

Robotic Assisted Cardiac Surgery

Aqeel A. Sandhu, MD Assistant Professor Division of Cardiac Surgery



Not Quite





Cardiovascular Surgery Advances





Revascularization Strategy for Proximal LAD Disease: Left Internal Mammary to LAD Artery Still Rules the Roost



No differences in all-cause mortality

Major adverse cardiac and cerebrovascular events (MACCE) higher in the PCI

Relative risk of recurrent angina was 2.5 times higher in the PCI

Repeat TVR occurs significantly more frequently (2x) after PCI



Left Internal Mammary Artery



"The internal mammary graft appears relatively resistant to atherosclerosis. ... With contemporary medical therapy and aggressive secondary prevention, patency rates may be higher."

Joseph Carrozza Jr., MD and Frank Sellke, MD JAMA, November 24, 2004; Vol 292, No 20



Advances in Surgical Myocardial Revascularization





MIDCAB



- + Advantages:
 - + Avoidance of CBP
 - Reduction in neurocognitive deficit
 - Reduction blood loss
- Limitations:
 - + Technically challenging
 - + Steep learning curve
 - + Intercostal approach painful
 - Distal length of LIMA compromised
 - No reduction in LOS







































Benefits of Robotic Assisted Surgical Myocardial Revascurization

- Avoidance of median sternotomy
- Greater conduit length
- Potential to preform multi vessel bypass
- Reduced risk of infection
- Less blood loss and need for blood transfusions
- Shorter hospital stay
- Less pain and scarring
- Faster recovery and return to normal activities



Patient's Perspective

Question	Yes	No	Don't know
Did you benefit from robotic surgery (as opposed to the traditional method)?	84%(16/19)	5%(1/19)	11%(2/19)
If yes, how did you benefit?			
Smaller incision/scar	10		
Faster/Shorter Recovery	9		
Less Invasive/Did not open chest	7		
Less Pain	4		
Would you choose robotic surgery again?	90%(18/20)	10%(2/10)	
If no, why not?			
Did not work		1	
Numbness on left chest		1	
Would you recommend robotic surgery to your family/friends?	95%(19/20)	5%(1/20)	
If no, why not?		1	
numbriess on teft chest		1	

Interactive Cardiovascular and Thoracic Surgery. Division of Cardiothoracic Surgery, St. Luke's-Roosevelt Hospital Center(Article in Press)

- Study Objective:
 - Assess mid-term outcomes and patient's perception of robotically assisted CABG: LITA-LAD
- Methods:
 - LITA dissected w/da Vinci[®] System
 - Enrollment Apr. '02 Nov.
 '04
 - Nuclear stress-testing 3 m
 - + Questionnaire: 3-6 m
 - **Results:**
 - 20/37 pts.-robotically assisted CABG(Hybrid)
 - 90% Would select robotic surgery again
 - 95% Would recommend robotic surgery to family/friends



Desired Outcomes

Require more than just expertise in Cardiac Surgery

Requires expertise in: Medicine Cardiology Anesthesiology Critical Care Nursing Respiratory Therapy Pharmacy Nutrition Physical Therapy Social Services