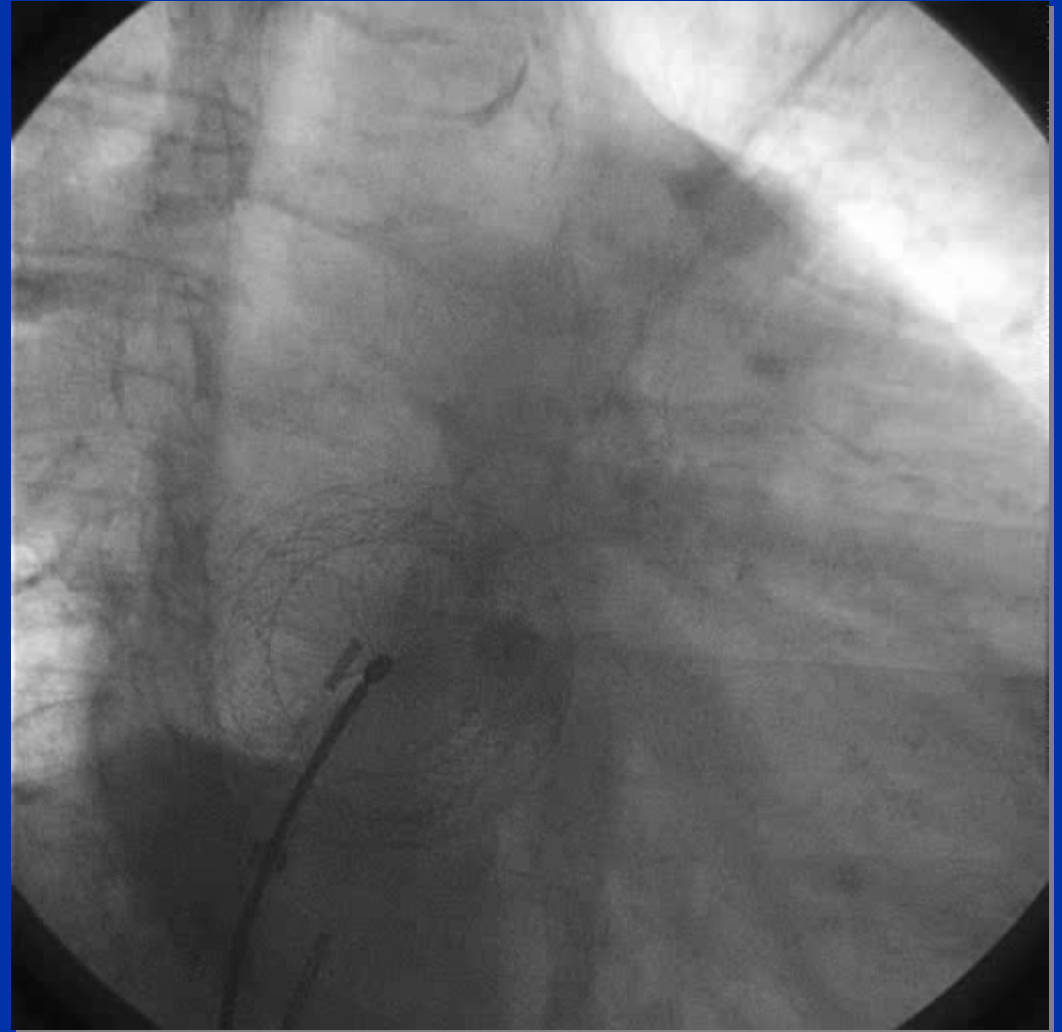
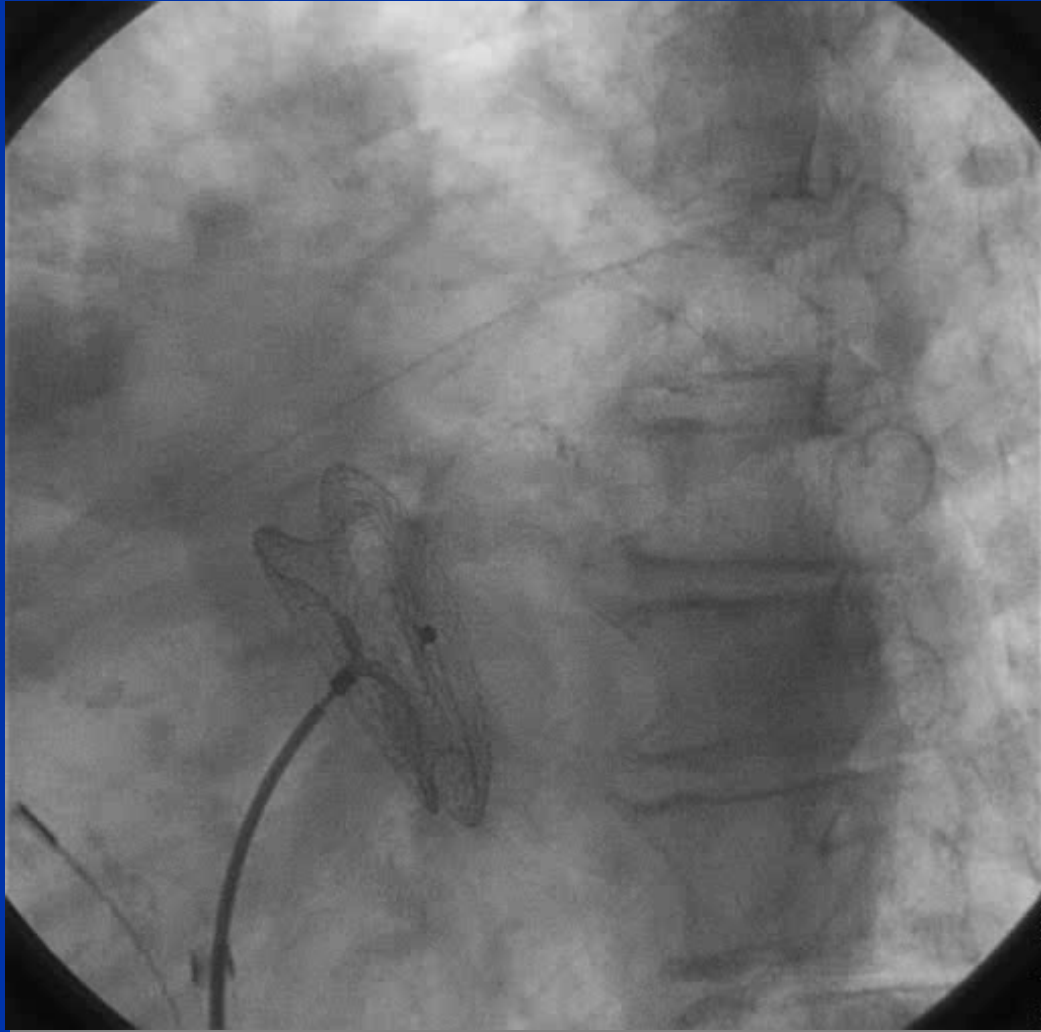
# Push – Pull “Minnesota Wigle”



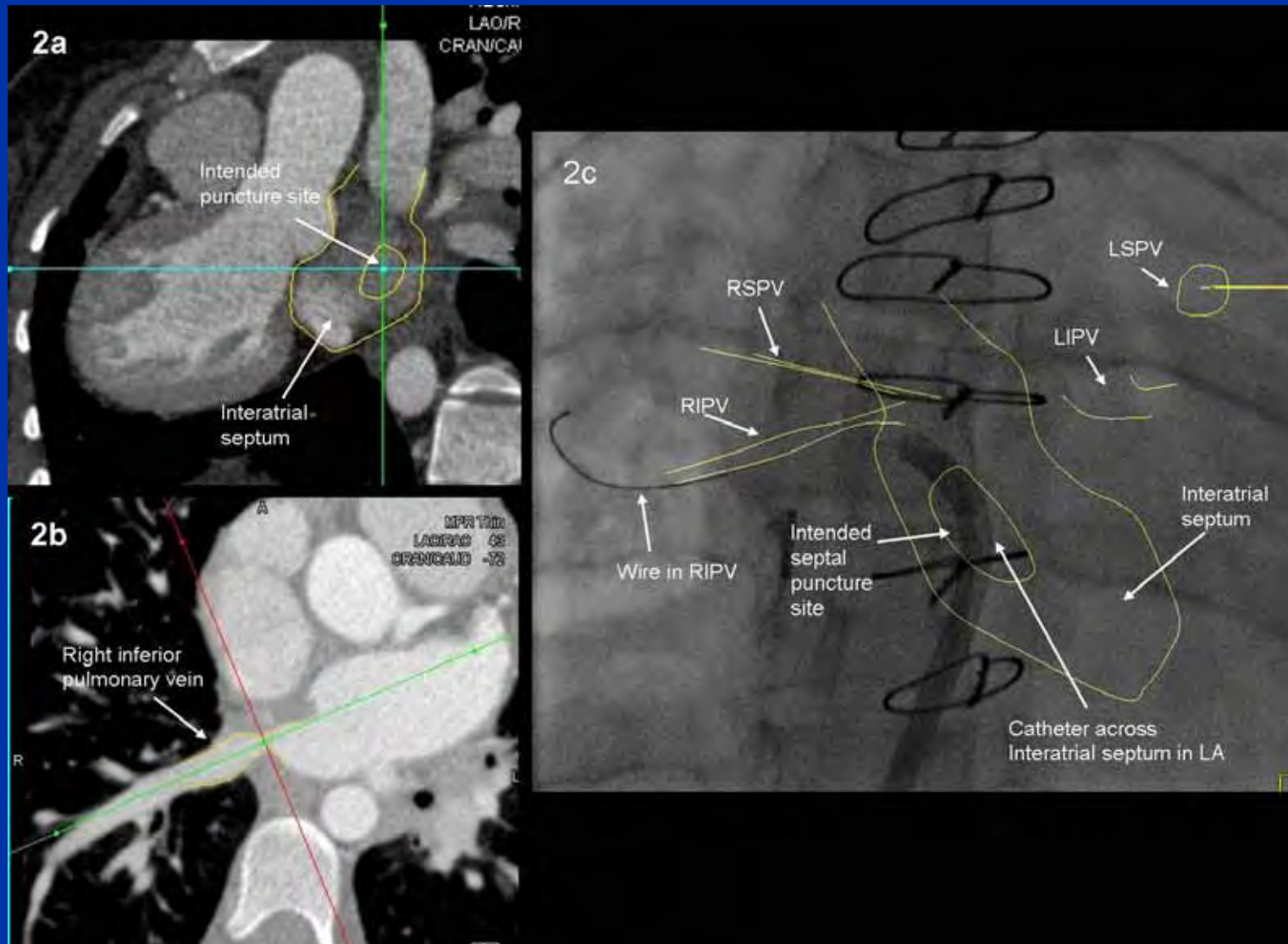
# Large ASD



# Angiogram to Confirm the Position and Encroachment



# Novel Imaging Method



**Thank You For Your Attention**