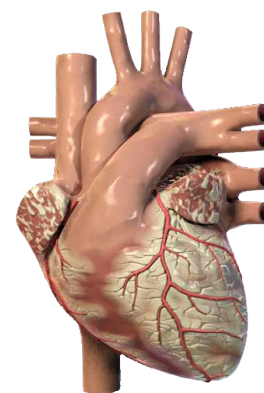


Healthy Heart

Volume-2 | Issue-21 | August 5, 2011

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Care Institute of Medical Sciences



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From the desk of editor:

Cardiac surgery has been the last of the surgical specialties to embrace the principles of minimal invasiveness. The complexity and invasiveness of the procedures have presented both a problem and an opportunity to make the procedures less invasive. Beginning with initial attempts at coronary artery bypass surgery through limited access, a number of other cardiac procedures currently are being performed by minimally invasive approaches. These include mitral valve repair, transapical aortic valve implant, limited access, and totally endoscopic pulmonary vein isolation for the treatment of atrial fibrillation, the treatment of aortic aneurismal disease by thoracic endografting and Hybrid Procedures. The experience with less invasive surgery in other specialties has served as cross-fertilization for minimally invasive cardiac surgery.



Dr. Dhaval Naik

Minimally Invasive Cardiac Surgery (MICS) & Hybrid Surgery

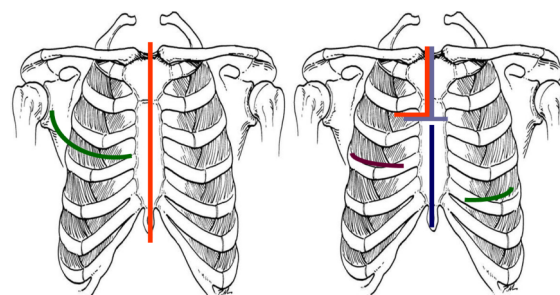
Background

Cardiac surgery is now more than a century old. The first successful surgery of the heart, performed without any complications, was by Dr. Ludwig Rehn of Frankfurt, Germany, who repaired a stab wound to the right ventricle on September 7, 1896. Invention of heart-lung machine in 1953 opened all new horizons in cardiac surgery. Standard heart surgery typically requires exposure of the heart and its vessels through median sternotomy (dividing the breastbone), considered one of the most invasive and traumatic aspects of open-chest surgery. Pain due to rib fractures, atelectasis, more ICU and hospital stay are key

disadvantages of this big incision. Considering all these, multiple alternative access incisions have been described and used for various procedures in cardiac surgeries and published as Minimally Invasive Cardiac Surgery (MICS).

Minimally Invasive Cardiac Surgery (MICS)

Minimally Invasive Heart Surgery (also called keyhole surgery) is performed through small

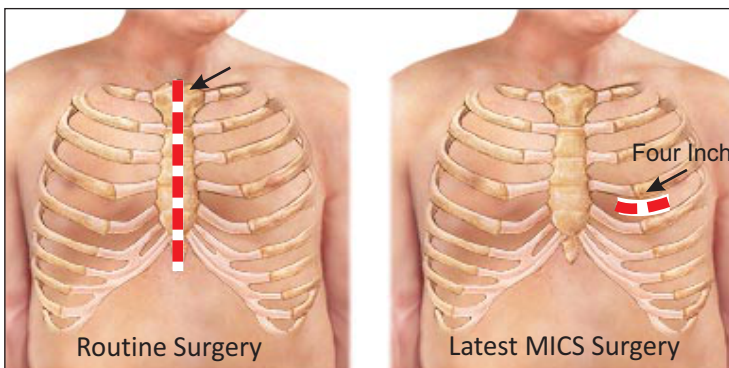


incisions, using specialized surgical instruments. The incision used for minimally invasive heart surgery is about 2 to 3 inches instead of the 8 to 10 inches incision required for traditional surgery. The spectrum of MICS includes all types of valve surgeries, ASD Closure, coronary artery bypass grafting and hybrid procedures. The approach to the heart is through minimisternotomy or small thoracotomy, using THOREXPO retractor arc, blade guide, manubrium hook, coupling rider system, OR-Table adapting clamp.

MICS Procedures

MICS ASD closure is one of the most common procedure performed through small incisions. ASD can be closed through small Ant. Thoracotomy, subxiphoid incision or small partial lower sternotomy.

Valve surgeries, including valve repairs and valve replacements, are the most common type of minimally invasive surgery, accounting for 40 percent of all minimally invasive cardiac surgeries performed at our center.



Minimally invasive direct coronary artery bypass graft (MIDCABG) surgery is an option for some patients who require a left internal mammary artery bypass graft to the left anterior descending artery.

Hybrid procedures are combination of surgical and catheter-based intervention to the heart. Hybrid

coronary artery revascularization is a combination of surgical and catheter-based intervention to the diseased coronary arteries.

MICS – Patient Selection

Patient selection is very important as only the desired part of the heart can be approached through these small incisions; so presence of associated pathology makes this surgery impossible. For example, co existing coronary artery diseases in valvular lesions. Peripheral vascular system has to be normal as femoral vessels are required to put the patient on heart lung bypass.

MICS - Advantages

The benefits of minimally invasive surgery techniques are due to small incisions and scars. There is less incidence of infection, bleeding and blood transfusions. Less invasive procedure and less pain make hospital stay shorter than routine cardiac surgeries.

Faster recovery leads to early resumption of day to day activities. The average recovery time after minimally invasive surgery is 1 to 4 weeks, while the average recovery time after traditional heart surgery is 6 to 8 weeks. These incisions are better



cosmetically and also known as bikini scar.

Limitations of MICS

Certainly, MICS requires definite learning curve. The duration and techniques of anesthesia and surgery can be prolonged due to technical difficulty, and the risk of unsatisfactory anastomosis or incomplete



revascularization can also be increased. The cardiopulmonary bypass circuit utilized for MICS requires a more complicated system including negative pressure venous drainage. The detection of accidental trouble during surgery, which is related to the extracorporeal circulation or the MICS procedure itself, can be delayed due to the limited surgical view. MICS procedures carry additional risks related to the more complicated cardiopulmonary bypass system and small surgical wound. We must be deliberate in determining the indications for MICS and obtain complete informed consent from patients when we perform MICS, including informing them of the additional risks related to the MICS procedure itself and the possibility of conversion to standard open-heart surgery.

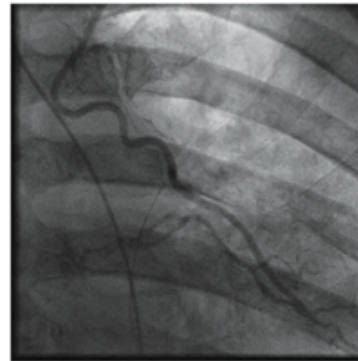
Instrument fulcrum movements become limited in presence of small and rigid intercostals space and bi-dimensional vision; finally causes more operator fatigue.

ISMICS For all - NO

MICS is truly subject of preference for both; surgeon and patient. Presence of multiple pathology and gross peripheral vascular disease make this procedure impossible. Occasionally, small thoracotomy exposure is difficult in grossly obese patients.

Hybrid Procedure

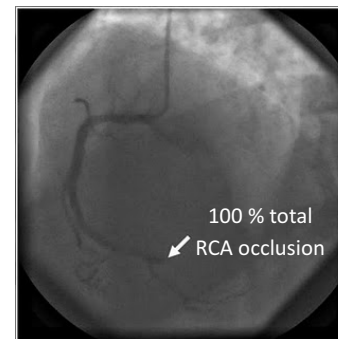
The Hybrid procedure is an innovative approach to double- or triple-vessel coronary artery disease. The hybrid approach combines minimally invasive coronary artery bypass surgery with catheter-based coronary intervention (PTCA, stenting). The rationale for this approach is that the internal mammary artery, which can be placed in minimally invasive fashion, is the best choice for the anterior wall of the heart. Under protection of this bypass graft, the other vessels are stented.



Hybrid CABG

1st stage
MICS CABG
showing patent
LIMA to LAD graft

2nd Stage RCA Plasty



The hybrid procedure combines the best of both worlds - bypass surgery and stenting -- by using a minimally invasive surgical procedure that has longevity and using stents for what they are best at, which is taking care of non-left anterior descending (LAD) vessels. These approach benefits patients because it is more convenient and less stressful to have both bypass surgery and stenting performed at the same time, rather than on separate days.

The procedure is carried out with the complete safety net of a cardiac surgery operating room. Another advantage for patients is that this type of bypass surgery can be performed without a major incision. It's a less invasive procedure with improved chances for long-term success. Patients can also expect quicker recovery times and reduced hospital stays.

Ideal candidates for the hybrid procedure have a blockage in a major vessel called the left anterior descending (LAD) artery, which supplies 60 percent of the blood to the heart, as well as blockages in non-LAD arteries that can be treated with a stent.



MICS – Future

Minimally invasive cardiac surgery continues to evolve and expand with growths in technology and surgeon experience. Now that a significant amount of data has emerged on the safety and efficacy of MICS across a range of surgical operations, there is evidence to support the widespread adaptation of such techniques. In the future, there will likely be a greater request for MICS approaches by patients seeking cardiac surgical options with reduced surgical trauma that allow for a faster return to normal activities and improved quality of life. In addition, MICS itself will continue to evolve in the future through growing use of percutaneous technology, hybrid operating rooms and ongoing collaborations with interventional cardiologists.

MICS - Our Experience

- First official center to launch MICS programme in Ahmedabad
- Only center to perform direct IJV/SVC canulation in Ahmedabad
- Did hundreds of cases including

MICS-CABG	MICS-Hybrid (MICS+ PCI Stenting)
MICS-MVR	MICS-ASD
	MICS-AVR
- Average incision was 3 inches
- Average ICU stay was 2 days and hospital stay was 4-5 days
- No conversion to sternotomy

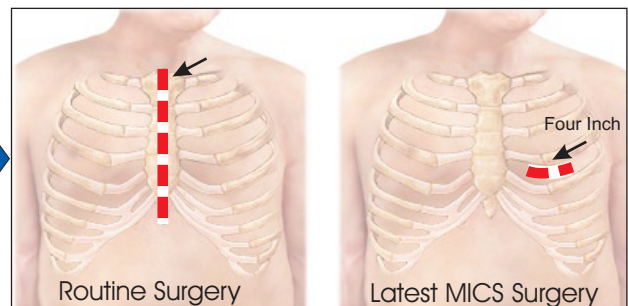


CIMS Heart Care

MICS (Minimally Invasive Cardiac Surgery)

One of the most experienced cardiac surgical team of India with over 1200 open heart surgeries

Heart Surgery with only a 3-4 inch cut



First hospital in Western India to have MICS Surgery equipments

Benefits of MICS Surgery:

Fast Recovery • Early Discharge • Less Pain • Cosmetic Benefit

Routine MICS surgeries

- | | |
|-------------------------------------|---------------|
| • Selected cases of CABG | • ASD |
| • Mitral Valve repair / replacement | • VSD |
| • Aortic Valve replacement | • Hybrid CABG |

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January 6-8, 2012

2012

Education For Innovation

Venue :

Tagore Hall, Ahmedabad, Gujarat.

The Grand Bhagwati, Ahmedabad, Gujarat.

CIMS Hospital, Ahmedabad, Gujarat.

8th Annual Scientific Symposium, 17th Year of Academics

Preliminary CIMS-CON Schedule

Day-1 (January 6, 2012 - Friday)

07.00 AM-08.00 AM	Registration & Breakfast
08.00 AM-01.30 PM	Opening Session : Update, Innovations and Trials of 2011 in Cardiology Pulmonology, Immunology, Infection Diseases Coronary Artery Disease (CAD)
01.30 PM-02.30 PM	Lunch
02.30 PM-06.00 PM	Heart Failure Gastroenterology "20 - 20" of 2012 (Rapid Fire) Renal Sciences.
08.00 PM-10.00 PM	Satellite Symposia (A) - Cardiac Pharmacology
08.00 PM-10.00 PM	Satellite Symposia (B) - Peripheral Vascular Disease (PVD)
08.00 PM-10.00 PM	Satellite Symposia (C) - Cardiac Imaging
08.00 PM-10.00 PM	Satellite Symposia (D) - Group Practice & Financial management of Doctors Practice

Day-2 (January 7, 2012 - Saturday)

07.00 AM - 08.00 AM	Registration & Breakfast
08.00 AM - 01.30 PM	Interactive Session / Arrhythmias / Trials of 2011 Year in Cardiology Live transmission of cases from cath lab Internal Medicine General Cardiology CIMS-CON Oration
01.30 PM - 02.30 PM	Lunch
02.30 PM - 06.00 PM	Neurosciences Congenital, Valvular, Cardiomyopathies, Others Clinical Case Scenarios : Cardiology Clinical Case Scenarios : Internal Medicine Debate - I Debate - II
08.00 PM - 10.00 PM	Grand Gala Dinner

Day-3 (January 8, 2012 - Sunday)

08.00 AM - 05.30 PM	Certification Course on Clinical Cardiology
08.00 AM - 05.30 PM	Certification Course on Neonatal and Pediatric Critical Care
08.00 AM - 05.30 PM	Certification Course on Emergency Medicine & Trauma
08.00 AM - 05.30 PM	Certification Course on Practice Guidelines in Cardiology
08.00 AM - 05.30 PM	Certification Course on Critical Care Medicine
09.00 AM - 12.00 Noon	Special program at AMA hall for IMA General / Family Physician



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Email : cimscon@cims.me, www.cimscon.com

You can download registration form from www.cimscon.com or www.cims.me or www.cimscon.com/offline.php

For more details and registration please contact :

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Endovascular Workshop successfully completed on July 22-23, 2011



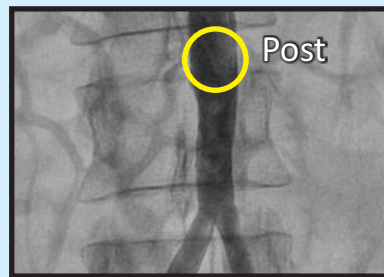
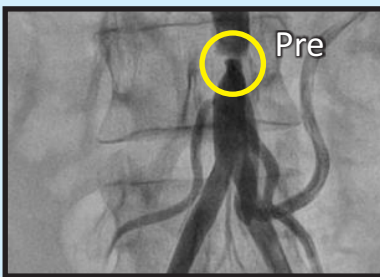
"CIMS has turned out to be one of the finest medical facilities in the country. It is a 'complete' medical experience, where patient experiences not only the best medical care from the finest doctors, but in a superb facility, full of people who care for all human needs. I am glad and proud to be a part of such a medical facility. I hope we can continue to keep this high standards forever."

- Dr. Ashit Jain

Dr. Ashit Jain, (Interventional Cardiologist, USA) was at CIMS and performed stenting on 8 patients with blocks in the brain, leg and carotid artery who benefitted from this workshop.

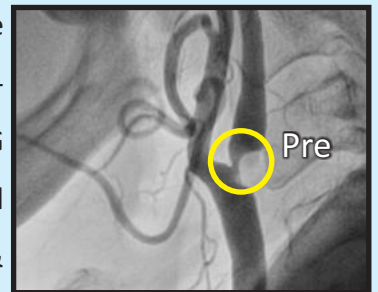


Some selected Endovascular Cases



A 47 year old male Patient Normotensive, diabetic since 4 years. Coronary Artery Disease, S/P PTCA to LAD presented with history of difficulty in walking since 4-5 years because of claudicating. Color Doppler study was done showing of distal aorta more than 90% of stenosis. Patient had also history of CAG + PAG done on 11/7/2011 which showed Coronary Artery Disease, block-significant infrarenal aortic narrowing, Patient had PTA to aortic occlusion with Infrarenal PTA + stenting of aortic stenosis was done with successful end result on 22/7/2011 by CIMS Vascular Team. Post procedure hospital course was uneventful. At the time of discharge, patient is haemodynamically stable.

A 83 year old male patient non-diabetic, S/P CABG 2003, had complaint of TIA & giddiness since 01/06/11, Carotid Doppler suggestive in right ICA. Patient admitted at CIMS Hospital under



care of CIMS Vascular Team for further management. Successful PTA to right ICA was done on 23/07/11. At the time of discharge, patient is haemodynamically stable.



Endovascular Disease Workshop Inviting cases for workshop

Dear Doctor,

The Heart Care Clinic team and Care Institute of Medical Sciences (CIMS) announces an Endovascular Disease Workshop on November 18-19, 2011 and January 4-5, 2012.

The Heart Care Clinic - CIMS team has done over 1000 Endovascular cases including a very large number of carotid interventions over the last few years.

Complex carotid/peripheral/renal procedures will be performed during these days. You are welcome to send in your patients who display the following symptoms for this workshop.

- **Carotid Artery Stenting**
- **Renal Artery Stenosis**
- **Acute Limb Ischemia**
- **Critical Limb Ischemia**
- **Claudication**
- **Aortoiliac Occlusive Disease**
- **Femoropopliteal Disease**
- **Brachiocephalic Arterial Disease**
- **Venous Thromboembolic Disease**
- **Thoracic Abdominal Aortic Aneurysms**
- **Mesenteric Disease**
- **Catheter-Based Interventions for Failing Hemodialysis Accesses**
- **Infrapopliteal Peripheral Arterial Disease**
- **Intracranial Arterial Stenotic Disease**
- **Vertebral Arterial Disease**

CIMS will provide FREE Consultation and optional Doppler/ABI exams to your patients who come in for screening. After the consultation-intervention, the patient will be sent back to you for further management.

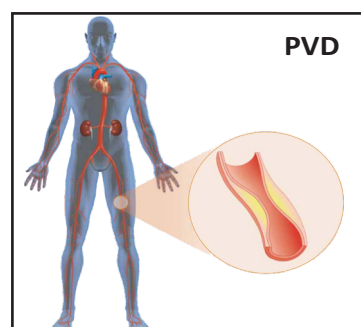
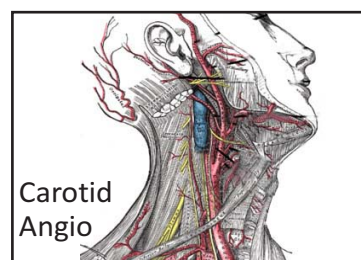
Please contact any of our cardiologists listed on the front page or you can call on **+91-9825108257/ 9825376321** for further details or have your vascular surgeon or specialist contact us.

You can be assured of the best treatment at CIMS for your patients.

Also, Course Director for CVIC 2011 will be conducting a highly educative workshop for interested physicians, interventional specialists and vascular surgeons, to come, watch & participate.

Regards,

CIMS Cardiovascular Team



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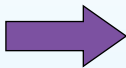
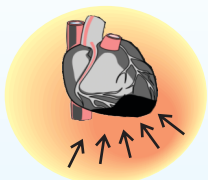
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Emergency treatment in Heart Attack

We will provide the best care in heart attack within minutes

Every minute is important Cardiology team available: 24 X 7 X 365



**Come to CIMS
within 01-12 hours
of Heart attack pain**



**Our admission to angioplasty(D2B)
time is less than 60 minutes due to
totally integrated system
(D2B = door to ballon Angioplasty time)**

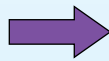
Heart Attack: Time is life

The only thing worse than a heart attack is not reaching the right Team immediately
Ambulance to Emergency Room Transfer: 5 min

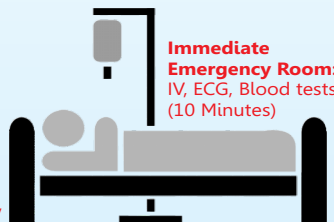
Cath Lab is staffed with fully integrated
"Cardiology and Cardiac Surgical Team",
which is available in the hospital.



Cath Lab open 24 hrs a day 7 days a week



**Readiness: Staff is ready
to receive heart attack patient immediately**



**Immediate
Emergency Room:
IV, ECG, Blood tests
(10 Minutes)**

Angiography under 1-5 minutes
We do angiography using the latest
angiography machine in 7 seconds

**Counselling about
Angioplasty in acute
heart attack: 5-10 minutes**

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