

## DEPARTMENT OF CARDIAC SCIENCES

### Interventional Cardiology

#### Dr. Sunil S. Thanvi

MD, DM, FACC, FCCP

[sunilthanvi@zydushospitals.com](mailto:sunilthanvi@zydushospitals.com)



#### Dr. Bhavesh Roy

MD, DM

[bhaveshroy@zydushospitals.com](mailto:bhaveshroy@zydushospitals.com)



#### Dr. Abhisheka Tripathi

MD, DNB (Cardiology) Gold medalist

Associate FACC & FSCAI

[abhishekatripathi@zydushospitals.com](mailto:abhishekatripathi@zydushospitals.com)



### Cardiac Surgery

#### Dr. Rajesh N. Desai

MS, M.Ch

[rajeshdesai@zydushospitals.com](mailto:rajeshdesai@zydushospitals.com)



#### Dr. Sandeep Agarwala

MS, F.R.C.S. (Ed), MCh, (CVTS)

F.R.C.S. (C-Th.)

[sandeepagarwala@zydushospitals.com](mailto:sandeepagarwala@zydushospitals.com)



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**Zydus Hospital:** Zydus Hospital Road, Nr. Sola Bridge, Off S. G. Highway, Thaltej, Ahmedabad - 380 054.

E: [infoahd@zydushospitals.com](mailto:infoahd@zydushospitals.com)

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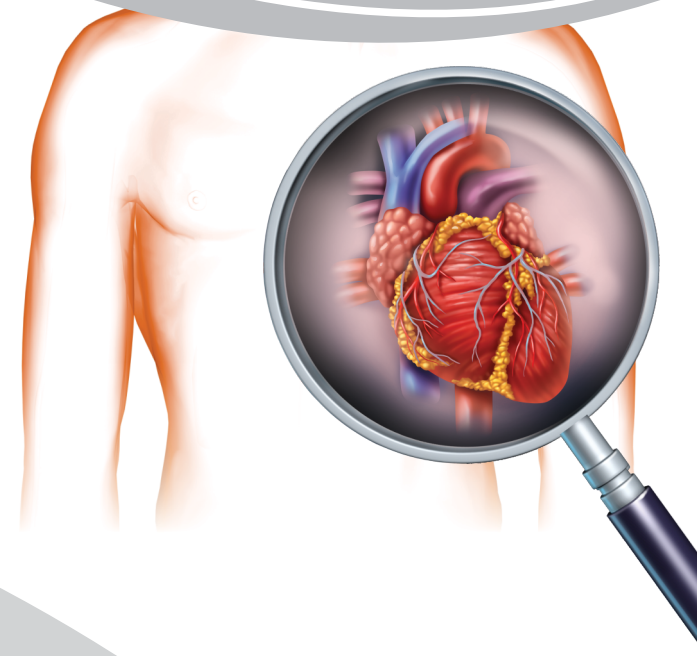
**For Enquiries:** +91 79 66 190 201

**Toll Free No.:** 1800 123 5433



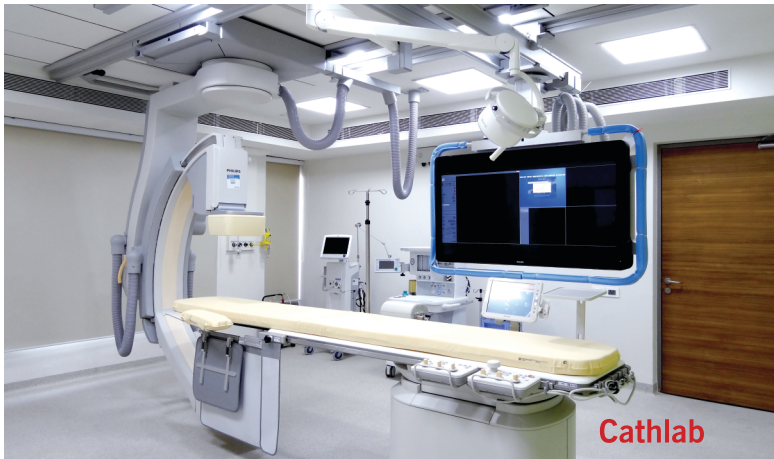
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## IVUS & FFR TECHNOLOGY

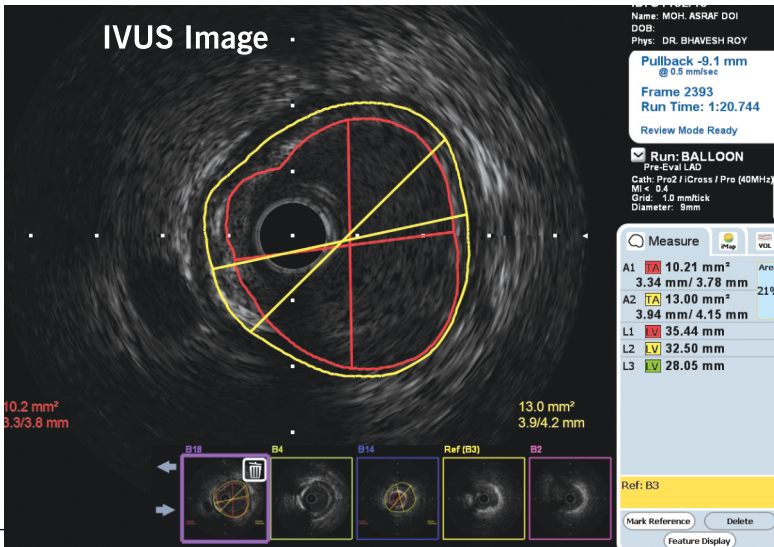


## What is IVUS?

Intravascular Ultrasound (IVUS) is a medical imaging technique which allows your doctor to have a detailed look into the blood vessels of your heart, from inside-out. IVUS tells your doctor about the appropriate stent-size required. Once the stent has been placed inside the blood vessel, IVUS can also give information if the stent is covering the diseased area completely and if it is properly hugging the vessel wall. As you may be aware that an improper placement of the stent can lead to future complications and even lead to a need for another angioplasty.



## IVUS Image

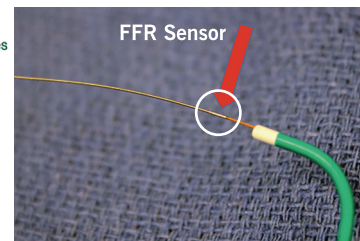
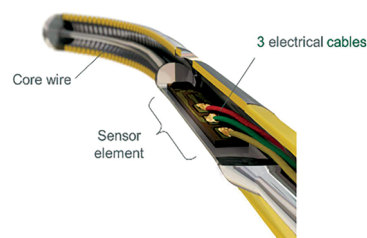


## How Does IVUS Work?

IVUS works on the principle of "ultrasound waves". The principle of ultrasound imaging is the same as that used in many other medical examinations such as ultrasound of your abdomen. Ultrasound waves bounce against various tissue structures in the body and create a pattern of echoes that are converted into a picture, which in turn gets transmitted onto an external monitor. The IVUS system has a biologically compatible tube called the catheter, which is inserted into the blood vessel that is to be examined. At one end of the tube is a special probe which has ultrasound properties which captures images of the inner aspect of your blood vessels on a real-time basis. The other end of the tube is attached to a machine which converts the images captured through the ultrasound mechanism and displays them on a monitor. These images provide your doctor with critical clinical information to help him make better treatment choices for you.

## What are the benefits of IVUS?

- View the artery- from the inside out, making it possible to evaluate the amount of disease present, how it is distributed, and in some cases, what it is made of - Calcium, Fat or Blood Clot.
- Determine the need for further treatment (angioplasty or bypass surgery)
- Guidance for stenting: what diameter of stent and length to be covered
- Identifying post procedure complications if any
- Evaluating the character of reblockage in stent: clotting or Restenosis



## How is IVUS different from Angiography?

Angiography provides a two-dimensional image whereas IVUS offers a three-dimensional detailed image of all the layers of the blood vessel. Although Angiography shows the narrowing of the blood vessel, it may not provide any information about the nature of the blockage or about the composition of the plaque. This information plays an important role in helping your doctor make a more informed decision about your treatment plan. In current practice, IVUS is done in conjunction with angiography, and not as its replacement.

## What is FFR?

Fractional flow reserve (FFR) is a technique used in coronary catheterization to decide the severity of coronary artery blockage.

## How is FFR done?

It is very simple it measures pressure difference across the blockage and gives information of its severity. FFR wire is passed in coronary artery and it calculate the pressure.

## What are the benefits of FFR?

Measurement with a FFR wire may reveal whether an angioplasty is needed or not. It also helps in deciding Bypass Vs Angioplasty in borderline cases. Being able to better select cases not only saves health care costs, but contributes to more appropriate patient care.

## FFR Image

