

Echocardiography Core Lab

In 2015, the EM clinical research division also purchased 2 state of the art GoldSeal Vivid q BT11 machines from GE. The Vivid q product is quite intuitive with a complete set of easy-to-use quantitative tools that allows for rapid determination of myocardial performance either at the bedside or in the echo lab using high resolution recorded images. These premium portable cardiac ultrasound systems combine traditional echocardiographic capabilities with cutting edge software with features such as automated function imaging (AFI), allowing advanced measurements including myocardial strain. Myocardial strain is a novel technique to measure cardiac function that is perhaps the most important echocardiographic advance in more than a decade. Strain imaging allows for quick, easy measurement of myocardial deformation, providing objective information on left ventricular function that is more accurate and less subjective than ejection fraction. The AFI program makes the measurement of strain semi-automated such that the user is only required to obtain high quality ultrasound clips of the heart and then apply the software to the images. This technology has revolutionized echocardiography, making it possible for any individual with basic echocardiography training to acquire highly advanced data on cardiac function.

All echocardiographs are acquired at point-of-care in the emergency department by a board certified ultrasound technician who is a full time employee within the emergency medicine research division. The scans are interpreted in the Clinical Research Service Center Echocardiography Core Lab under the direction of Dr. Mark Favot. Dr. Favot is Board Certified in Ultrasound and the Director of Emergency Ultrasound at Sinai-Grace Hospital. The Clinical Research Services Center (CRSC) is a state-of-the-art research facility capable of conducting both pediatric and adult research, and is under the directorship of Dr. Phillip Levy, co-PI on this proposal. The CRSC is a service based entity designed to facilitate and promote inter disciplinary research and is located at the Integrative Biosciences Center (iBio) building. iBio is a new research facility, encouraging interdisciplinary work across a range of scientific areas with the goal of translating new discoveries to improve human health and society. More than 500 researchers, staff and principal investigators representing multiple programs in cardiovascular disease, metabolic disorders such as diabetes, hypertension and obesity, bioinformatics and computational biology and biomedical engineering work out of the building.