CARDIAC CTA

Mission Statement:
The mission of the Cardiac CT Angiography Center is the noninvasive imaging of the coronary artery anatomy, and to provide functional and anatomic cardiovascular information utilizing Computed Tomographic Imaging.

Statement of Educational Goals:
The goal of this rotation is to provide the fellow with exposure to cardiac CTA studies on both ambulatory and hospitalized patients to promote an understanding of the applications and limitations of CCT imaging. Fellows completing the rotation should have a basic understanding of CT physics, patient preparation, study acquisition, reconstruction, and interpretation. They should gain experience in generating and interpreting axial images, Maximum Intensity Projections (MIP), and Multi-planar Reconstructions (MPR), as well as left ventricular function, based upon the gated CT images. In addition, fellows should gain an appreciation for the challenges, indications and contraindications to CCT testing.

The Curriculum is designed to promote six broad goals based on the ACGME Core Competencies:

1. Medical Knowledge:
    a) Fellows will gain exposure to the acquisition and interpretation of diagnostic coronary CTA images.
    b) The ACC CCT-SAP CD should be obtained from the Cardiovascular Fellowship office and reviewed during the rotation.
    c) Fellows will be provided didactic sessions on CCT as part of the general cardiology lecture series.
    d) Fellows will be expected to complete and document 50 case interpretations (combination of live and teaching file cases) to satisfy COCATS Level I training in coronary CTA.

2. Patient Care:
    The fellow on the CTA rotation will be responsible for helping to determine if a Cardiac CT is the test of choice in patients referred for the study from the inpatient arena. In addition, they will assess if there are any contraindications, and are responsible for making sure that the patients are appropriately prepared for the procedure. Lastly, the fellows will be the principle individual discussing with the patient how the test work and what will be required of them during the study.

3. Professionalism:
    Effective, mutual communication and respect are expected with the patient, referring physician, attending physician, other physicians in training, and the CT staff/nurses.

4. Interpersonal & Communication Skills:
    The fellow will be expected to communicate with members of the ordering medicine team, both when discussing the indications for performing the study, as well as notifying them of the results. Additionally, the fellow will be the principle individual responsible for discussing the study with the patient and answering their questions up front. Finally,

the fellow will be the contact person for the nurse or technician should any questions arise while the study is being performed.

5. Practice based learning:
Fellows will use information technology, literature sources, and other available resources to practice accurate and state-of-the-art CCT studies and interpretation. Fellows will be encouraged to apply their knowledge to think of potential research applications for CCT technology.

6. Systems based learning:
During interaction with other medical services and providers, fellows will gain an appreciation of their role as an imaging consultant. It will be important for the fellow to learn how the health care delivery systems work, and the role of diagnostic imaging in providing health care. Additionally, it will be as important for the fellow to learn the appropriate place for CCT in the diagnosis of CAD, and utilizing it to reduce the need for additional testing, rather than linearly adding another test to the currently used algorithm.

Statement of Educational Objectives:
The goals of this service will be achieved by participation in CCT studies devoted to the evaluation of known or suspected cardiovascular problems on hospitalized and ambulatory patients. Fellows will be expected to play an active role in all aspects of patient care in the CCT center, and interact directly with the faculty members and referring health care professionals. Fellows may be expected to communicate the findings and clinical significance of the findings of the CCT exam to the referring physician. Review of the provided reading material, ACC-SAP CCT CD, and additional review of selected references listed below are necessary for the fellow to meet the goals of the rotation.

Core Concepts:
Fellows should attain a basic understanding of the physics of computed tomography, and the necessary advances in the field which has allowed the ability to image a moving structure such as the heart and coronary arteries. The fellows need to become proficient in utilizing the axial images, reconstructed Maximum Intensity Projections (MIPs), and curved Multi-Planar Reconstructions (MPRs) to assess the coronary arteries for evidence of mural plaque, the degree of stenosis, and the presence of anomalies. In addition, the fellows will learn how to grade a calcium score and what clinical utility it has. Finally, the fellows will learn to generate a left ventricular ejection fraction with the acquired phases of data looking at the ventricle as a whole.

Detailed Expectations for Fellows:
Two Philips Brilliance 64 slice MSCT scanners are currently present in Imaging Sciences. One is located in the main Imaging Sciences center and will be the location for the elective outpatient scans, which are performed on Wednesday from 2-4 pm. The second scanner is in the ED Radiology suite and is the location for the ED/Obs/inpatient studies, which are performed from 8-10 am, Monday through Friday. The workstation for reconstruction and interpretation is located by the first scanner in the main Imaging Sciences area.

Fellows are expected to be present at the time the cardiac CT exams are performed. Active participation in providing pre-study consultation, as well as interpretation and appropriate post exam consultation with communication of findings and recommendations to the referring physician will be expected.

Fellows will also be asked to prepare a case presentation for Cardiology Morning Report or the Imaging Case Conference.

Selected list of References:

1. de Feyter PJ, Krestin GP. Computed Tomography of the Coronary Arteries. Taylor and Francis Group. 2005

2. Budoff M, Shinbane J, Achenbach S, Raggi P, Runberger J. Cardiac CT Imaging: Diagnosis of Cardiovascular Disease. Springer-Verlag. 2006

3. Bruening R, Kuettner A, Flohr Th. Protocols for Multislice CT. 2nd ed. Springer-Verlag. 2006.

4. ACC-SAP CCT CD

Credentials of the Cardiac CTA Staff:

John P. Gassler, MD, FACC, FSCAI
Director of Cardiac CTA
Mount Sinai School of Medicine, MD
Internal Medicine Residency, Duke University Medical Center
Cardiology Fellowship, Cleveland Clinic Foundation
Interventional Cardiology Fellowship, University of Rochester Medical Center
CCT training, Lenox Hill CTA Level 1 and Level 2 training course

Cardiology Faculty:

Richard M. Pomerantz, MD
Johns Hopkins University, B.A.
Johns Hopkins University, M.D.
Internal Medicine Residency, Massachusetts General Hospital
Cardiovascular Fellowship, Beth Israel Hospital, Boston
Interventional Cardiology Fellowship, Beth Israel Hospital, Boston

Frederick S. Ling, MD
New York University School of Medicine, MD
Internal Medicine Residency, Beth Israel Hospital
Cardiology Fellowship, Yale-New Haven Hospital
Interventional Cardiology Fellowship, Yale-New Haven Hospital

Craig R. Narins, MD
SUNY at Buffalo, MD
Internal Medicine Residency, Duke University Medical Center
Cardiology Fellowship, University of Rochester Medical Center
Interventional Cardiology Fellowship, Cleveland Clinic Foundation

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Cornell University School of Medicine, MD
Internal Medicine Residency, University of Rochester Medical Center
Cardiology Fellowship, University of Rochester Medical Center
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Mount Sinai School of Medicine, M.D.
Categorical Residency in Internal Medicine, Strong Memorial Hospital
Cardiology Fellowship, University of Massachusetts Medical Center

David Fries, MD
Bucknell University/Lewisburg, Pennsylvania, B.S.
SUNY at Buffalo, School of Biomedical Sciences, M.D.
Internal Medicine Residency, Strong Memorial Hospital
Cardiovascular Disease Fellowship, University of Rochester

Radiology Faculty:

David A. Dombroski, MD
University of Notre Dame, BS
SUNY Upstate Medical University, MD
Internal Medicine Residency, University of Rochester Medical Center
Radiology Residency. University of Rochester Medical Center
Body Imaging Fellowship, University of Rochester

Nikhil Patel, MD
Director of Interventional Radiology
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Diagnostic Radiology, University of South Alabama Medical Center
Interventional Radiology Fellowship, University of Rochester Medical Center

Technical Staff:

Bob Wallace: Head CT Technician

Ed Mathes: Interventional Radiology/CCT PA

Nursing Staff 273-2059

Chris Keough, Nurse Manager