**Diagnostic Cardiovascular Imaging: CT/MRI**

The Section of Cardiovascular Imaging at Indiana University and Krannert institute of cardiology is one of the few centers in the country offering this imaging by a team of dedicated physicians from radiology and cardiology. These physicians have specific dedicated advanced training in these imaging techniques. Comprehensive state-of–the-art imaging services include cardiac computed tomography (CT), coronary CT angiography (CCTA), magnetic resonance imaging (MRI) and magnetic resonance angiography (MRA) for both acquired cardiac disease in adults and congenital heart disease in children and adults. These imaging services are available to our patients at all of our IU Health affiliated facilities.

**Cardiac CT and Coronary CT Angiography:** Computerized tomography technique has been utilized to study coronary artery atherosclerosis by calcium score and to assess cardiac anatomy including that of the pericardium and the aorta. CT is also routinely used to study images of the pulmonary venous anatomy prior to catheter ablation of atrial fibrillation and other congenital vascular anomalies. Our facilities are equipped with state of the art scanners, including new 256 and 64-126 multi-slice axial and helical mode scanners. These scanners are capable of obtaining excellent quality CT images of the coronary arteries at half the dose of radiation and reduced contrast exposure. On average 30-50 cardiac CT studies per month are co-performed and interpreted by cardiology and radiology physicians.

**Cardiac Magnetic Resonance Imaging:** Cardiac MRI imaging provides complimentary diagnostic information of different heart diseases. Most up-to-date commercially available and research MRI scanning sequences for cardiac imaging are available on 1.5 T and a 3T scanners in all Indiana University facilities. There are also dedicated MRI and PET/ CT cardiac imaging research scanners. MRI imaging is routinely performed for assessment chamber function, stress perfusion and myocardial viability assessment; etiological assessment of cardiomyopathy and cardiac mass, valvular heart disease, aortic pathology and assessment of complex congenital heart disease. MR angiography of the aorta, pulmonary artery, aortic branch vessels and pulmonary vein anatomy assessment are also performed. Our current volumes are about 50 studies per month and we expect that to increase as these imaging techniques and its utility becomes evident in clinical practice.

Cardiology fellows have the opportunity to be trained in combined CT and MRI cardiac imaging during their training as per revised COCATS requirements. Combined preceptor training by radiology and cardiology optimizes the opportunity for more comprehensive training of these imaging modalities. There will be opportunities for more advanced imaging training for the senior fellows who chose to be imaging cardiologist. Didactic conferences, teaching case file review and lectures will be conducted routinely for the referring physicians and the trainees. In addition to maintaining close clinical working relationships with the Departments of Cardiovascular Surgery and other cardiology groups; the imaging section conducts ongoing clinical research. Besides multi-center national clinical trials; specific projects to improve diagnostic testing and improve clinical care of heart diseases are being conducted as investigator initiated projects.