

Appendix S1. Appendix of Resources

Resources divided into novice (N), intermediate (I), and expert (E) level of learners. Many are applicable to all learners. Novice resources target medical students, emergency medicine interns and other learners new to CUS. Intermediate resources target upper level residents. Expert resources target ultrasound fellow-level learners. Unless designated with a \$, resources are open access. We have tried to incorporate as many resources that we have found useful as possible. However, this list is by no means all-inclusive and is not an endorsement of any particular resource or product.

Developed Curricula

Resource	Target Audience			Comments
	N	I	E	
AEUS's Off-the-Shelf Ultrasound Curriculum	X			10-day curriculum that covers one exam type per day and outlines web-based content, quizzes, suggested readings and reference to the literature for each exam type covered.
UCLA Reagan/Olive View Online Curriculum	X	X		Module-based curriculum with linked videos, texts, checklists, and quizzes. For access to quizzes, need to contact UCLA POCUS faculty for QStream access.
COVID Distance Learning Collaborative	X	X		Template for a month-long curriculum with assigned pre-work that includes readings and video lectures for each exam type ranging from basic to more advanced topics.
UCSD Ultrasound	X	X		Online resource with core curriculum for various level of learners with narrated lectures, cases, journal clubs, etc.
SIMTICS ^{\$}	X	X	X	Various modules and courses for POCUS applications. \$12.50/module/month or \$59.50/month for all Medical Professional Ultrasound Modules. Free trial available.
MedCram ^{\$}	X			Ultrasound courses covering principles and instrumentation of ultrasound, FAST exam, and thorax exam. Tiered pricing depending on duration of access and number of courses.
SonoMojo	X	X		Comprehensive resource that includes FOAM-based curriculum, quick references, quizzes, and additional resources.

Electronic Books

Resource	Target Audience			Comments
	N	I	E	
Zedu Ultrasound Training Solutions' List of Free Ultrasound eBooks	X	X	X	Updated list of free ultrasound electronic books for various learner types
Introduction to Bedside Ultrasound (Volumes I and II) by Matthew Dawson and Michael Mallin	X	X		Popular eBook relevant to all learner levels, but especially towards beginners. Has videos embedded into text. Requires iOS device.
Practical Guide to Critical Ultrasound by Resa Lewiss	X	X	X	Designed as a quick reference with embedded videos. Requires iOS device.
Pocket Guide to POCUS: Point-of-Care Tips for Point-of-Care Ultrasound ^{\$}	X	X		This is a just-in-time resource available in print and online to prompt the novice and intermediate learner on scanning protocols, pearls and pitfalls.

Web-Based Resources

Resource	Target Audience			Comments
	N	I	E	
Sonoguide	X	X		ACEP Emergency Ultrasound Section developed online resource
ACEP Ultrasound Section Website	X	X	X	Consolidated list of policies and guidelines endorsed by ACEP. Requires membership.
AEUS Compendium of Web-based Ultrasound Education Resources	X	X	X	List of video lectures and quizzes organized by exam type
SPOCUS FOAM-US Resources	X	X	X	List of FOAM-US resources, from electronic books to app-based ultrasound logs
Core Ultrasound	X	X	X	One stop shop for 5-Minute Sono, Ultrasound of the Week, and Ultrasound Podcast
New York School of Regional Anesthesia		X	X	Reference guide for all things related to ultrasound guided regional anesthesia

POCUS101	X	X	X	In depth posts and tutorials on a variety of POCUS topics including COVID-19 and advanced echocardiography.
Ultrasound Gel	X	X	X	Podcasts on the recent literature in the field of POCUS
ALiEM Ultrasound Archives	X	X	X	Blog posts on various topics of POCUS
Emergency Ultrasound Teaching	X	X	X	This site has narrated lectures, interesting cases, a pre/post EM ultrasound rotation quiz, and assortment of articles

Recorded Lectures

Resource	Target Audience			Comments
	N	I	E	
AEUS Narrated Lecture Series	X	X		Video lecture series covering various ultrasound applications with associated quizzes
AIUM Youtube Videos	X	X	X	Recorded lectures on various ultrasound topics from the most basic to expert level
Ultrasound.Guide	X	X		Narrated lecture series on a variety of bedside ultrasound applications
123Sonography [§]	X	X	X	Narrated lecture series on various ultrasound applications. Depends on the lecture series, but limited does give some free lectures available
Resuscitative TEE Project		X	X	Lectures on resuscitative transesophageal echocardiography
Sonosite Clinical Media	X			Narrated videos on how to perform a number of applications
EMRAP Ultrasound Videos	X	X		Short narrated videos on how to perform a number of procedures
123radiology	X	X		Narrated lectures on a number of bedside ultrasound applications
P2 SK		X	X	Narrated videos on a number of pediatric ultrasound applications. Available in different languages.
Pocus Geek	X	X		Video presentations of various topics in clinical ultrasound.

Cases/ Quizzes

- [Stanford Medicine's SonoDoc Bedside Ultrasound Game](#)
- [Life in the Fastlane's Top 100 Ultrasound Quiz](#)

- [Image of the Fortnight](#)
- [Sonomojo's Sonoquizzes](#)

Online Image Databases

- [UltrasoundCases.info](#)
- [The POCUS Atlas](#)
- [LITFL Ultrasound Library](#)

Hands-on Practice/Simulation

Resource	Target Audience			Comments
	N	I	E	
Scanbooster [§]	X	X		Simulation app that transforms a cell phone into a virtual transducer and iPad into an ultrasound machine. Compatible with Apple products and Android. Monthly or yearly license, tiered based on number of users
SonoSimulator from SonoSim [§]	X	X		Simulated ultrasound transducer connected to the SonoSim laptop for hands-on practice on patient cases. Contact the company for pricing
U/S Mentor from 3D Systems, formerly Simbionix [§]	X	X		Medical simulator for bedside ultrasound training with learning modules. VR Add-on is available. Contact the company for pricing
Intelligent Ultrasound [§]	X	X		Various ultrasound training simulators (cardiac, pelvic, OB, and other POCUS applications). Contact the company for pricing.
VimedixAR by CAE [§]	X	X		Using Hololens for augmented reality learning for ultrasound training. Contact the company for pricing.
Toronto General Hospital Perioperative Interactive Education (PIE) group	X			Modules that allow performing of virtual transthoracic echocardiography , EFAST , FOCUS and thorax exams.

