

Northside Hospital School of Echocardiography

**1200 Northside Forsyth Drive
Cumming, GA 30041**

Student Handbook

NORTHSIDE HOSPITAL SCHOOL OF ECHOCARDIOGRAPHY

ADMINISTRATION

Administrative Director: Billie Slinde, MBA, CRA, BSRT(R), CT

School Director: Paul Braum, BS, RDCS, RCS, RVT, RVS, ACS, FASE

Program Director: Paul Braum, BS, RDCS, RCS, RVT, RVS, ACS, FASE

Medical Director: Lalitha Medepalli, MD, FACC, FASE, RPVI

2022-2023 Advisory Board

Administrator of Sponsor Organization: Billie Slinde

Faculty Member: Amy Wallace, BAS, RCS, RVS

Program Director: Paul Braum, BS, RDCS, RCS, RVT, RVS, ACS, FASE

Program Medical Director: Lalitha Medepalli, MD, FACC, FASE, RPVI

Program Graduate: Kalan Brown, RCS, RVS

Current Student: TBD

Public Member: Carroll Turner, PhD

Sponsor Members: Amy Browning, Kristi North, Ernie Fuller

Overview

The Northside Hospital School of Echocardiography is a one year certificate program dedicated to the study of echocardiography and peripheral vascular ultrasound. The program is a preceptorship program that includes both didactic and clinical instruction. Students will spend approximately 12 hours a week in the classroom and 28 hours a week in a clinical setting. The total number of hours of instruction that students will receive over the course of the program is set forth on Appendix A. The didactic portion of the program will be taught by registered technologists, physicians, registered nurses and nurse practitioners. In addition to the primary focus on imaging, students will also be exposed to cardiovascular testing procedures. Students will be instructed on basic ECG interpretation, performance of stress testing, and the insertion of intravenous lines that are used for administering contrast agents during imaging procedures. During the program, time will also be allotted to students' observance of nuclear testing and angiography procedures. The purpose of exposure to other modalities is to develop the students' broad understanding of cardiovascular testing and to instruct students on how the various areas within cardiology function together to assist with the diagnosis of heart and vascular disease. Please see Appendix A for a more detailed description of the courses. Upon completion of the program, students will have received the didactic and clinical instruction necessary to be eligible to take either of the recognized registry exams through the American Registry of Diagnostic Medical Sonographers (ARDMS) or Cardiovascular Credentialing International (CCI).

Accreditation

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) has approved the transfer of the sponsorship of the Cardiovascular Technology – Adult Echocardiography Certificate program from Piedmont University to Northside Hospital, with a status of continuing accreditation.

Mission Statement

The mission of the Northside Hospital School of Echocardiography is to provide a high quality education. The primary focus of the program is the study of echocardiography and peripheral vascular sonography.

It is the intent of the school to combine state of the art education with ethical and professional standards to develop the industry leaders of tomorrow. The successful completion of the program will result in a well-trained professional that is eligible to sit for registry exams that are offered by the ARDMS or CCI.

Graduation Requirements

In order to successfully complete the program, a student must:

- Complete all course requirements;
- Complete all clinical rotations;
- Maintain a passing grade, including clinical competency evaluations; and
- Demonstrate the ability to function independently in the clinical setting.

Upon satisfactory completion of all of the above requirements, each graduate will be awarded a certificate from the Northside School of Echocardiography.

Educational Goals

- To provide a high quality education in the field of cardiovascular technology that encompasses all areas of the non-invasive cardiovascular field.
- To produce well rounded technologists that have a clear understanding of how to function at a high level as a member of the health care team.
- To expose the student to as many subspecialty areas of testing as possible so that the student understands how all areas of cardiovascular imaging work together.
- To introduce the latest techniques in both Echocardiography and Peripheral Vascular Sonography and demonstrate how they can be implemented in clinical practice.
- To produce a technologist that maintains the highest professional standards and functions at a level that is beneficial to both patient and physician.

Northside Code of Conduct and Policies and Procedures

All students in the program must comply with Northside's Code of Conduct (issued by Northside's Compliance Department) and other applicable Northside policies and procedures. A copy of Northside's Code of Conduct will be provided to each student and is also available on Northside's Intranet in Lucidoc. All students are required to comply with all applicable laws and regulations governing their conduct while participating in the Program.

Without limiting the generality of the above, all students are required to comply with Northside's facility access and credentialing requirements, as modified by Northside from time to time. This includes, without limitation, requirements related to photo identification, background checks, drug screening, and health screening.

Clinical Education Locations and Transportation

Clinical training will be primarily conducted in the non-invasive labs at Northside Hospital Forsyth, Northside Hospital Gwinnett, and office locations of Northside Hospital Cardiovascular Institute (NCVI). There may be changes from time to time that require a student to travel outside of the expected sites for additional clinical instruction. Transportation to and from these sites are the sole responsibility of the student. No travel reimbursement will be provided to students for travel to sites for clinical instruction. It is expected that students will be flexible and able to attend these clinical rotations. Adjustments to the clinical schedule will be made with ample warning.

Acceptance Policy

It is the policy of the school to provide an equal opportunity to all students and applicants for admission without regard to race, color, national origin, age, religion, disability unrelated to job requirements, sexual orientation, gender, gender identity, genetic information, pregnancy, marital status, or any other legally protected basis. All students must be a minimum of 18 years old.

Work Policy

Students are not a substitute for regular staff. Students may not take either the responsibility or the place of qualified staff. However, after demonstrating competency, students may be permitted to undertake certain defined activities under the supervision of qualified staff. Students may be employed outside of program hours, provided that such employment does not interfere with their regular program activities.

Exposure to Blood-Borne Pathogens

Protection of students from exposure to blood-borne and airborne pathogens is the joint concern of Northside and the students. The program will provide each student with all personal protective equipment, including gloves, gowns, airways, and other supplies necessary to comply with Centers for Disease Control guidelines, as appropriate to the student's individual responsibilities. In the event a student is exposed, the student should report to the Emergency Department for appropriate testing, medical care and counseling. Northside will use its best efforts to appropriately test the source patient and to obtain that patient's consent to disclosure of test results to the affected student.

Advanced Placement Policy

The program does not currently offer advanced placement for students who have prior clinical or didactic instruction or training. The student must complete the program in its entirety in order to receive his/her certificate of completion.

Attendance

Attendance affects the quality of a student's academic and clinical performance. Therefore, regular attendance in lecture, lab and clinical sessions is required for all students. Because clinical education involves contact with actual patients, proper

academic and laboratory instruction is mandatory prior to the student's participation in the clinical setting. Absence from any portion of the didactic or laboratory process could compromise patient safety. Any student unable to attend class must inform the Program Director in advance of his/her scheduled absence. Unexcused absences may result in a drop in letter grade and/or dismissal from the program. Falsifying any document regarding absences will result in immediate dismissal from the program.

Make Up Time

In the event of a student's excused or unexcused absence, the Program Director will determine what time, if any, needs to be made up by the student. Students must make up any such missed time (as determined by the Program Director) within 30 days of the absence.

Holidays

The school will follow Northside's holiday calendar.

Inclement Weather

The program will notify students via text message or email when school is cancelled due to inclement weather.

Pregnancy Policy

Any student who is or discovers that she is pregnant during the program must immediately inform the Program Director. Due to the possibility of exposure to radioactivity during training, the student must notify the school in order to receive information concerning prenatal radiation safety training and to complete documentation for declaration of pregnancy. Once this declaration has been made, the student and school instructors will implement the safety guidelines for radioactive exposure during the student's training. Any expenses incurred in connection with the prenatal radiation safety training will be the student's responsibility. If the student elects to withdraw from the program due to pregnancy, arrangements will be made to reserve a spot in a future class.

Withdrawal Policy

Any student that decides to withdraw from the program must notify the school in writing. Please refer to the cancellation and refund policy contained within this handbook.

Remediation

If a student requires remediation in any section of the program, reasonable attempts will be made to correct any deficiencies. Students will be able to seek tutoring from the program's faculty members. The student must demonstrate a good attitude for remediation and demonstrate progress. If, at the end of a month of remediation, the student has not made satisfactory progress, then the student may be removed from the

program. If the deficiency is secondary to an illness of significant family emergency, then additional time may be given.

If a student withdraws from his/her clinical rotations or does not receive a passing grade in the academic or clinical rotations, such student will not be able to continue with the program. At that time the student will receive a letter with the total hours (both clinical and didactic) that such student has completed for the student's own records.

Clinical Documentation

The clinical aspect of the program is vital to the success of the student. Performance in the clinical setting must be documented in great detail. Therefore, the student is required to keep and maintain a logbook that records all procedures and cases that he/she encounters on a daily basis. The school will supply a blank form that demonstrates the required entries. This logbook must be available at all times to school instructors and must be kept up-to-date. If the logbook is unavailable when requested by the school, the student will receive a written reprimand. Falsifying the logbook will result in immediate dismissal from the program. Because the school must maintain a copy of each student's logbook for its records, logbooks must be turned in by each student monthly.

Attendance must also be documented daily. A sheet will be provided to keep track of each student's clinical hours. This sheet must also be turned in by each student monthly. The supervising technologist must attest to the student's attendance by signing the sheet weekly.

These records are the sole responsibility of each student. All records are to be kept up-to-date and must be available to school instructors when requested.

Appropriate Use of Course Materials

Students may not upload course materials for public distribution or use course materials in any way beyond academic uses in connection with the program.

Professional Conduct; Confidentiality; Ethics

Conduct in the clinical setting must be professional at all times. Students are expected to conduct themselves in a professional manner. Failure to do so may result in immediate dismissal from the program. Professionalism includes patient confidentiality. Students are required to maintain the confidentiality of patient health information that students encounter during their training. Patient health information that students have access to or obtain, either directly or indirectly, during their training must never be used or disclosed in a manner that would violate the requirements of the privacy or security provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) or its related regulations. Any breach of confidentiality or misuse of information may result in termination from the program.

As healthcare professionals working under the supervision of physicians, students share the same ethical obligations that physicians must maintain. Students shall protect and

promote the best interests of the patient at all times, including, but not limited to, confidentiality. Students must acknowledge the patient's values and beliefs and avoid interfering with the patient's expression or implementation.

Students are to conduct themselves both during school hours and outside of school hours in a manner that will not discredit Northside, the school, the profession itself or themselves. Unprofessional behavior may lead to disciplinary action up to and including dismissal from the program.

Northside is a "Drug-Free Workplace". As such, students are prohibited from working under the influence of alcohol and/or other drugs that impair judgment or the ability to perform. Any violation will result in immediate dismissal from the premises and may result in termination from the program. In the case of a clinical-related accident, post-accident drug testing of all personnel involved is required.

Northside is committed to providing a safe environment that is free from violence or bullying. Northside prohibits the possession of weapons or threats or violent behavior towards any employee, patient, medical staff member, visitor, vendor, or agency or contracted personnel. Any violations of the foregoing may result in immediate dismissal from the premises and termination from the program.

Technical Standards in the Clinical Setting

Students are expected to meet the following standards to demonstrate their ability to effectively function as non-invasive cardiovascular technologists and to successfully complete the requirements of the program.

Behavioral Standards

- Demonstrate appropriate responses to situations involving seriously ill patients and the possible outcomes, including medical emergencies and death.
- Prioritize and manage multiple tasks simultaneously.
- Understand and apply clinical knowledge and instruction from staff.
- Interact with patients, families, supervisors, and staff members with respect, politeness, collaboration, teamwork, and discretion.

Physical and Mental Demands

- Position and/or roll patients side to side when necessary.
- Lift or transfer patients to or from wheelchair, stretcher or other device.
- Push, pull, or move ultrasound equipment, wheelchairs or stretchers.
- Manipulate mechanical and patient care equipment (*i.e.*, keyboards, dials, switches, push buttons, plug in devices and blood pressure equipment).
- Manipulate ultrasound transducer in the standard manner, which requires fine motor skills and hand eye coordination.

- Demonstrate stamina to perform procedures, which may require standing for a prolonged period of time or undertaking tasks for a prolonged period of time without breaks.
- Eyesight (with or without correction) sufficient to:
 - Visually monitor patients in dim lighting;
 - View monitor to accurately acquire images of patient anatomy;
 - Differentiate between subtle shades of gray or color scale used in ultrasound imaging; and
 - Verbally explain visual examination to groups for critique.
- Accurately interpret patient charts and physician orders.
- Apply patients' medical information to perform appropriate ultrasound examinations.
- Accurately perform scanning procedures.
- Utilize hard copy devices such as PACS, printers, and digital retrieval devices.
- Clearly and effectively communicate with patients.
- Respond appropriately to equipment signals, such as alarms, sounds and lights.

Personal and Professional Appearance, Ethics and Professionalism

Students are expected to meet the following guidelines during their training at the school:

Appearance

Each student will be required to wear scrubs as designated by the school at all times. In the event that the clinical site designates a different dress code (*i.e.*, casual day), then students are expected to follow the guidelines set forth by the site. Each student will be expected to maintain the scrubs in a neat and clean fashion. Name badges will be given to each student. The name badge must be worn at all times above the waist and in an area easily seen by others. Failure to bring and wear the name badge during training may result in the student being sent home for the day and will count as an unexcused absence. If the badge is lost, the student will be required to pay to replace the badge. Students shall in no way hold themselves out as employees of Northside.

Hair – Hair, including facial hair (beards, goatees, and mustaches) must be neatly groomed and maintained. Hair should be pulled back or restrained as appropriate for safety in clinical areas. All facial hair (beards and goatees) should not exceed one inch in length.

Shoes – Comfortable shoes or clean sneakers must be worn at all times. No open toe sandals are allowed.

Fingernails – Must be kept neat and trimmed. Nails must be no longer than ¼ inch in length. Nails must be free of cracks and chips.

Personal Hygiene – Students must be neat and free from body odor. Recognizing that patients, visitors and employees may have sensitivity or allergic reaction to various fragrant products, Northside prohibits the use of strong scents and fragrances. This includes scented personal products (such as perfumes, colognes, lotions, essential oils and powders).

Jewelry – No rings with stones (excluding wedding sets and engagement rings) are permitted. Students may wear watches if desired. For purposes of tasks that will be performed during training, it is recommended that students wear or have some type of time piece with a second hand available.

Piercings – Jewelry in body piercings other than the earlobes may not be visible. Only clear retainers may be used to maintain the piercing while the jewelry is out so as to make the piercing less noticeable.

Tattoos – Students should completely cover tattoos. If the tattoo cannot be covered due to location, the tattoo must not be offensive to Northside employees, patients, vendors or others in the workplace based on racial, sexual, religious, ethnic, or other characteristics or attributes of a sensitive or legally protected nature.

Failure to comply with the dress code may result in the student being sent home for the day with an unexcused absence.

Policy against Discrimination, Harassment, and Retaliation

The school is committed to an environment in which all individuals are treated with dignity, decency and respect. Northside will not tolerate unlawful discrimination, harassment and retaliation by any employee, student, or any other person working for or on behalf of Northside. Harassment based on any protected characteristic is strictly prohibited. Harassment refers to verbal, written or physical conduct designed to threaten, intimidate, coerce or show aversion toward another individual. In addition, sexual harassment is strictly prohibited. Sexual harassment is any unwelcomed and unsolicited sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature.

Complaint Procedure

Individuals who believe they have been victims of discrimination or harassment or believe they have witnessed such conduct should discuss their concerns with the Program Director or Medical Director of the school. The school will investigate the matter and take appropriate action. There is no need to follow any formal chain of command when filing a complaint and you may file your complaint or discuss or express any issue of concern with anyone listed above or any member of management. If you prefer to raise your concerns anonymously, Northside has a hotline number for you to call at any time: (404) 845-5907.

Retaliation is not Permitted

The school takes a very strong stance against retaliation and prohibits any form of retaliation against an individual for filing a complaint about conduct the individual in good faith believes violates the above prohibition against discrimination or harassment or for assisting in the investigation of a complaint. Those who retaliate against an individual who has made a good faith report of discrimination or harassment or who has participated in activities related to such report will be subject to discipline in accordance with applicable policies. If an individual believes that he or she has been retaliated against, he or she should immediately request assistance from faculty or management, including requesting assistance from Northside's Chief Compliance Officer.

Communication

Students must consider carefully not only what they say to a patient, but also how they deliver information. Students must be aware that frequently patients do not fully understand what is said to them, or they may misunderstand or take statements out of context. For this reason, patient communications must be clear. Patients should be given the benefit of having all procedures explained to them clearly and what they should realistically expect after the procedure is complete. Students should always keep an open line of communication with patients.

Patients have very clear expectations of who will conduct their exams and respond accordingly. Some patients may not want a student to conduct the exam because of the perception that the student is not competent. In general, patients react to the demeanor that they see in the technologist and the student. Patients have little or no confidence in anyone that exhibits casual or unprofessional behavior. Therefore, in all patient interactions, students must act professionally at all times. The staff member will always ask the patient if he or she minds having a student present during an exam. The student will always respect the wishes of the patient.

Patient Privacy

Patient anxiety can be kept to a minimum with proper draping techniques. Keeping patients appropriately covered to protect their privacy builds a sense of confidence and professionalism in the eyes of the patient. In order to respect patients' privacy, students will abide by the following guidelines:

- Be sure the patient is fully covered when opening the door to the exam room;
- Always knock before entering a room with a closed door to prevent walking in on a patient changing;
- Minimize the number of interruptions by not constantly coming in or out of rooms; and
- If the patient feels uncomfortable in any situation, please let the clinical supervisor know.

Conduct and Attitude in the Classroom

Students should maintain strong intellectual curiosity when learning the program material. Students should be prepared to spend many hours outside of the classroom in order to study and learn the large volume of material that will be presented. Students should also be prepared to read large volumes of material. There are other skills that also require refining, such as eye-hand coordination. The expectation for the ideal student is someone who is curious, self-motivated and genuinely looking forward to learning the material and applying it in the clinical setting.

Physical as well as mental health should be maintained. Handling stressful situations with patients and coworkers is a skill that needs to be developed so that the responses are positive.

Disciplinary Action

The school may take disciplinary action against a student for violating the school's or Northside's policies and procedures, whether contained in this handbook or elsewhere, or for other reasons set forth in this handbook. See the section entitled "Termination Policy" for more details. The appropriate disciplinary action will be based on the severity of the offense as well as other relevant factors and the school retains the right to determine the appropriate disciplinary action in its sole discretion. Disciplinary action may range from being sent home for a day to complete dismissal from the program. All disciplinary actions will be kept on file.

Contact Numbers/Complaints

Students may contact the following if they have any questions or complaints about the school:

Program Director: Paul Braum
Clinical Director: Amy Wallace
Medical Director: Lalitha Medepalli, M.D.
Administrative Director: Billie Slinde

Personal and Professional Skills

Students will be evaluated for the following personal and professional skills while in the program:

Responsibility

In order to take responsibility for his/her actions, the student should engage in the following behaviors:

- Develop a realistic view of his/her responsibilities as a student in both clinical and didactic areas;
- Become accountable for his/her actions and accepting responsibility for their consequences; and
- Present a professional appearance and demeanor to the staff and patients.

Flexibility

The daily operations of an imaging laboratory are dynamic and ever changing. In many instances the routine is interrupted or must be changed in order to meet the specific needs of patients and other members of the healthcare team. For this reason students must:

- Recognize when the routine needs to be interrupted;
- Successfully participate in the decision to change and recognize what the best change may be; and
- Accept interruptions to the usual routine in a professional manner.

Assertiveness

Imaging departments can be and usually are very busy. The student must be able to adapt to the pace and learn from their clinical instructors. Assertive behaviors include:

- Being an active learner and seeking ways to enhance the learning process;
- Volunteering assistance rather than being asked; and
- Being willing to adapt to change.

Compassion and Empathy

As healthcare professionals, it is imperative that students treat people with respect and as human beings, not as a disease or body part. Compassion will be demonstrated by:

- Being aware of the patient's need for privacy, recognition, respect and relief from any discomfort;
- Responding quickly and appropriately to the patient's needs;
- Being able to balance compassion and empathy with the necessity of completing exams efficiently and accurately; and

- Treating all patients, staff and fellow students with equal compassion and respect.

Cooperation and Teamwork

Imaging departments rely on the coordinated effort of many subspecialties in the same unit (i.e., nuclear medicine and nursing). A good student will demonstrate the following skills:

- Being aware when others need help;
- Accepting correction and constructive criticism in a positive manner; and
- Finding ways to improve performance.

Dependability

Both healthcare professionals and students carry a great deal of responsibility. A good student will:

- Maintain a good attendance record;
- Be punctual and motivated toward exam performance;
- Perform assigned duties without being reminded; and
- Complete all tasks efficiently and on time.

Diligence

Paying attention to detail and striving for perfection are indications of diligence. Students should consistently:

- Ensure that all paperwork is filled out clearly and correctly;
- Work to produce the best image possible; and
- Read medical records, track down orders and determine exactly why a test is being done, who ordered the test, and determine the clinical question. All patient exams should follow the standard protocols, but additional imaging should be obtained if needed so that the exam provides the basis to answer the clinical question.

Effective Communication

Speaking and writing effectively are essential skills for any healthcare professional. Students should:

- Speak clearly and at the appropriate volume when giving instructions;
- Write clearly when leaving instructions or documenting any information; and
- Be aware of the effect of nonverbal communication.

Honesty and Integrity

Students' clinical and classroom behavior should demonstrate evidence of the following qualities:

- Admit to not knowing something if they don't;
- Admit to making a mistake;
- Take credit for own work; and
- Treat coworkers and classmates with respect.

Respect for Self and Others

Healthcare professionals are expected to place the needs of the patients above their own. Students should:

- Maintain strict confidentiality of patient information;
- Project a professional manner and appearance;
- Properly address patients and relatives;
- Treat all patients, staff and fellow students equally;
- Appropriately respond to correction and criticism;
- Follow the code of ethics for the profession; and
- Follow the policies of the program and assigned clinical sites.

Admission Requirements

Because this is a focused program, the school does not offer the prerequisite classes needed for admission. The following applicants are eligible for admission to the school:

- An applicant who has already completed a two year accredited allied health program in areas that include, but are not limited to, nursing, respiratory therapy, radiologic technology, or physical or occupational therapy. A transcript documenting successful completion of such a program must be provided with the applicant's application.
- An applicant with a Bachelor's Degree or higher in any discipline, who has also completed two semesters of natural science, including human anatomy and physiology. A transcript must be provided with the applicant's application.

The school does not guarantee admission. The school is limited in size and admission is competitive. The number of students accepted is dependent on the school's current enrollment capacity.

Additional Admission Requirements

Onsite Visit

Successful completion of an onsite visit to the school is required of each qualified applicant. The school reserves the right to conduct the visit virtually if necessary for health and safety reasons. The onsite visit will be a daylong event that may include personal interviews with one or more of the following individuals: the program's Medical Director, Program Director, non-invasive lab director, and staff technologists.

Required Documentation; School Registration Activities

Upon acceptance into the program and prior to starting the program, each student will be required to:

- Undergo a criminal background check and drug screen, which will be ordered online through Acemapp. Unsatisfactory/positive results of the criminal background check and/or drug screen will result in ineligibility for admission to the program;
- Submit current Basic Life Support (BLS) certification unless the student and program agree that the student may complete certification after starting the program;
- Complete a health history form, including proof of immunizations required by Northside;
- Submit documentation evidencing health insurance for the entire duration of the program;
- Sign Northside's Confidentiality and Security of Information and Computer Access Code Agreement;

- Sign an Enrollment Agreement; and
- Submit any other documentation required by the school.

Tuition and Fees

Tuition	\$20,000.00
Acemapp Fee	\$ 50.00
Estimated Cost of Uniforms*	\$ 150.00
Estimated Cost of Books*	\$ 1,000.00
 Total Cost	 \$21,200.00

*The school does not facilitate students' book or uniform purchases; books and uniforms are purchased by students independently of the school. Books and uniforms may be available for purchase at a lower price than estimated above. In some cases, purchasing used books may result in significant savings.

Payment Details

Tuition payments will be divided into three equal payments, each of which will be due no later than 15 days before the applicable semester starts. A student who has not made a tuition payment that is due and payable will not be permitted to attend class until payment has been made. If payment is not received within one week after the applicable semester has started, the student will be notified that he/she has been withdrawn from the program. Payment will be accepted by credit card or check (made payable to Northside Hospital).

Book List

The following are the required textbooks for the program. These books should be purchased prior to the start of school.

Book Title	Author(s)
Understanding Ultrasound Physics	Sydney K. Edelman
The Netter Collection of Medical Illustrations (Volume 5; Heart)	Frank H. Netter, M.D.
Feigenbaum's Echocardiography (Eighth Edition)	William F. Armstrong, N.D. Thomas Ryan, M.D.
Introduction to Vascular Ultrasonography (Seventh Edition)	John Pellerito, M.D. Joseph Polak, M.D.
Rapid Interpretation of EKG's	Dale Dubin, M.D.

Housing and Other Expenses

Students are responsible for obtaining required immunizations, BLS certification (unless otherwise agreed by the student and the school), drug screen and criminal background checks, and all other required documentation, and all expenses associated therewith. Students are responsible for their own housing, food, books, uniforms, supplies, transportation, health insurance, and any other living expenses.

Health Insurance

Students are required to have health insurance coverage during the entire length of the Program. Such health insurance coverage must have the following minimum benefits: accident and sickness coverage; minimum benefit of \$500,000 per policy year (to meet Federal Affordable Care Act requirements, your health plan should have no annual benefit limits); coverage for all pre-existing conditions; reasonable deductible and/or copay per individual, per year; in-patient and outpatient, mental and nervous disorder benefits; prescription drug coverage; and meet all Georgia mandated requirements.

Termination Policy

The school shall determine, in its sole discretion, whether to provide any refund of tuition payments to a student who is terminated from the program by the school as a result of a disciplinary action.

A student may be subject to discipline, including, without limitation, removal from the clinical setting or program for reasons including, but not limited to:

- Disrespectful or insubordinate behavior towards clinical staff, faculty, any member of Northside's healthcare team, or any patient;

- Breach of patient confidentiality or any violation related to HIPAA;
- Breach of technical standards or ethics;
- Errors deemed by the school to be harmful to or jeopardize the health or safety of patients and/or staff;
- Erratic or abnormal behavior related to the use of alcohol or drugs whether they are prescribed or not;
- Failure to comply with the program's attendance policy; and
- Failure to comply with the school's or Northside's rules and regulations, policies of the clinical sites, or violation of state or federal laws, rules and regulations.

Cancellation and Refund Policy

Prior to the start of the program

Any student who provides written notice to the Program Director prior to the start of the program of his/her decision not to participate in the program will receive a full refund of all tuition payments; provided, however, that if the student has paid fees in connection with school registration activities (such as a background check and drug screen, immunizations, or BLS certification), any such fees shall also be non-refundable. The school will provide any such tuition refund to the student within 45 days of the school's receipt of the student's written notice.

After the start of the program

Any student wishing to withdraw from the school after the start of classes must provide written notice of his/her request to withdraw from the school to the Program Director. The notice must include the last day of class that the student expects to attend and must be signed and dated by the student. Any student who has not attended class for three (3) consecutive days and has not contacted the school with regards to his/her absence may be determined to have withdrawn from the school and the school will notify the student in writing of such determination. The student's withdrawal date shall be the last day that the student attended class at the school.

Any tuition refunds due and owing to the student will be paid by the school within 45 days of the school's approval of the student's withdrawal request or determination that the student has withdrawn due to absence.

The school will provide tuition refunds based upon the percentage of total class time already completed by the student. The percentage of class time completed by the student will be determined by dividing the total number of class hours attended by the student from the student's start date to the student's last day of attendance, by the total number of class hours in the program.

The tuition refunds (less any non-refundable fees set forth herein) shall be paid as follows:

Total Program Hours Completed	Tuition Refund Amount
5% or less	At least 95%
More than 5% and less than or equal to 10%	At least 90%
More than 10% and less than or equal to 25%	At least 75%
More than 25% and less than or equal to 30%	At least 70%
More than 30% and less than or equal to 40%	At least 60%
More than 40% and less than or equal to 50%	At least 50%
More than 50%	No refund issued

Grievance Policy

The school endeavors to provide a productive, educational experience for all students. Students who are dissatisfied with an aspect of the program or have a concern or issue are encouraged to share those concerns with a faculty or staff member. If a student has a particular concern or grievance the student would like to have formally addressed, the student is asked to submit the concern and/or grievance in writing to the attention of (1) the Program Director at the following address: 1200 Northside Forsyth Drive, Cumming, GA 30041, Attn: Paul Braum; and (2) the Administrative Director at the following address: 1000 Medical Center Blvd, Lawrenceville, GA 30046, Attn: Billie Slinde.

Grading Policy

In order to maintain the high standards that are set by the current accrediting bodies in the field of non-invasive cardiovascular imaging, the school has adopted the following grading scale.

92 – 100	= A
83 - 91	= B
75 – 82	= C
75 or below	= F

Placement Services

The school provides assistance in resume construction and interview skills. These skills are taught near the end of the program in a class titled “Career Building and Registry Review.” Mock interviews will be conducted with members of the school’s management team. Feedback will be provided to the students.

The school will introduce the students to several databases that contain current positions in the field. Membership in national societies such as the American Society of Echocardiography (ASE) and the Society of Vascular Ultrasound (SVU) are also

encouraged. Positions within the Northside system will also be a source of potential employment.

Follow up with all graduates will be done on an annual basis to document and verify success in obtaining a position in the field as well as the ability to maintain that position. Registry status will be tracked for all graduates.

APPENDIX A

COURSE CATALOG

ULTRASOUND PHYSICS (53 HRS DIDACTIC, 139 HRS CLINICAL)

This course will provide the principles of acoustics and ultrasound. It will help students identify instrument options and transducer function and selection. At the conclusion of this course, students will be able to differentiate common image artifacts and describe potential biological effects. Students will learn pulsed and continuous wave flow analysis, as well as Color and Tissue Doppler methods. Students will understand and practice Doppler principles and instrumentation in Ultrasound Lab. They will be able to describe Bernoulli law, Poiseuille's law, pressure gradient and Reynold's number. This course includes both didactic and laboratory time.

CARDIOVASCULAR ANATOMY AND PHYSIOLOGY (22 HRS DIDACTIC, 68 HRS CLINICAL)

This course covers in detail the anatomy and physiology of the human heart. Students will become familiar with detailed structures and landmarks, as well as the physiologic aspects of the heart and the hemodynamics of blood flow. This course will include the conduction system, embryology, valvular and chamber function, and neurologic and chemical aspects of the cardiovascular system. Students will learn to recognize cardiovascular anatomy and physiology in the form of ultrasound imaging. This course includes both didactic and laboratory time.

PRINCIPLES OF ECG AND ELECTROPHYSIOLOGY (30 HRS DIDACTIC, 90 HRS CLINICAL)

This course is a comprehensive overview of the conduction system of the heart. Students will learn to perform a twelve lead ECG, exercise stress test and a Holter monitoring in the laboratory sessions. The didactic portion will teach students how to analyze a twelve lead ECG including axis, infarction and detailed rhythm analysis. This course consists of both didactic and laboratory time.

ECHOCARDIOGRAPHY AND CARDIAC PATHOLOGY I (46 HRS DIDACTIC, 138 HRS CLINICAL)

This course will provide a detailed understanding of cardiovascular diseases and echocardiographic ultrasound images. This course will use a format that covers patient history and physical findings. In conjunction with the echocardiogram and these findings, a broader understanding of the patient status is presented. Students will be able to identify disease states, risk factors, symptoms and other diagnostic findings so that they may perform the echocardiogram in a detailed manner. Coronary artery disease, valvular heart disease and heart failure will be covered extensively. This course includes both didactic and laboratory time.

ADVANCED ECHOCARDIOGRAPHY AND CARDIAC PATHOLOGY II (50 HRS DIDACTIC, 144 HRS CLINICAL)

This course will expand students' knowledge of echocardiography principles and cardiac pathology principles. Topics include advanced methods of quantifying both systolic and diastolic ventricular function, valvular disease, and congenital heart disease, including shunt quantification. Students will be introduced to 3D echocardiography, speckle tracking and tissue quantification using multi-planar reconstruction. This course involves both laboratory and didactic time.

PHARMACOLOGY (30 HRS DIDACTIC, 90 HRS CLINICAL)

This course focuses on pharmacology and therapeutics used in the treatment of cardiovascular disease. Drug classifications, dosage and administration will be covered as well as expected outcomes and possible side effects. Other components covered during this course include the principles of venipuncture, starting intravenous line techniques, and the proper use of imaging agents.

PERIPHERAL VASCULAR TESTING (50 HRS DIDACTIC, 150 HRS CLINICAL)

This course provides students with a comprehensive understanding of peripheral vascular testing techniques. The curriculum will be divided into sections that cover diagnostic testing in the following areas: cerebral vascular, peripheral arterial, peripheral venous and visceral vascular. Students will be provided an opportunity to learn instrumentation skills and perform the following exams under supervision: carotid duplex exam, transcranial Doppler exam, physiologic arterial exams (PVR, Segmental pressures) and duplex imaging of the peripheral arterial and venous systems and the vessels of the viscera. This course includes both didactic and laboratory time and will prepare students for the Registered Vascular Specialist (RVS) or Registered Vascular Technologist (RVT) registry exams.

CARDIOVASCULAR TECHNOLOGY (24 HRS DIDACTIC, 96 HRS CLINICAL)

This course is designed to examine other cardiovascular tests and how they relate to the diagnosis of heart disease. This course will include nuclear medicine, MRI, angiography and interventions. Students will be able to observe these procedures and develop a better sense of how each of these tests work in conjunction with echocardiography in diagnosing and treating both heart and peripheral vascular disease.

CARDIOVASCULAR CLINICAL PRACTICUM (464 HRS)

The entire program is designed to provide maximal clinical exposure throughout the year. The clinical practicum marks the end of the didactic portion of the program, and begins the final phase before graduation. During this phase students learn to refine their imaging and diagnostics skills by performing in the clinic on a daily basis. The clinical practicum will allow ample opportunity to perform all skills that have been taught throughout the year.

PROFESSIONAL DEVELOPMENT (10 HRS DIDACTIC, 70 CLINICAL)

This course will focus on reviewing material in preparation for taking a national registry exam. This course will include practice tests and test simulations to help students prepare for either the ARDMS or CCI registry exam. This course will instruct students how to prepare a resume, practice interview skills, and use these resources to gain employment after completing the program. Included will be networking opportunities that provide employment opportunities.

315 DIDACTIC HOURS

1449 CLINICAL HOURS

1764 TOTAL HOURS