Aortic Aneurysm Repair at Narayana Hrudayalaya's Cutting Edge Endovascular Hybrid Operating Theatre.

Narayana Hrudayalaya’s fully integrated Hybrid OT is the first of its kind in India

Dr Ramesh Tripathi, Director Vascular and Endovascular Services and the Vascular Institute team performing a Hybrid Aortic Aneurysm Repair

Since September 5, 2011 – Narayana Hrudayalaya, Bangalore has showcased its state-of-the-art operating room for Vascular, Neuro and Cardiac patients.

Called a hybrid OT because it combines cutting-edge imaging technology with the function of a standard operating room, it is the first of its kind in India. “The hybrid OT is a significant advancement in Vascular, Neuro and Heart care at Narayana Hrudayalaya,” says Prof Ramesh Tripathi MD,FRCS,FRACS Director of the Narayana Institute of Vascular Sciences. “We now have the best view of the patient’s blood vessels in the body in 3-D, including brain and heart during surgery. For patients, that means safer surgeries,
fewer corrective surgeries and shorter hospital stays.”

Before the hybrid OT, patients would be transported between a cardiac catheterization lab, where their blood vessels would be imaged, and then an Operating Theatre to complete the surgery. Many patients were also transported to a third location – a recovery room – between surgical procedures, greatly lengthening their hospital stay.

Looking at a case scenario, Mr Hamid (name changed) was sure when he had an aneurysm operation last month that he’d be in the right place if anything went wrong.

Mr Hamid, 68, of Cox Town had a large Thoracic - Abdominal Aortic Aneurysm that Vascular Surgeons at Narayana Hrudayalaya fixed with a minimally invasive procedure called Hybrid-TEVAR (Combination of Open and EndoVascular Aortic Aneurysm Repair).

The Operation involved surgically re-implanting blood vessels to both kidneys, bowel and liver followed by stenting of his Aortic Aneurysm. Vascular Surgeons for the very first time were able to perform the surgical as well as endovascular portions of aneurysm repair in the same sitting without break of sterility. This is of paramount importance to prevent infection in these patients.

Hybrid Operating Theatre, as they are called, bring together the most modern of surgical innovations with the equipment and staffing for conventional Vascular and Open-Heart procedures.

The hybrid OT allows everything to be done in one room and allows surgeons to assess the procedure on a series of monitors as they operate. It also offers surgeons the flexibility to perform traditional Vascular and Open-heart surgery in conjunction with less-invasive techniques that involve using imaging technology to thread a catheter to the heart, aorta, blood vessels of legs and vital organs in abdomen through a small incision in the leg. “This flexibility allows us to perform highly customized operations involving a combination of open with endovascular procedure,” explains Prof Tripathi.

In addition to the advanced imaging technology, the hybrid OT also fosters collaboration among physicians. It is larger than a standard operating room. This allows for larger teams of physicians to work with each patient and the use of additional equipment if necessary, where before, a patient would often need to be transported to another room for a second procedure.
The procedures best-suited for the hybrid OT include Endovascular and Hybrid repair of Abdominal and Thoracic Aortic Aneurysms, Minimally invasive Heart Valve repair and Replacement, Atrial fibrillation Ablation and Surgery, Ablation for ventricular tachycardia, Minimally invasive heart bypass procedures, and Minimally invasive procedures for stroke including brain aneurysms and AV Malformations.

In a nutshell, developed for patients with cardiovascular conditions, the Hybrid OT at Naryana Hrudayalaya is India’s most advanced endovascular surgical suite and leverages multi-disciplinary resources to deliver:

- Fewer surgeries
- Safer procedures
- Shorter hospital stays
- Faster recoveries
- Better outcomes

1. It's the only surgical suite in India where patients can get diagnosed and treated in one visit, for less downtime and a speedier recovery.
2. Unique technology in the suite allows doctors across different specialties to work together case-by-case, in the best interest of each patient.
3. The most advanced imaging systems available including Xper CT Angiography provide quick and detailed information for shorter, more accurate treatment with substantially less X-ray exposure when compared to traditional devices.
4. The open and spacious environment, resulting from ceiling-mounted equipment, provides patients with the highest degree of comfort and safety.
5. Complex cases are more easily treated, since the suite is designed to handle both minimally invasive and open procedures.
6. For superior precision and control, all the equipment in the suite can be directly controlled by the surgical team.

More than 2000 procedures have been performed in Narayana Hrudayalaya’s new hybrid room, which has cutting-edge fluoroscopy machine that allows doctors to immediately view X-ray pictures taken of structures inside the body during an operation.
"I can do the operation with more confidence because the image quality is fantastic," said Prof. Tripathi, Mr Hamid’s Vascular Surgeon. "The better I see, the better I recognize finer aspects of blood vessel pathology and the better I do."