

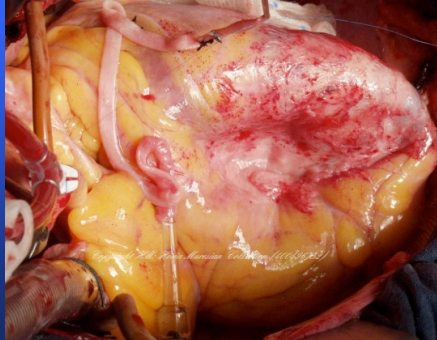
SVR

Surgical Ventricular Restoration

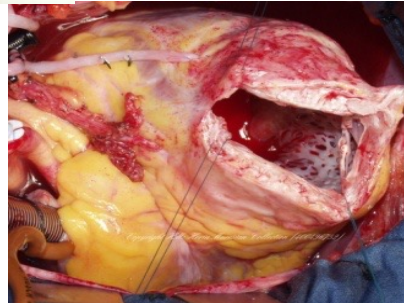
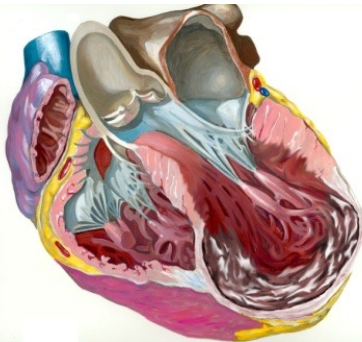
Surgical Technique

SVR Surgical Technique

The characteristic flattening of the LV wall after the aorta is cross-clamped



Istituto Policlinico San Donato

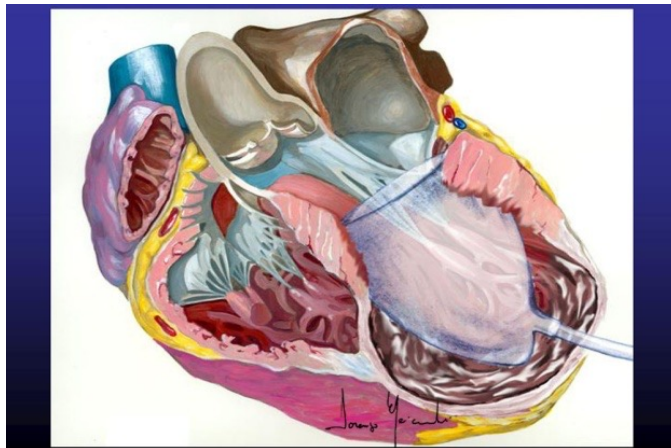


Identify the center of the scar on the epicardial surface. This is the collapsed area of the ventricle when vented. Incise the center of the scar lateral to the LAD and extend through the scarred area.

For optimal viewing, secure the four corners of the opening with a suture. Palpate the wall to identify the transition zone.

If the scar is not evident, make a small incision parallel to the LAD. Remove any thrombus, palpate the ventricle to assess scar and extend the incision as necessary.

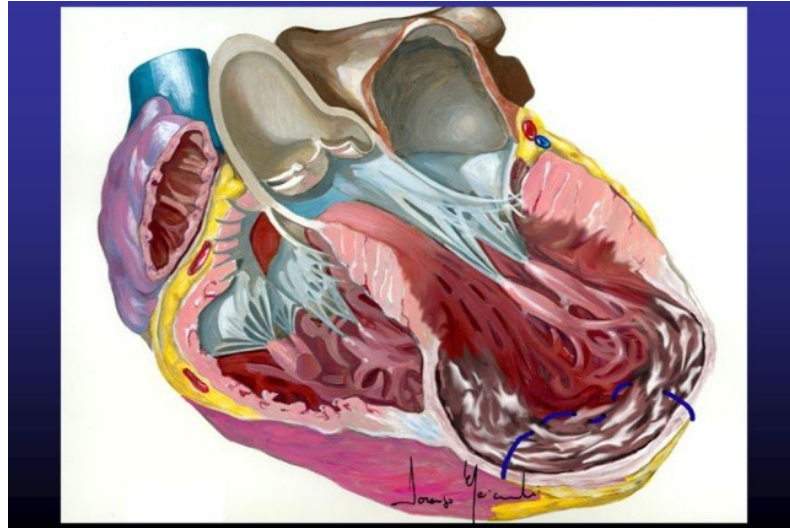
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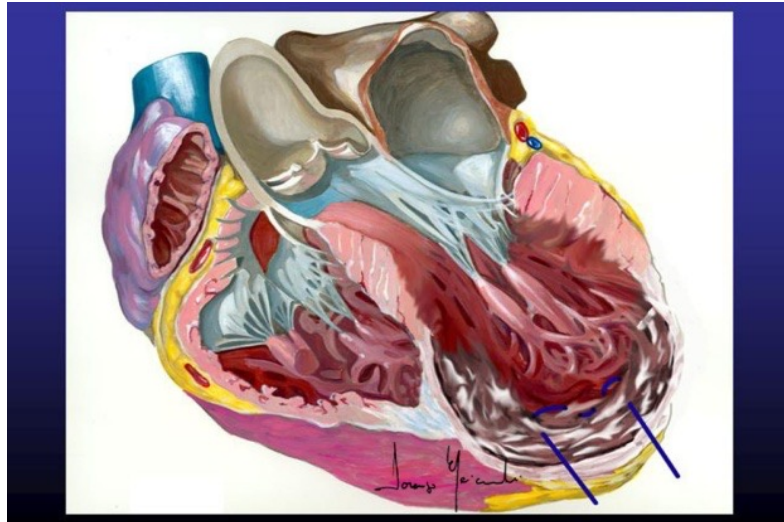
Fully inflate the Mannequin with saline to test, then withdraw 80%, leaving 20%. Insert the Mannequin 3cm. Now, fully inflate the Mannequin and seat the base against the mitral valve.

Once the Mannequin is seated, the tip of the Mannequin identifies the new apex. Properly seating the Mannequin ensures a correct longitudinal plane between the mitral valve and the new apex.

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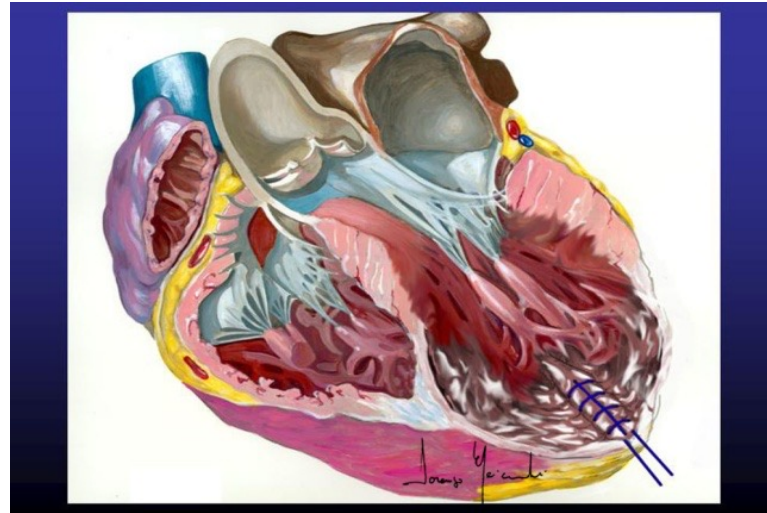


If there is a gap between the transition zone and the new apex, the scarred area will need to be reinforced by plicating the inferior wall.

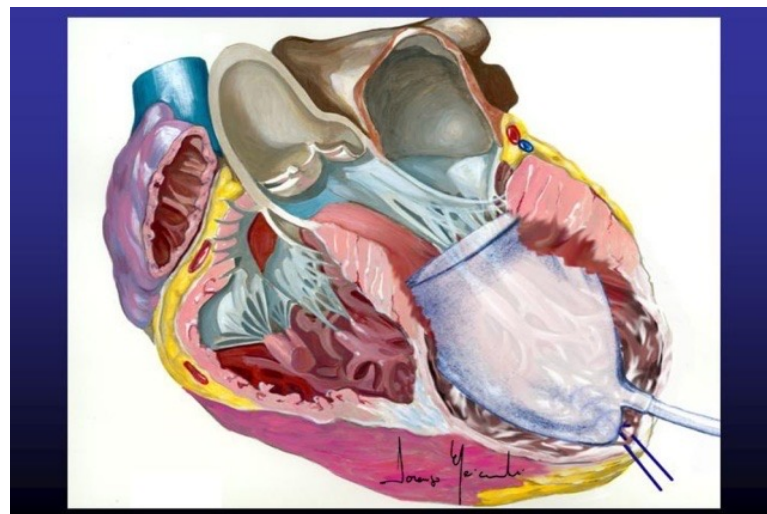


The plication stitch begins at the transition zone. Plicating the scarred tissue of the inferior wall will help prevent further dilatation.

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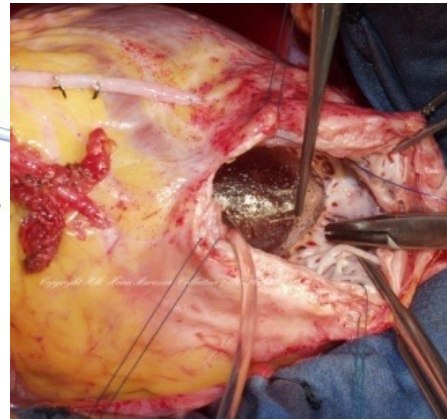
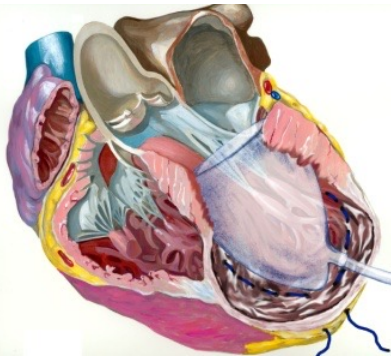


Remove the Mannequin and start the imbricating sutures at the transition zone extending toward the apex.

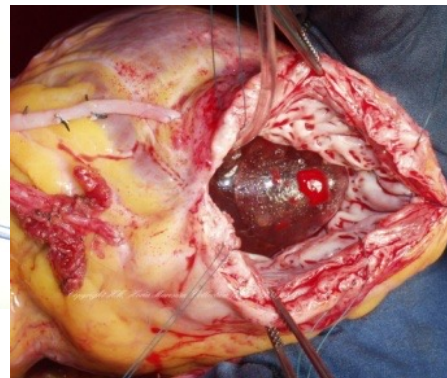
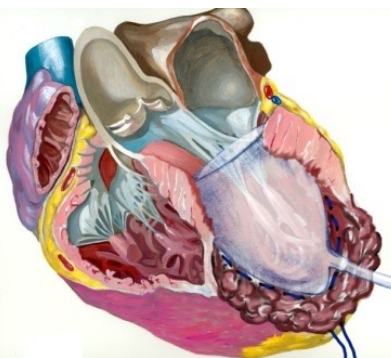


Once the plication stitch is completed, the Mannequin is reinserted to confirm the position of the new apex. This technique defines the longitudinal diameter from the mitral valve to the apex.

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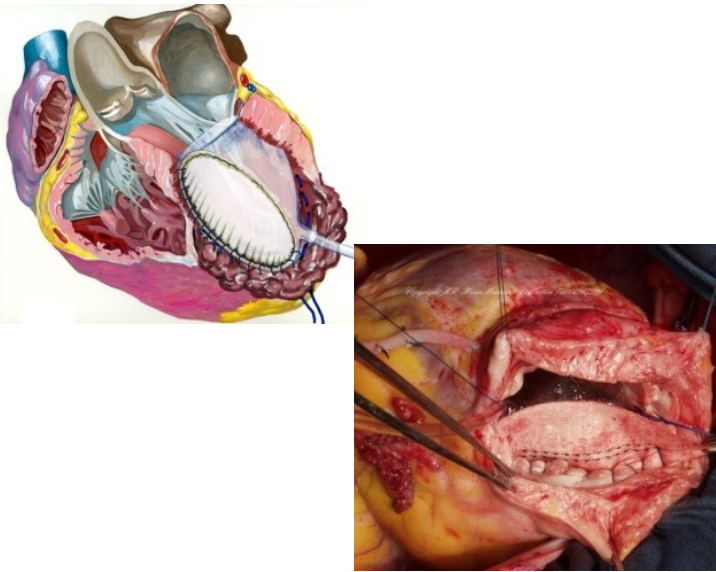


Using 2.0 Prolene, start the Fontan (purse string) suture at the new apex. Continue the purse string stitch along the transition zone using the Mannequin as a guide. Continue clockwise until the suture is back at the apex.



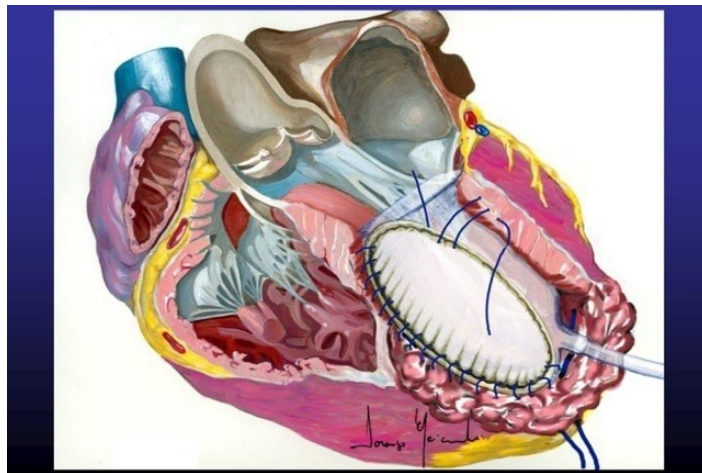
Snare the purse string suture to ensure the ventricle is pulled tightly around the shape of the Mannequin and to respect the longitudinal diameter of the new ventricle.

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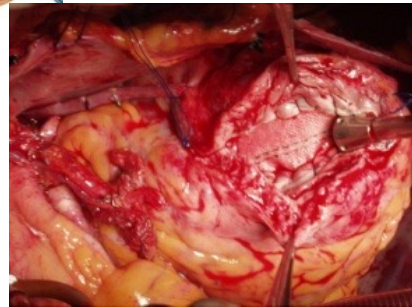
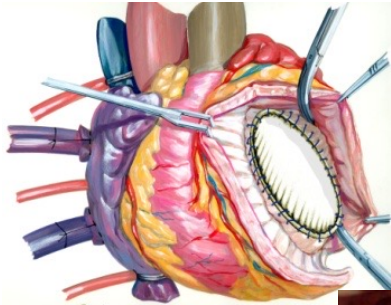
If the opening in the ventricle is less than 3 cm, it may be closed without a patch.

If using a patch, it should be sized and cut into an oval. Proper placement (oblique to the aorta) secures an elliptical chamber.



Suture the patch starting at the basal portion and work down the septal side of the patch towards the apex. This helps maintain tension on the suture. Repeat the suturing down the other side of the patch starting again at the basal portion.

SVR Surgical Technique



When approximately 75% complete, deflate the Mannequin and remove it from the ventricle. Finish suturing the patch.

Suture the excluded tissue over the patch using the “vest over pants” technique. Optional -Apply a felt strip on either side of the closed incision to prevent the suture from rupturing.

SVR Plication Summary

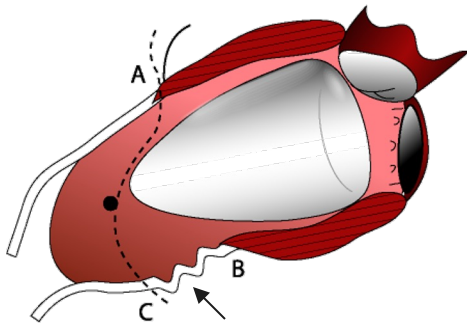
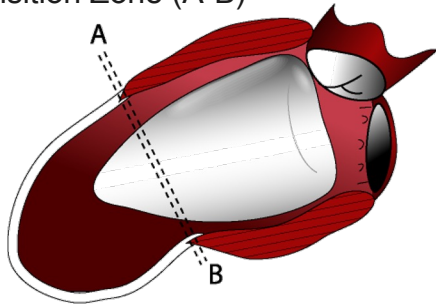
Elliptical...Every Time

The Mannequin defines the new apex which extends beyond the transition zone. Without the guide of the Mannequin, this ventricle would have been undersized.

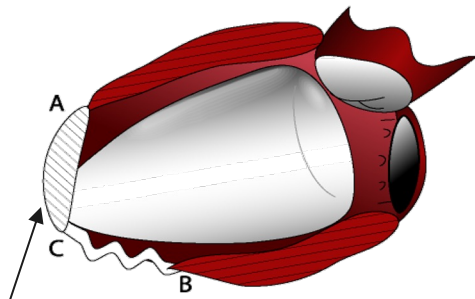
The new apex requires some scarred tissue (B-C) to become part of the new ventricle. This segment is reinforced by plicating the scar to prevent further dilatation.

The patch (A-C) is used to close and reinforce the ventricle. The Mannequin ensures the ventricle is elliptical and the longitudinal diameter is not compromised by making the ventricle too small.

Transition Zone (A-B)



Fibrotic Aneurysmatic Wall (B-C)



Patch (A-C)