SonoSim Case Study

Enhancing DMS Education at the University of Iowa

Introduction

The University of Iowa's Carver College of Medicine has offered Diagnostic Medical Sonography (DMS) certification since the 1990s. Over the years, the program has evolved from a 12-month certificate program focusing exclusively on Abdomen and OB/GYN to an extensive 3-year Bachelor's degree program that consists of two degree tracks–DMS in general & vascular sonography and DMS in cardiac & vascular sonography.

How It Started

Iowa's DMS program has years of experience developing skilled sonographers, but faced some inherent challenges associated with teaching diagnostic medical sonography. Like most DMS programs, there was a discrepancy in the need for hands-on practice and the hands-on practice available to each student. In clinical rotations, it was often difficult for students to gain enough scanning time to feel fully confident at the bedside, as students go in smaller groups and take turns scanning a patient. When students needed extra support, University of Iowa's instructors, while happy to assist their students, can only be in one place at a time. This means only a handful of students had access to one-on-one support in a given week.

Limitations

Scanning Opportunities

Time

Instructor Availability

How SonoSim Helped

In order to build the most effective and rewarding learning environment at the University of Iowa's DMS program, addressing these challenges was the next logical step. The 3-year DMS program incorporated SonoSim across different stages:

Junior Years

- Increased use of SonoSim to support learning sonographic anatomy and some pathology
- Specialty focus within Learn and Scan to grow ultrasound knowledge in more specific areas (e.g., OB/GYN, echocardiography)
- Students use SonoSim Scan in conjunction with phantoms to practice specific movements and gain proficiency in identifying normal anatomy

> "We can teach the content in class, but when we also assign them the learning modules and mastery tests, it really helps my students further lock in how to do the examination and what to expect."
>
> **Hannah Kelly**
> Clinical Coordinator, University of Iowa DMS

Foundational Years

- Foundational courses supported by online didactic courses via SonoSim's Learn element and simulated scanning in SonoSim's Scan element to teach ultrasound fundamentals and anatomy & physiology
- Instructors use SonoSim's performance tracking tool in SonoSim's Track element to review simulated images and SonoSim's Integrate element to assign mastery tests to solidify the understanding of normal anatomy

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How It's Going

While the program has a rich history of educating students in this field, the introduction of SonoSim has significantly impacted how students learn and practice sonography.

Six years into the partnership, SonoSim not only enhances student learning but also positively impacts instructors and students.

> "With SonoSim, my students can practice in a way that's not stressful. It's not on a real patient, so they can take their time, they can do it at home, or they can have us watching them if they want."
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> **Hannah Kelly**
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> Clinical Coordinator, University of Iowa DMS

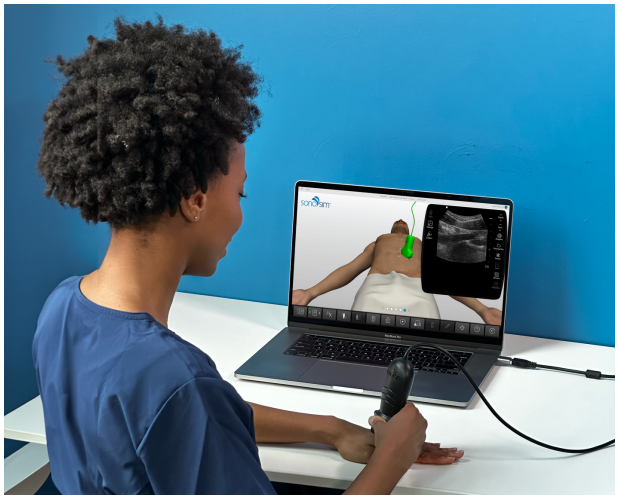
Benefits

Key Student Benefits

1. Students' feedback highlights SonoSim's invaluable role in their learning journey.
2. Students feel better prepared and more confident to identify anatomy in clinical settings, thanks to extensive practice opportunities with SonoSim.
3. The ability to recall anatomy, even in different patient scenarios, demonstrates the effectiveness of the simulated learning environment and real patient pathology on learning & retention.

Key Instructor/Administration Benefits

1. By enabling self-guided learning for students, the platform reduces administrative burdens, allowing students to practice at their convenience.
2. The availability of practice questions with thorough answer explanations is also a valuable resource for additional practice.
3. Continuous updates to SonoSim's library demonstrate a partnership in advancing ultrasound education and serve to bolster the curriculum.
4. The ability of students to recall anatomy across varied scenarios underscores the validity of the hybrid approach to learning.
5. Platform improvements and quick support are consistently delivered by SonoSim.



What's Next?

The DMS program at the University of Iowa has had a long-standing partnership with SonoSim for 6 years that continues to be renewed. In the upcoming semester, the program will transition from shared SonoSim laptops to a probe and license for each student. Instructors anticipate that this shift will streamline the learning process, allowing students to practice at their own pace, anytime, anywhere. This individualized approach will reduce the need for scheduling, and optimizing class and clinical time for both students and educators.