

**CARDIOVASCULAR ANATOMY AND
CARDIAC IMAGING PLANES**

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Chief, Division of Cardiovascular Imaging
Houston Methodist DeBakey Heart & Vascular Center
Professor of Medicine, Weill Cornell Medical College

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4 Cardiac Chambers

Right Atrium

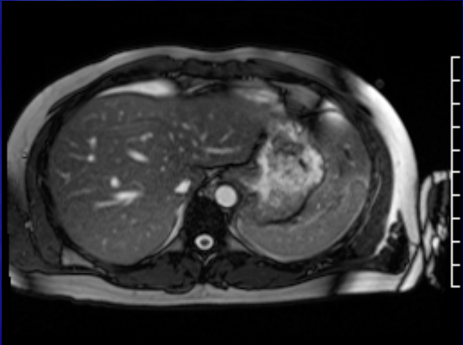
Right Ventricle

Left Atrium

Left Ventricle

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Axial



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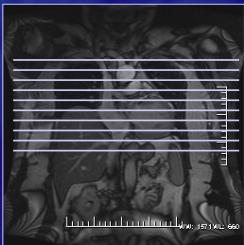
Cardiac Anatomy

Location in Body

- Slightly Left of Midline
- Halfway from Sternal Notch to Xyphoid

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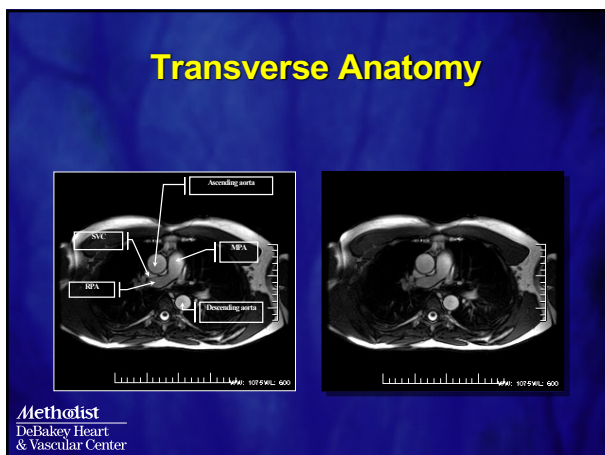
Transverse Or Axial Positioning



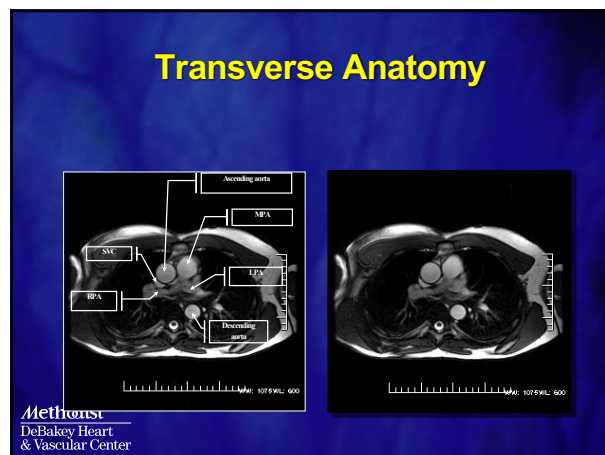
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Transverse Anatomy

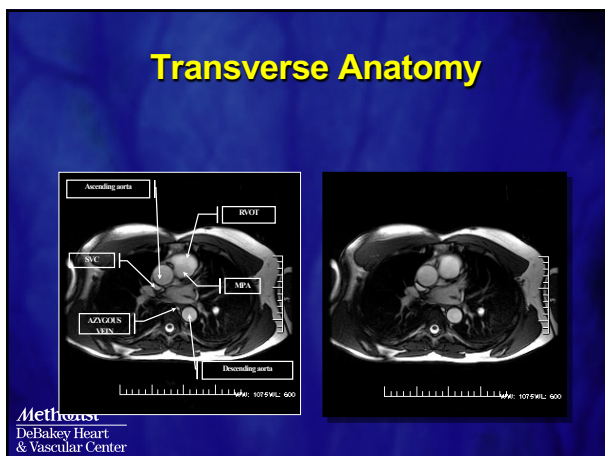
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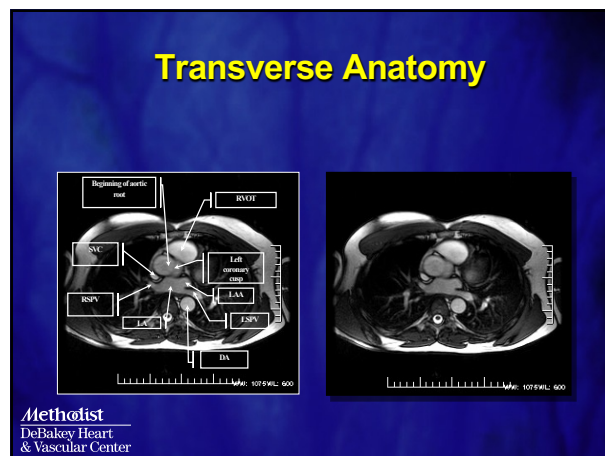
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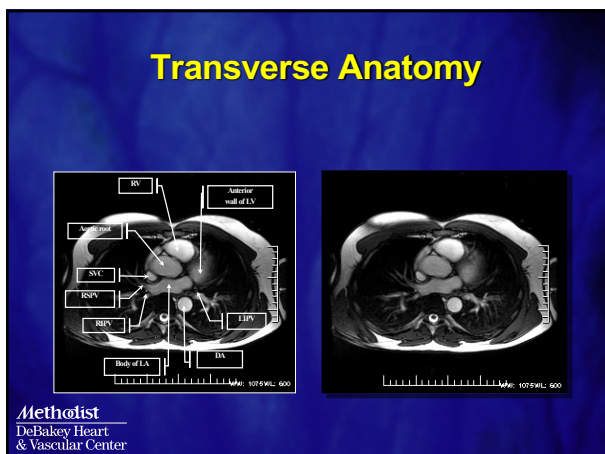
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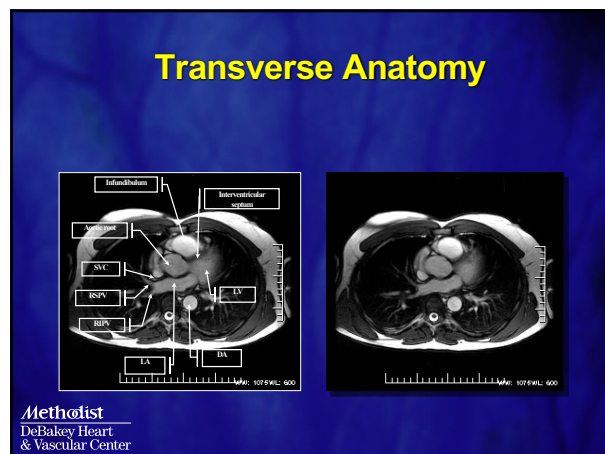
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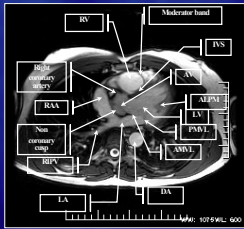


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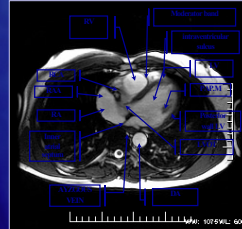
Transverse Anatomy



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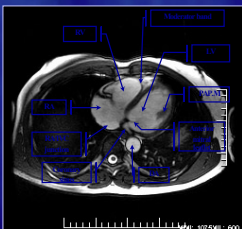
Transverse Anatomy



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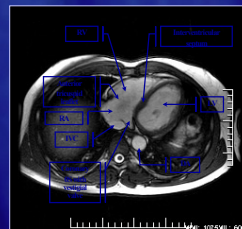
Transverse Anatomy



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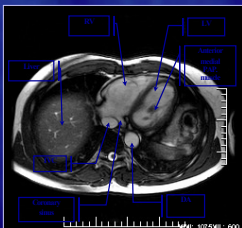
Transverse Anatomy



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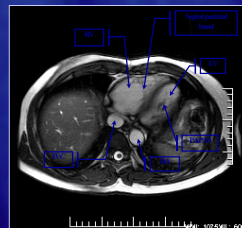
Transverse Anatomy



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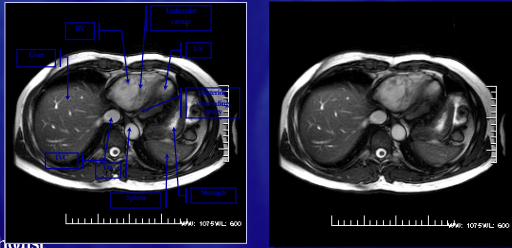
Transverse Anatomy



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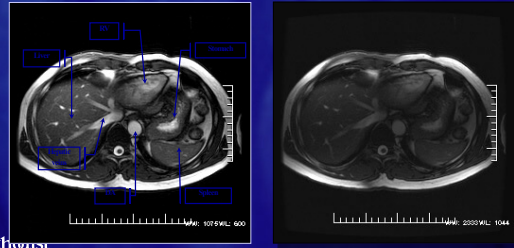
Transverse Anatomy



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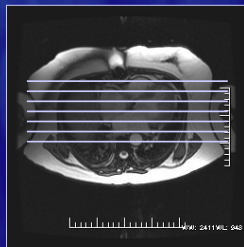
Transverse Anatomy



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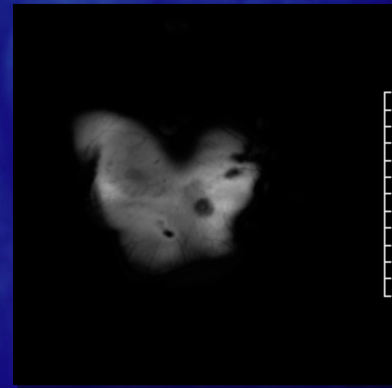
Coronal Positioning



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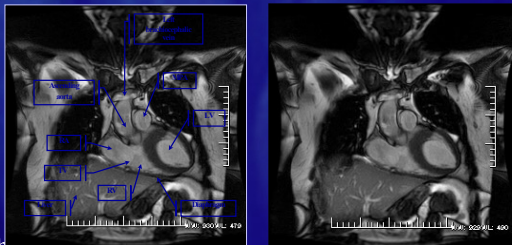
Coronal



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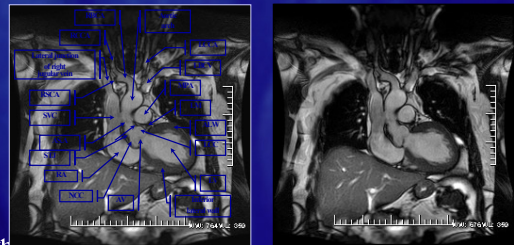
Coronal Anatomy



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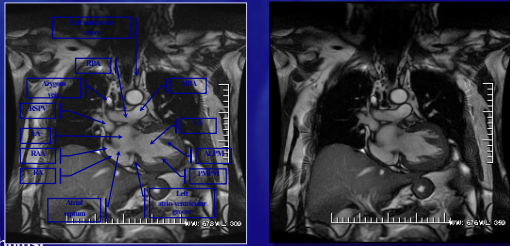
Coronal Anatomy



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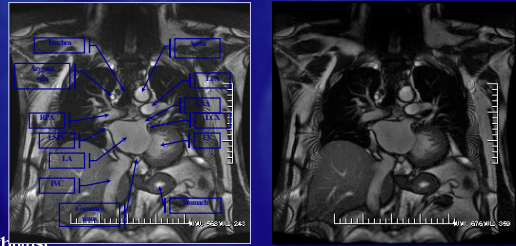
Coronal Anatomy



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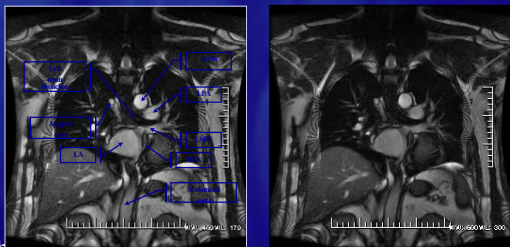
Coronal Anatomy



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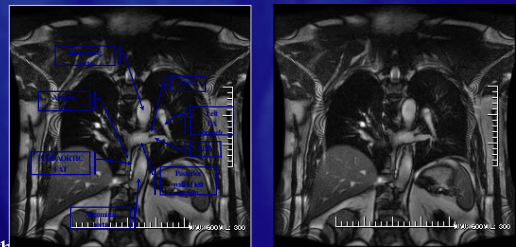
Coronal Anatomy



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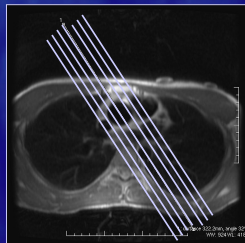
Coronal Anatomy



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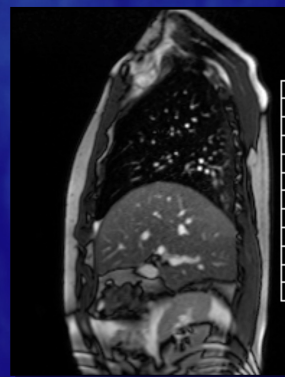
Sagittal Positioning



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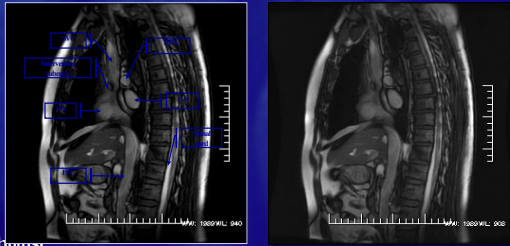
Sagittal



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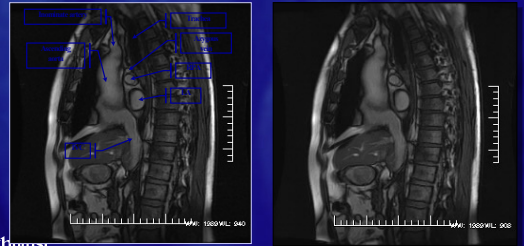
Parasagittal Anatomy



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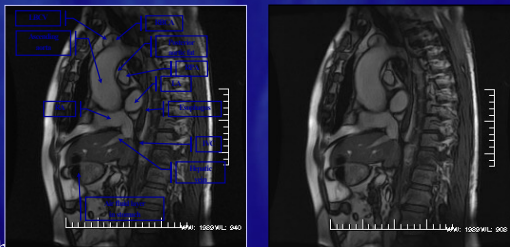
Parasagittal Anatomy



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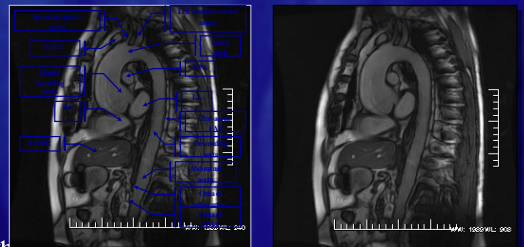
Parasagittal Anatomy



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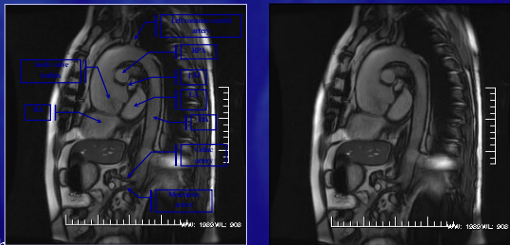
Parasagittal Anatomy



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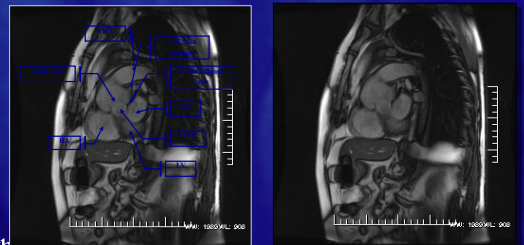
Parasagittal Anatomy



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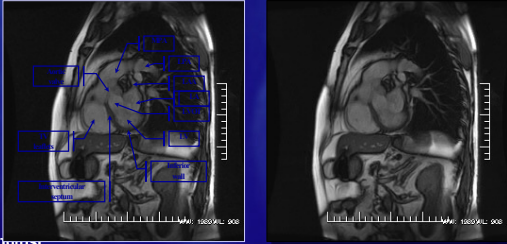
Parasagittal Anatomy



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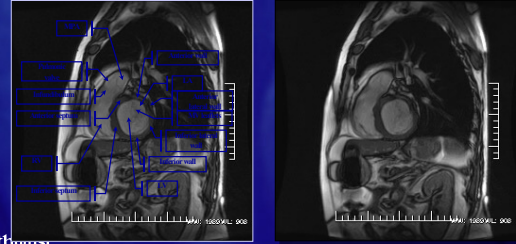
Parasagittal Anatomy



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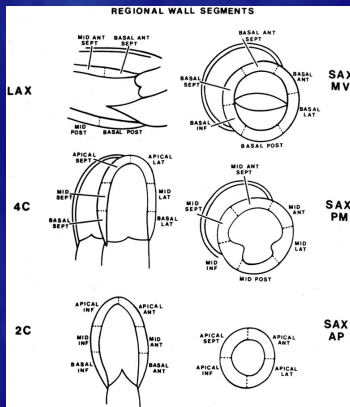
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Parasagittal Anatomy



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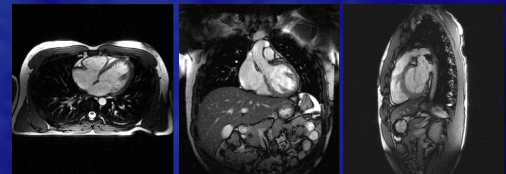


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Cardiac Localizers Multi-Plane



Transverse

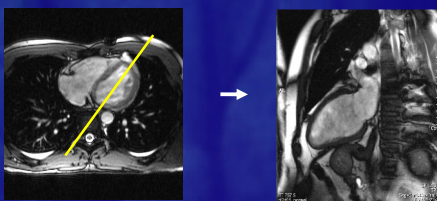
Coronal

Sagittal

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Pseudo 2-Chamber Vertical Long Axis

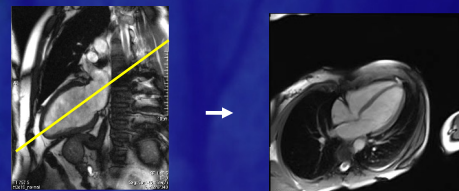


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- Localization :
1. Parallel to ventricular septum in transverse view
 2. Bisect longest dimension of LV chamber
 3. Use large FOV to avoid phase wrap

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Pseudo 4-Chamber Horizontal Long Axis

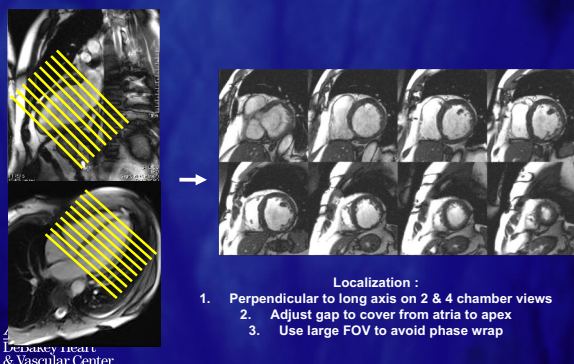


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- Localization :
1. Parallel to long axis in 2 chamber view
 2. Bisect mitral valve and bisect apex
 3. Use large FOV to avoid phase wrap

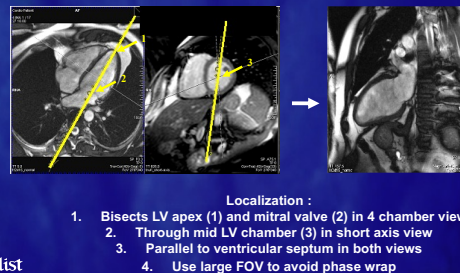
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Short Axis Views



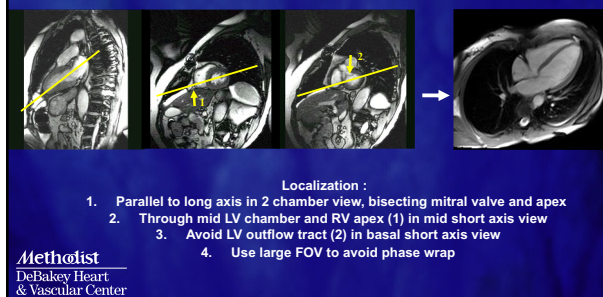
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2-Chamber Vertical Long Axis



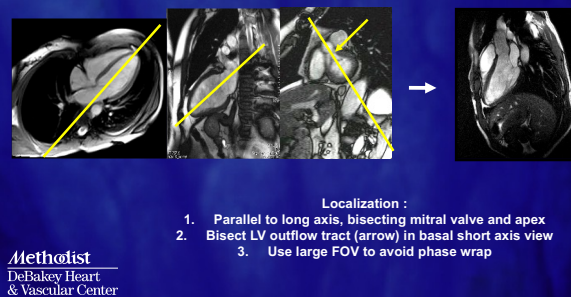
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4-Chamber Horizontal Long Axis



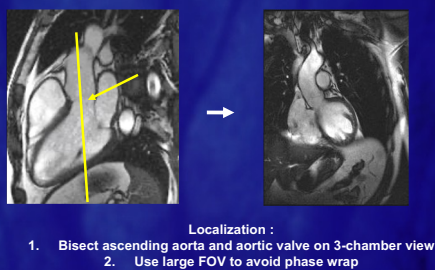
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3-Chamber LVOT



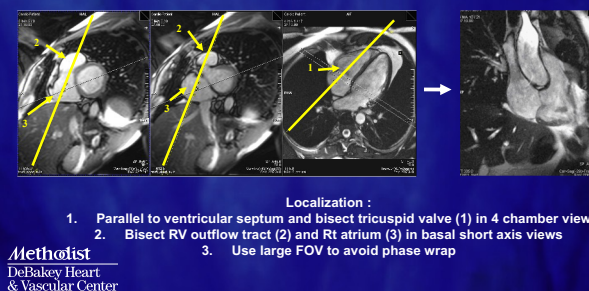
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Aortic Outflow Tract



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Right Ventricular Inflow Tract



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Localization:

- Position across mitral valve (arrows) in 2-chamber, 3-chamber, and 4-chamber views

Heart

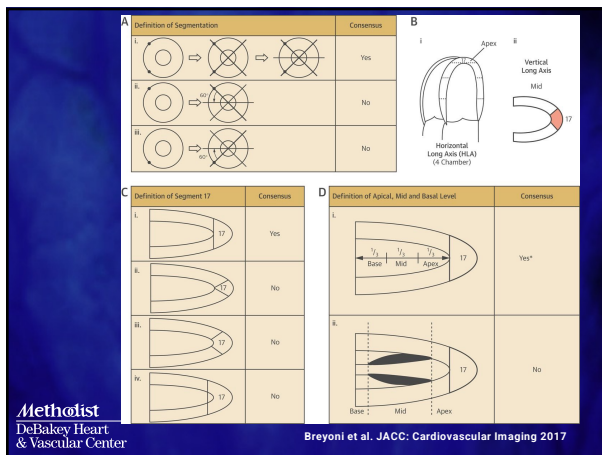
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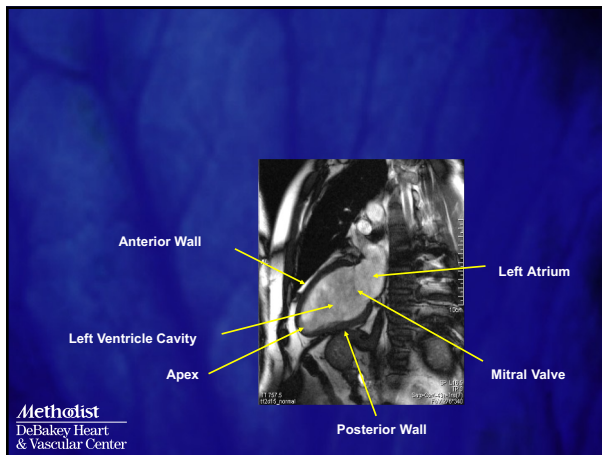
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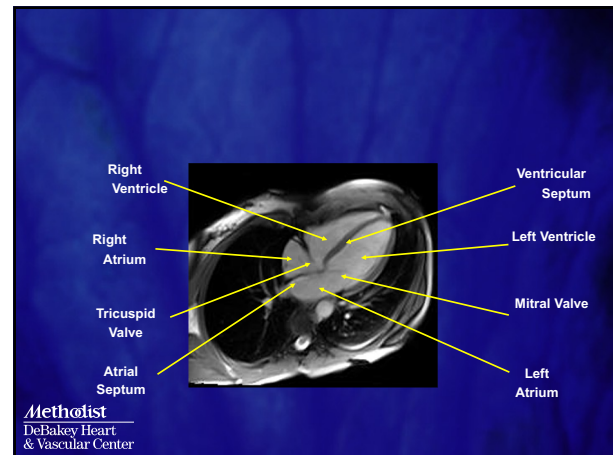
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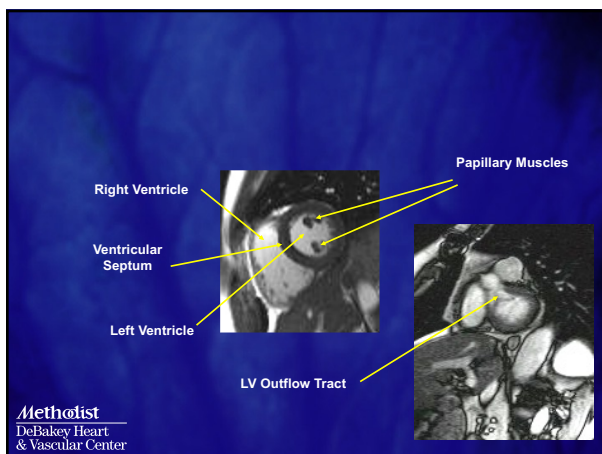
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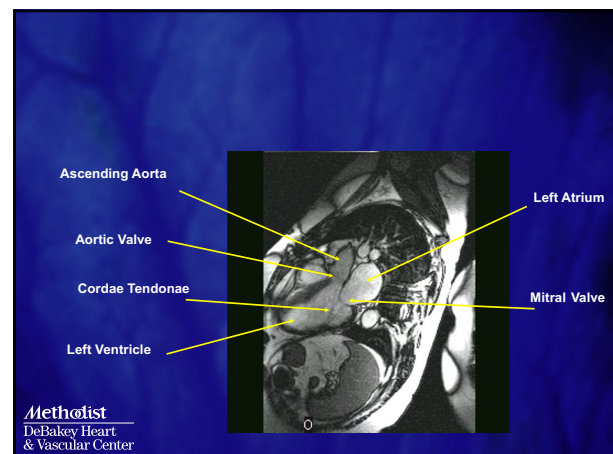
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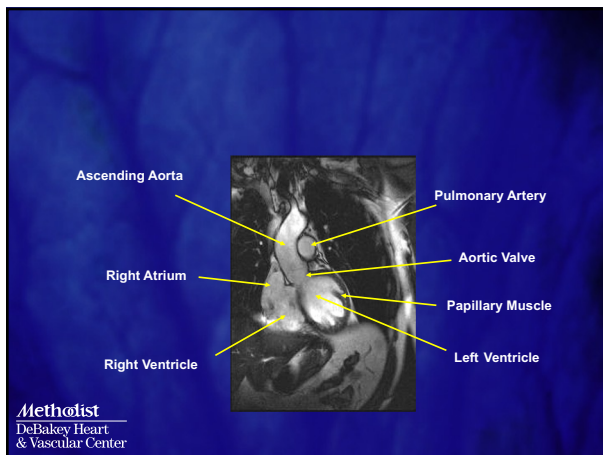
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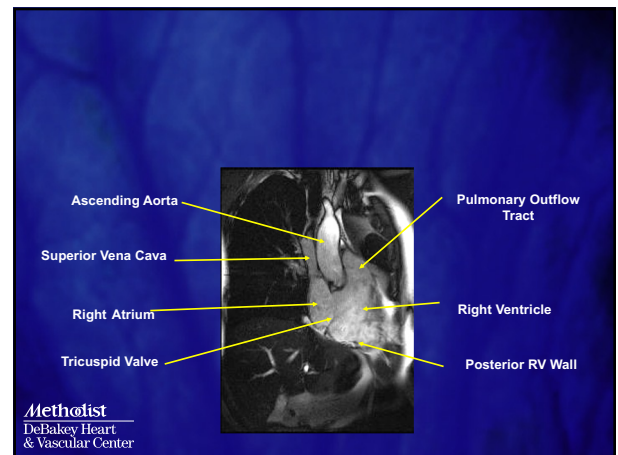
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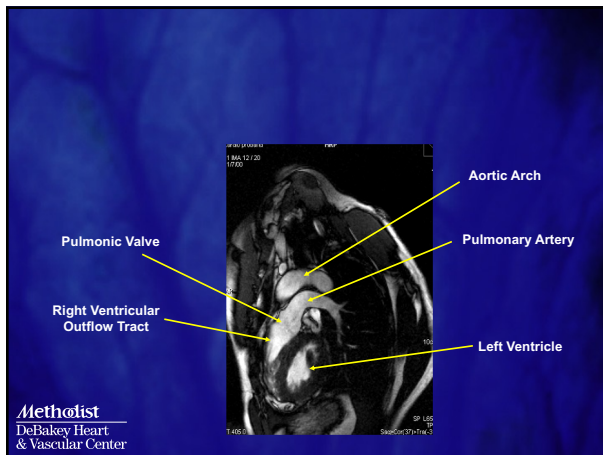
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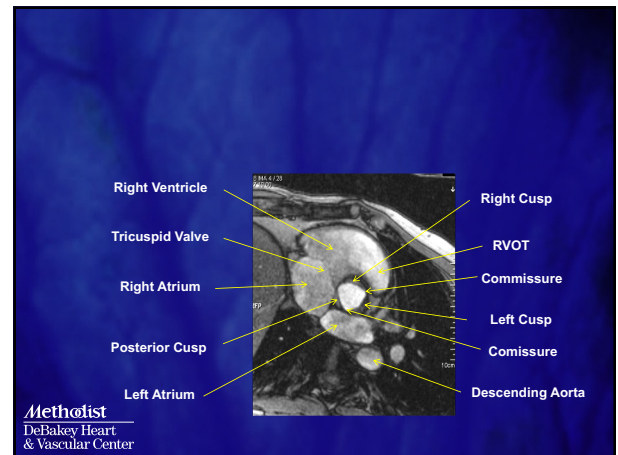
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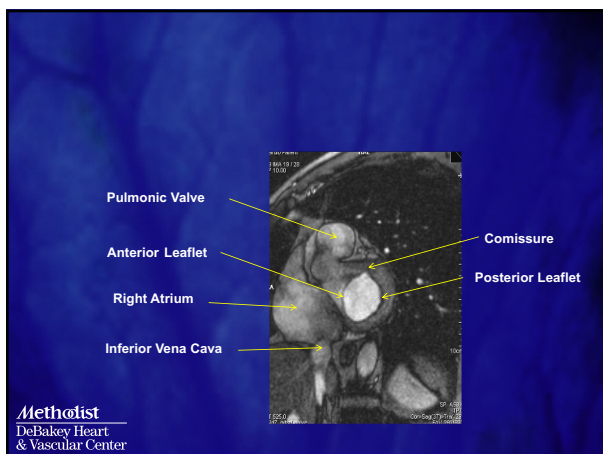
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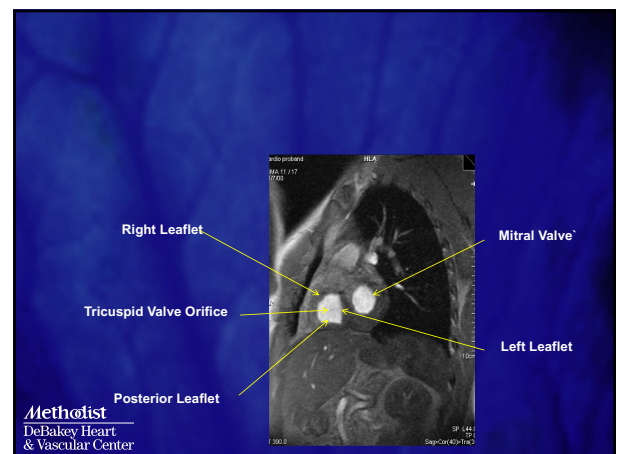
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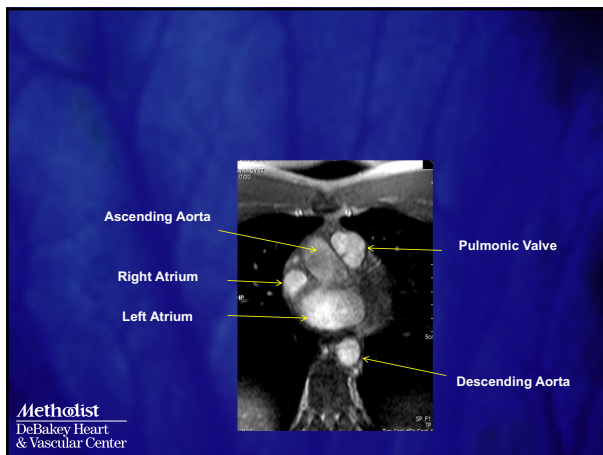
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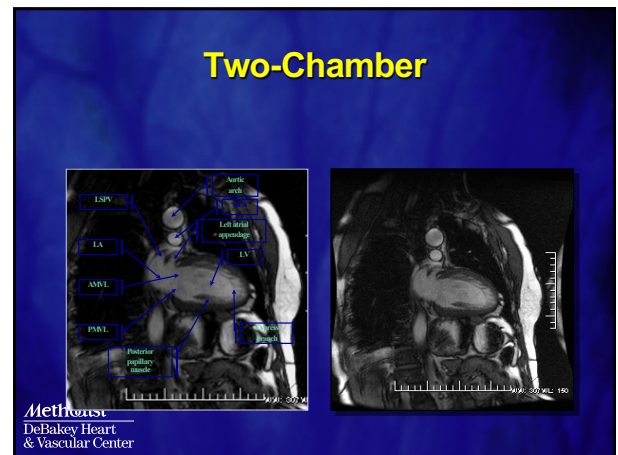
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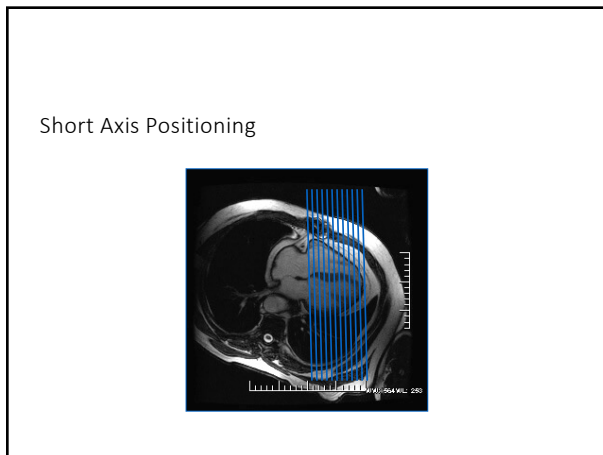
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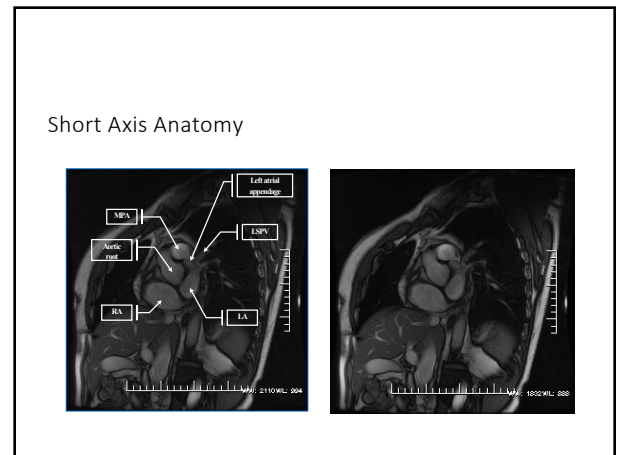
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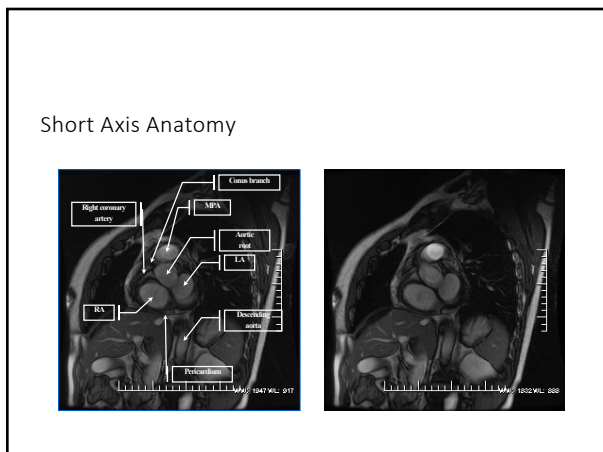
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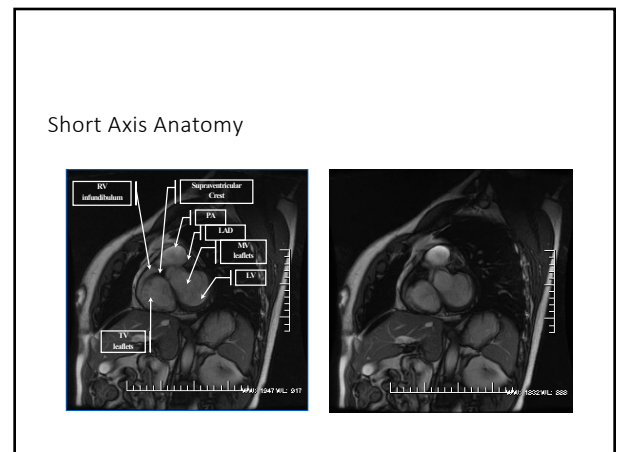
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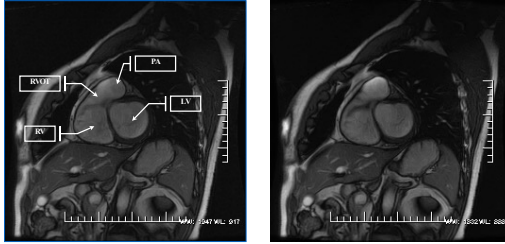


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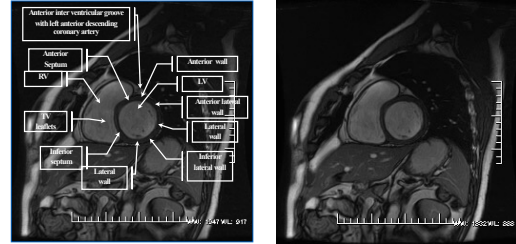
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Short Axis Anatomy



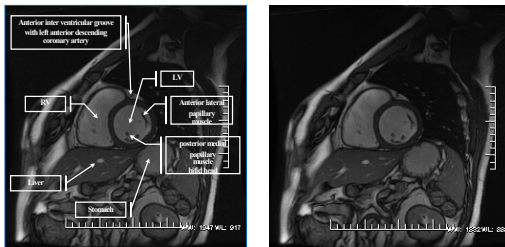
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Short Axis Anatomy



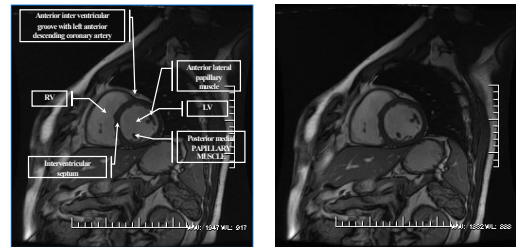
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Short Axis Anatomy



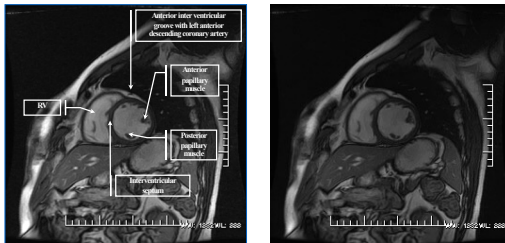
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Short Axis Anatomy



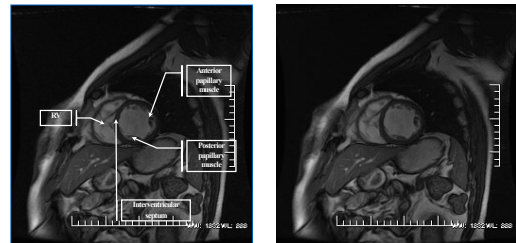
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Short Axis Anatomy



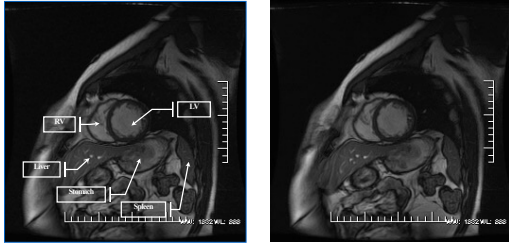
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Short Axis Anatomy



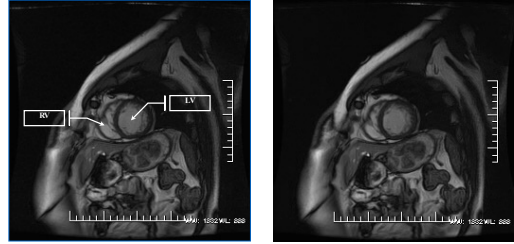
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Short Axis Anatomy



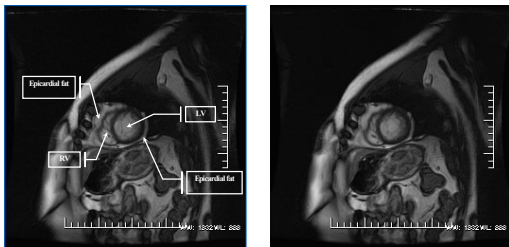
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Short Axis Anatomy



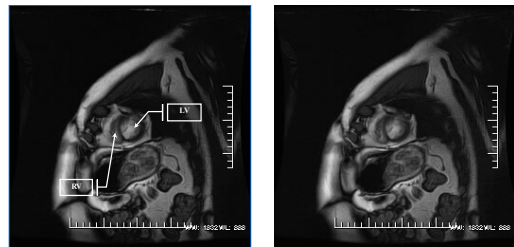
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Short Axis Anatomy



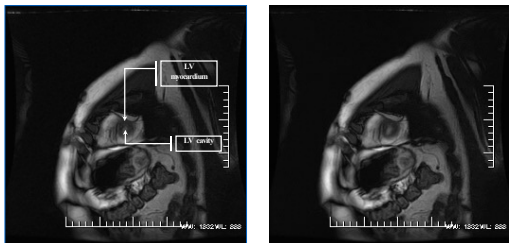
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Short Axis Anatomy



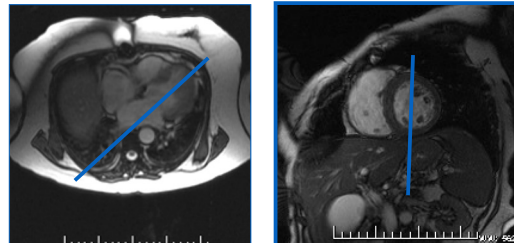
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Short Axis Anatomy



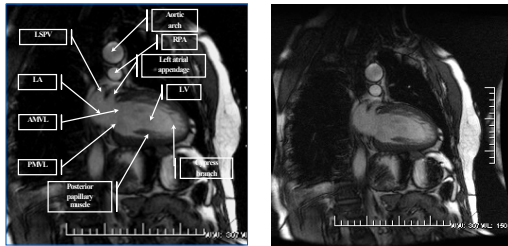
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Two-Chamber Or Vertical Long Axis Positioning



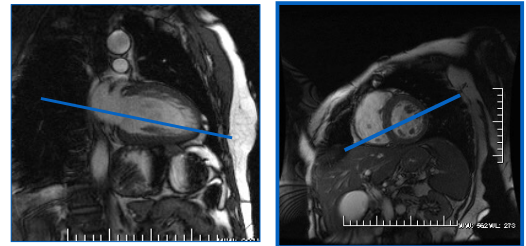
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Two-Chamber Or Vertical Long Axis Positioning



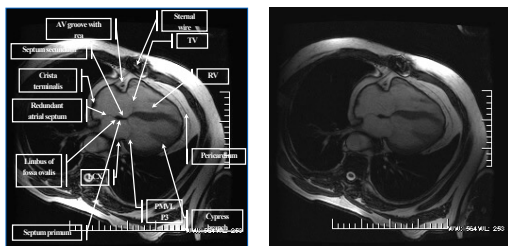
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Four-Chamber Or Horizontal Long Axis Positioning



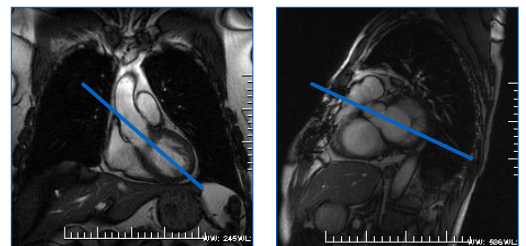
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Four-Chamber Or Horizontal Long Axis Anatomy



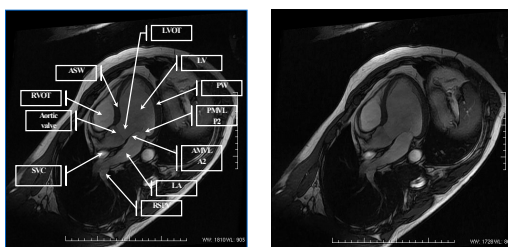
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Three-Chamber Positioning



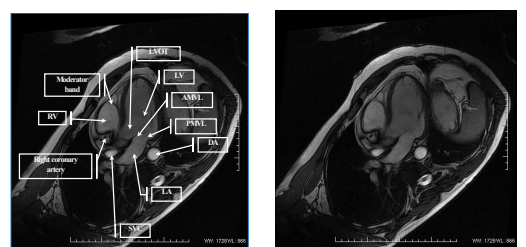
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Three-Chamber Anatomy



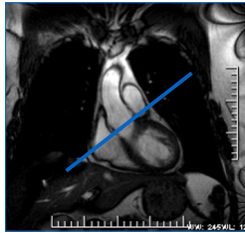
89

Three-Chamber Anatomy



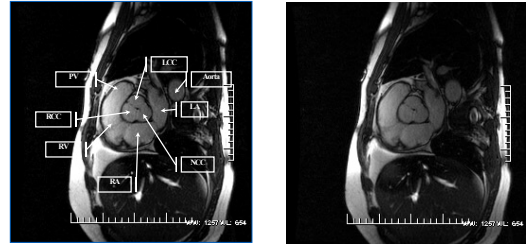
90

Para-Axial Aorta Positioning



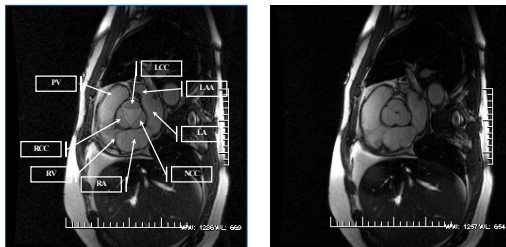
91

Para-Axial Aortic Valve Anatomy



92

Para-Axial Aortic Valve Anatomy



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