

How to Start an Ultrasound Program, by Vicki Noble

I am here to tell you that starting an ultrasound program – whether you have residents or are a faculty group only – doesn't require you break your departments budget or string out all the faculty with reams of new demands. Follow these simple steps and you will be up and running in no time!

First there are several must-haves:

1. A Champion. To get anywhere with any new initiative there must be one person who follows through and is the point person for all the gripes and problems early on (but all the successes and triumphs later on!). While having this person be emergency ultrasound fellowship trained is a plus, it is certainly not necessary and especially for groups with no residents, anyone with a passion for ultrasound can be this champion.
2. Equipment. The program obviously cant be successful without equipment but it is also going to be tough going if your only machine is the one you inherited from the OB floor and is now the coat rack in the trauma bay. It is nice to have working machines and some infrastructure for reporting (an EMR with a place where point of care ultrasound findings can be documented and a way to archive images) before you get started.....more on the last two shortly.
3. Administrative support. If you r chair or director are not willing to go to bat for the program, it is going to be tough going. You are going to need to get point of care ultrasound added to your physician privileges and often a hospital's Privileging Committee is made up of physicians who have never seen the ED. The pushback from the rest of the house of medicine has become less over the years as people from all specialties now recognize the benefit of point of care ultrasound. However, the privileging committee will likely be the first time the rest of the hospital knows what you are up to and if you don't have the backing of the ED leadership it will be lonely. Likewise, getting a program started is not, sadly, an extra weekend of work. Hopefully by now people realize this but it helps if those people are the ones in charge so the champion can be supported.

So now what next? You have a champion (or if you are reading this you likely **are** the champion), you have a machine, and your administration says go. What do you do first?

Train your faculty and creating a documentation/archiving infrastructure. These can happen simultaneously but both need to finish about the same time to keep up your momentum.

First, faculty training. ACEP's ultrasound training guidelines have been validated by over two decades of practice and were recently endorsed by the American Institute of Ultrasound of Medicine. The ACEP 2008 Guidelines outline the process in detail and specify the requirements for training. For faculty that graduated before ultrasound was part of residency training, 16 hours of ultrasound CME and log 25-50 practice ultrasound scans per application is required. For those who graduated with residency training in ultrasound, these requirements should have been met during residency and they should have a letter stating this (there are sample letters on the section's webpage for those who have to write these).

One tip for the faculty only, non-residency group: There are now 11 applications listed in the ACEP guidelines that are helpful in emergency practice. However, it may not be the right approach to make your faculty get 25-50 scans in all 11 applications from the start. Many places have found that starting with the applications that are the most useful or most common in your department (and maybe also the least politically controversial) may be a good approach. For example, start with FAST, cardiac ultrasound, screening for AAA, and first trimester pregnancy scanning.

How to organize a CME course: There are lots of options. The people you buy your machine from may have a package that includes a CME course but there are also many fantastic EP run courses. Use the ACEP Ultrasound listserv to get recommendations. A course done at your hospital, using your own machine and with your own colleagues seems to be the most fun and can be bonding for your group. One other tip – if the champion can organize “scan days” where faculty come in and log scans on either models to get their numbers up or on willing patients, momentum for learning to scan can be maintained. A willing patient waiting for an abdominal and/or chest CT is a perfect patient to scan as you can confirm your findings for the aorta, the FAST scan, the cardiac ultrasound and the uterus in one fell swoop!

Second, documentation in the EMR and image archiving. Luckily this has gotten easier as well. The ACEP Ultrasound section has sample reports which are free and downloadable on the section website. These reports were designed with all the necessary elements required by coders in mind. The minimal elements needed for each application are highlighted and usually you should start there but for the enthusiast the sample reports include all possible findings! Getting these reports into your EMR or on your machine so it can be exported to the medical record can require contacts from your hospital IT department or from your EMR rep. However, most companies have done this before and now know how to set this up. Again use the ACEP ultrasound section listserv and the section website as a reference.

Image archiving has also gotten easier. Having a box of printed thermal pictures in the office of the champion is not a good way to go. Most point of care machine companies now have a way to export digital images – either wirelessly or through a cable – to web based image archiving systems (there are several now that cater to point of care ultrasound), your hospitals PACS (against all odds this is happening more and your hospital IT is probably very familiar with how to get the images from a machine to the PACS) or to an internet portal. Any of these are great solutions and the ACEP ultrasound section has members who are expert in each one – use their expertise and reach out to get tips on how to set this up. This has been a source of frustration in the past but over time much effort has been made to smooth this out. Definitely contact your hospital IT department and see if you can find a friend there – it will pay off a thousand times over.

Next...

You have a trained faculty, a documentation system in place and a way to manage your images. You now go to the hospital privileging committee and overwhelm them with your organizational skills. Arm yourself with all the great “look at the lives saved, time saved and money saved” literature you can find

– and there is a growing number of these studies so use them! It also helps to do a little prep work if you can ahead of time with recalcitrant committee members if you think there will be difficulties.

Once you get the hospital to say go you start scanning! In the beginning it is important to have a pretty robust quality assurance program – that is review the scans or at least the reports your colleagues have filled out and make sure what they say they saw jibes with what happened to the patient or other diagnostic imaging reports. When there is an inconsistency look in your archive at the images and see what the problem is. Some extra teaching or scanning help may be all that is needed and like anything we do, demonstrating a conscientious effort to make sure we provide safe care is a must. You will see that over time you will need to do less QA because your faculty gets better. There is never zero QA (most diagnostic imaging requires a 10-20% review rate) but over time people will become proficient and the burden on the champion will get less.

A few other tips:

- Share cool cases and cool images with the group – either at faculty meeting or by email. It helps keep up interest and re-motivates people to think about ultrasound in unusual cases.
- In the beginning do your absolute best to make the image documentation and saving process as streamlined and simple as you can. Even your most die-hard clinicians are going to get frustrated if the process adds more than a few steps to their workflow.
- Make friends with your internists, surgeons and critical care docs. Point of care ultrasound has come to their specialties as well and they are the most likely allies. Invite them to any educational activities or case presentations and share your successes.
- Don't isolate the experts – while initially some radiologists or echocardiologists may not be as supportive as you hope, in time they may come around. They have expertise that we will never have as they perform comprehensive scans daily while we do point of care scanning as one small part of our job. Invite them to come discuss interesting cases or to do some education for your group. Usually you can win them over as they start to understand your practice.