

# What is a Cath Lab?

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A catheterization lab, commonly referred to as a cath lab, is an examination room in a hospital or clinic where doctors perform minimally invasive tests and procedures to diagnose and treat cardiovascular disease. At the core of these labs are advanced imaging systems that allow a physician to visualize the arteries and chambers of the heart for treatment. These procedures use these imaging systems to “see” and track small, flexible tubes called catheters that access the heart and blood vessels instead of the trauma of open surgery.

Interventional cardiologists specialize in treating cardiovascular disease and use catheters and advanced imaging to perform procedures that can include angiograms, coronary stent placement, valve replacements, or catheterization – hence the name of the lab.

State-of-the-art X-ray imaging systems move around a patient lying on the cath lab table to deliver real-time images and video – providing physicians their “eyes” during a procedure, to see how blood is flowing to and from the heart.

X-ray imaging systems can be floor or ceiling-mounted. Ceiling-mounted systems require rooms with higher ceilings and ceilings with much more robust structures than do floor-mounted systems. These requirements result in a higher price than that of a floor-mounted system but provide for excellent angulation of imaging and better access to the patient. Floor-mounted systems require a much smaller footprint – saving on space and cost. However, with improved technology, floor-mounted systems can achieve the performance previously reserved for their larger, more expensive ceiling-mounted brothers.

Though [interventional cardiology](#) provides many benefits when compared to more invasive surgeries, it is not without risk. The very technology that provides the “eyes” to the interventionalist, also presents a risk of radiation exposure to not only the patient, but to the staff and physician as well. The risks of radiation exposure are [well documented](#). However, technology can help to reduce the risk of radiation exposure during interventional procedures.

The interventional X-ray systems designed and built by Omega provide an automatic, hands-free solution to radiation reduction – delivering the benefit of consistent and repeatable radiation reduction to patients and staff beyond anything else in use today.

AI image-guided ROI systems are proven to be safer than non-AI systems and are quickly becoming the new standard of care for interventional imaging. The publications and science on

the advantages of AI is clear and [proven in a study](#) that compares an Omega AI image-guided ROI system to a competitor's non-ROI system.

Interventional cardiologists use the latest techniques and innovative technology in their cath labs. X-ray systems provide real-time visualization that allows precision guidance during an interventional procedure. Omega systems automatically define and manage the ROI during a case for hands-free performance – in both fluoro and cine – with dramatically reduced radiation exposure.



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