

Ultrafest: A Free Ultrasound Symposium Worth Spreading

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Point-of-care ultrasound has emerged as a valuable tool in patient care, and a handful of the nation's medical schools have paved the way by integrating ultrasound training into the school curriculum. Ultrasound education during medical school allows students to develop and refine these skills prior to utilization in a clinical setting and has been shown to be well-received by medical students¹ and effective in fostering skills in image acquisition and interpretation.² In addition, students have shown they are able to rapidly learn and integrate these skills into their physical exam, providing reliable exam findings.³ In 2012, medical student Kiah Bertoglio organized the first Ultrafest, a free bedside ultrasound symposium for medical students, to provide students an opportunity to learn and improve bedside ultrasound skills.⁴ This one-day event attracted hundreds of students from schools across California without an integrated ultrasound curriculum. Under the leadership of UC Irvine Ultrasound Director, Dr. Chris Fox, the student-organized event has grown in scale and scope year-to-year.

On February 8, 2014, the University of California Irvine, School of Medicine hosted its 3rd annual Ultrafest. With over 200 medical students, 50 volunteers, 25 physician speakers and instructors from across California, and nearly four-dozen ultrasound machines, the event was an incubator for bedside ultrasound discussion and learning. Students heard lectures from Dr. Chris Fox and guest keynote speaker, Dr. Vicki Noble, and had 15 hands-on ultrasound workshops to choose from (Table 1). State-of-the-art simulation technology was featured in the pathology identification stations and phantoms were provided for practicing procedural skills including peripheral line placement, thoracentesis, and nerve blocks. To maximize hands-on practice,

Table 1. Ultrafest 2014 Workshops:

- Cardiac Ultrasound
- Extended Focused Assessment of Sonography in Trauma (eFAST)
- Abdominal and Hepatobiliary Ultrasound
- Pulmonary Ultrasound and Guided Thoracic Procedures
- Vascular Procedures
- Male Genitourinary Ultrasound
- Female Genitourinary Ultrasound
- Musculoskeletal Ultrasound
- Ultrasound in Obstetrics
- Ultrasound in Pediatrics
- Pathology Simulation
- Advanced Ultrasound in Emergency Medicine
- Advanced Ultrasound in Internal Medicine
- Advanced Ultrasound: Nerve Blocks
- Advanced Cardiac Ultrasound

each station had a live model and maintained an average instructor to student ratio close to 4:1.

Four advanced ultrasound workshops were introduced this year, which were designed for students with prior ultrasound experience. These advanced workshops were aimed at applying ultrasound in a clinical setting and included ultrasound-related vignettes and live models with mild pathology. At the end of the day, students took home souvenir prints of their own ultrasound scans from the "Sonobooth" and prizes from a "Sonogames" ultrasound competition.

Of the registered students, 85% reported having no or low confidence in ultrasound prior to Ultrafest, and a striking 95% of survey respondents self-reported vast or moderate improvement in their ultrasound skills after attending this event. In a prior study, Ultrafest has shown to also markedly develop skills in image acquisition and improve ultrasound knowledge demonstrated by pre- and post-test assessments.⁴ As a separate study confirmed students' long-term retention of ultrasound skills after completing a two-week elective,⁵ a future study

will assess ultrasound skill and knowledge retention 3 months after attending this one-day event.

Opportunities for ultrasound skill-development and hands-on practice attracted hundreds of students from across California and several from out-of-state including Oregon, Nevada, and Minnesota, illustrating medical students' growing interest in ultrasound education. With this level of medical student interest, Ultrafest is reaching a tipping point where students are no longer just looking to attend Ultrafest at UC Irvine, but aspiring to replicate Ultrafest at their school. The most exciting part: this is already happening. Stanford University hosted its first Ultrafest in October 2013. Several students from other medical schools without an integrated ultrasound curriculum have inquired how to obtain more ultrasound education, and in particular, how to plan their own Ultrafest. These student-driven requests have inspired UC Irvine students to develop a "toolbox" to share this model with medical schools planning to launch their own Ultrafest. As more students and more schools view an introduction to bedside ultrasound as a positive investment in medical student education, we anticipate future Ultrafest events extending across California and beyond.

REFERENCES

1. Hoppmann RA, Rao VV, Poston MB, et al. An integrated ultrasound curriculum (iUSC) for medical students: 4-year experience. *Crit Ultrasound J.* 2011;3:1–12.
2. Fernandez-Frackelton M, Peterson M, Lewis RJ, et al. A Bedside Ultrasound Curriculum for Medical Students: Prospective Evaluation of Skill Acquisition. *Teach Learn Med.* 2007;19(1):14-19.
3. Mouratev G, Howe D, Hoppmann R, et al. Teaching Medical Students Ultrasound to Measure Liver Size: Comparison With Experienced Clinicians Using Physical Examination Alone. *Teach Learn Med.* 2013;25(1):84-88.
4. Bertoglio K, Pham C, Fox JC. Ultrafest: Ultrasound Symposium Sweeps Medical Students Across California. *West J Emerg Med.* 2013;14:1.
5. Fox JC, Cusick S, Scruggs W, et al. Educational Assessment of Medical Student Rotation in Emergency Ultrasound. *West J Emerg Med.* 2007;8(13):83-87.



Figure 1. Medical students learning ultrasound-guided nerve blocks using phantoms and live models.



Figure 2. Medical students learning introductory cardiac ultrasound.