



MU Sound Byte



Misericordia University
Diagnostic Medical Sonography

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Equipment Donation

The program sincerely thanks Geisinger Medical Radiology System and Sentinel Imaging for their equipment donation. Geisinger Wyoming Valley graciously donated an Acuson Sequoia 512 for abdominal and vascular imaging. Sentinel Imaging donated an Acuson Sequoia 256 for cardiac imaging, which is performed in the lab for pro bono services. Both pieces of equipment are a great addition to the lab to provide students with access to more current technology that is utilized in the clinical setting.

Sincere appreciation to both organizations for their support of Misericordia University's Sonography Program.



Photo with GWV managers and Program Faculty

Keep the Date on Your Calendar

January 16, 2013 — Start of Advanced Fetal and Pediatric Course

February 25, 2013—RSVP due if attending the Class of 2013 Completion Ceremony.



March 11 & 12, 2013 — Program Accreditation Site Visit

March 15, 2013 — Completion ceremony for class of 2013 at 6:00 pm at Misericordia University, Insalaco Hall.

April 6-13, 2013 — AIUM annual Conference, New York City, NY

July 13, 2013 — Course registration due for Advanced Vascular Course or Breast Sonography course for fall semester. Tuition forms are due if requesting to use our clinical tuition benefit.

October 2013 — SDMS annual conference

December 15, 2013 — SDMS clinical Instructor CME deadline for year 2013.

Note: If anyone desires a physics review, please contact Sheryl

Site Visit 2013

The program is pleased to share the site team from the Joint Review Commission for Diagnostic Medical Sonography (JRCDMS) will be on campus March 11 and 12, 2013. The role of the two member site team is to confirm the information submitted in the self study document is accurate. In addition, the team meets with all constituents of the program

The typical agenda is an introductory meeting with Administration and program officials. The team will be spending time with both classes of students seeking information on satisfaction, areas for improvement,

Fair practices, satisfaction with didactic courses and clinical experiences and several other aspects of the program. The team will visit a few of the clinical affiliates to meet with graduates who may be employed in that facility and with the Clinical Instructor or staff. Later in the day and on Tuesday, the team will spend time on campus looking through program files. Tuesday afternoon, the site team will provide a summary of findings.

After the site team returns to their home areas, they will forward their report to the JRCDMS who will com-

pile the site visit findings letter. Upon receipt of that letter, we will have 30 days to respond to any areas in which the team may find to not be in compliance to the standards. While we hope there would not be any, it is a peer review process and we welcome an external review and perspective on the program.

After the program responds, the JRCDMS will make a recommendation to the Commission on Accreditation for Allied Health Education Programs (CAAHEP), which then will award the final decision.

What's inside?

| | |
|------------------------|---|
| Site Visit 2013 ALARA | 1 |
| Learning Domains | 2 |
| Cardiac Outflow Tracts | 3 |
| Guest Lecturer | 3 |
| Teaching Techniques | 3 |
| Equipment Donations | 4 |
| Upcoming Events | 4 |

Application of ALARA into Everyday Practice

When was the last time you changed your output power while performing a sonographic examination? When was the last time you took notice of what the number for the MI or TI display? Does your OB preset possess a decrease in output power when using pulsed or color Doppler? AIUM accreditation is requiring sonographers to be more cognizant of the MI (mechanical index) and TI (thermal index) numbers as well as acoustic output power. Doppler has the highest potential to exceed FDA output; therefore, caution should be used when performing Doppler, particularly in Obstetrics. Please reduce the output power when performing Doppler in OB and periorbital and only perform Doppler when the benefit outweighs the risk.



Learning Domains Defined

Learning can be fun, but also very challenging. Instructors have different teaching styles and students have differently learning styles. In addition, everyone has different personalities, communication styles, and attributes that provide an individual the motivation to succeed. The program attempts to diverse the student's educational experience to graduate well-rounded individuals in the spirit of Misericordia University's Mission.

At the 2012 annual Clinical Instructor meetings, Sheryl and Karen shared the program's educational foundation and how the program applies the three learning domains; cognitive, psychomotor and affective, in preparing the best graduate sonographer possible.

Cognitive refers to application of knowledge in the class room with lectures, classroom activities, written assignments, oral presentations, case studies, and graded examinations. The **cognitive** area addresses content knowledge and developing the student's intellectual skills in order to assist in their progression from obtaining the information needed so that they are taught to critically think rather than sheer memorization. We want to teach them the "why" not just the "how". Students are required to research topics, create Powerpoint presentations, and analyze sonographic images to formulate diagnosis with minimal information. All of these activities build their knowledge and ability to apply that knowledge in the clinical setting.

Psychomotor refers to the technical scanning skills performed in the clinical and simulated lab settings. The **psychomotor** domain refers to the physical movement that students are taught in order to perform the examination thoroughly. Students begin by being instructed in the program's simulated lab and practice during the first fall semester. The student first **observes** the techniques, then **imitates** the movements to obtain various images. They will then **practice** these techniques and movements and **adapt** them to various situations, such as a difficult patient or challenging body habitus. As the student transitions to the clinical setting, there is an adjustment period as often they are not exposed to the pathological cases in the simulated environment. In addition, most departments do a variety of types of exams throughout the day, so students need to observe, scan after, scan before, then independently to ensure accuracy for the outcome of all examinations. Throughout the program, the course work requires laboratory experiences to apply the cognitive knowledge to the required psychomotor skills.

Affective refers to those intangible, difficult to quantify characteristics that apply to patient care and communication, both verbal and non-verbal. Some define it as awareness of emotions, feelings and attitudes. This domain is often rooted in the individual's personality and life experiences; however through respect, consistency in display of professionalism, and through clinical mentoring, the affective domain can be enhanced for optimal patient care and being a team player.

There are five steps for the affective domain. 1) Receiving - the student chooses which information they desire to receive; 2) Responding - the action that follows such as incorporating the suggestion into the next sonographic examination; 3) Valuing - how the individual perceives the importance of the information or action; 4) Organization - after analysis of 1-3, then the individual can create an organized plan to execute the task such as scan an examination independently and 5) Characterization - exhibiting the new behavior, attitude or belief based upon the steps in the process for the enhancement of quality care. Thus, if a student is provided with positive feedback with constructive mechanisms to make improvements, it is likely they will also respond in a positive manner. This is an example of the 5 step process in which they can receive, respond, value the help they are receiving, apply the feedback and find enjoyment and increase confidence when they master that task.

It is recognized that every student learns differently, progresses differently, and responds to feedback differently. This is sometimes what makes completing evaluations so difficult. The program sincerely appreciates your honest evaluation of psychomotor and affective domains with your utmost honesty for the benefit of the student's learning.

Cardiac Outflow Tracts— Are they imaged routinely?

Advances in technology has provided opportunities to expand the role of sonography and its diagnostic capabilities. Two decades ago, it was exciting to begin examining the fetal heart for presence of four chambers. Now two decades later, the expectation is for sonography to detect the majority of congenital heart disease in utero for

proper management upon delivery. Thus, it is the sonographer's responsibility to include more images other than a 4 chamber view. The next step is documenting the ventricular outflow tracts, left and right. This is a learning curve, but recognizing the normal criss-cross pattern can help to detect an important cyanotic

heart defect(s) that warrants early intervention for neonatal survival. Most important is that our patients expect this level of care with the technology and skills we possess, so please stay current with patient expectations and outcomes. If assistance is needed, please contact Karen or Sheryl.

Guest Lecturer for Interventional Sonography

Our second level sonography students were treated to a lecture given by Dr. David Mariner MD, Director of Vascular Surgery and Vascular Lab at Geisinger Wyoming Valley Medical Center. Students are also given hands-on opportunity in our sonography lab to practice various biopsy

techniques thanks to the assistance of Mrs. Maria Menta who brings her years of experience to engage the students in learning. This hands on experience gives the student a sense of how a sonographer and physician work together to successfully obtain samples of tissue for biopsy.

As a program, we welcome those interested in volunteering their time to guest lecture or assisting in the laboratory setting. If interested, please contact Sheryl .



Teaching Techniques - What's New

The program is always exploring new and creative projects, assignments or tools to help the students have fun, but learn at the same time. Don't we all learn better from a life lesson than from theory.

Most recent was the purchase and implementation of an automatic response system or better known as clickers. During lecture, some of the Powerpoint slides have review questions in which the whole class can try to choose the correct answer. There is immediate feedback as to the number who selected the correct answer and if there was another

answer that may have created confusion. The Instructor can immediately provide clarification. Students appears to enjoy the in class activity.

During the summer, students were given a choice between two books to stimulate their thinking relating to infertility or a child with disability that should have been diagnosed in utero at a time when decision could have been made. These are great books for the students to think about ethical dilemmas, empathy, emotions and the way one thinks may not be the way someone else

thinks or handles a situation. If you desire to read these books, they are *Handle with Care* and *Sing you Home*, both written by Jodi Piccoult.

In Issues class or for Focused Sonography (BS course), a book that deals with selective gendercide is *Unnatural Selection* by Mara Hvistendahl truly stimulates the student's thinking. This is a more difficulty read as it shares several research references, but it is certainly eye opening.