



A Guide to Purchasing an Ultrasound

Expect More with iRad



Purchasing a New Ultrasound System for your Hospital or Clinic?

**Confused by the multitude of
Ultrasound Manufacturers and
options?**

Ultrasound imaging technology is one of the most commonly used diagnostic imaging tools in hospitals and clinics today and it is growing in use. Ultrasound does not produce or require radiation, unlike most radiology imaging, it provides a clear image, it is portable and convenient for both the patient and clinician and it's uses are varied from prenatal care to cardiac imaging to needle guidance for pain management.

**But...with so many choices on the
market how do you know which
one is the best for your needs?**

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With so many makes and models not living up to their promises, it is hard to know which system will provide the best images, ease of use and at the right cost. Where do you start to find the best Ultrasound for your needs?

What is your intention?

Identify the Imaging studies to be performed

- **First what imaging studies do you plan to perform? Are you a cardiologist? And only plan to perform cardiac and vascular studies. A General Practitioner who will be performing general imaging studies? Both types of studies require specialized features in order to perform the appropriate and correct diagnostic imaging.**
- **Where do you plan to perform the ultrasound imaging? In your practice? Will you designate a specific room for US? In an Urgent Care or Emergency Center at the patient bedside? In an operating room to perform needle guidance for injections? Or will you travel to your patients and perform the studies in their home?**
- **What is the most important thing you want to view on the image? Color Flow? Fetus growth and development? Pain injections? It is critical to know what the top result you want from the imaging performed. This will help to select the features needed at a later time.**

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Features

The biggest factor to consider will depend on how the system will be used. Ultrasound imaging can be used for different purposes, from determining the gender of the baby to finding tumors in tissue. If you're looking for a multipurpose ultrasound, your requirements will be different than those looking to use the system for specialized procedures such as a transesophageal echocardiogram.

Regardless of the type of US imaging you are performing, there are a few features that should remain the same:

Frequency Matters

The higher the frequency the more superficial imaging that can be done. Lower frequency provides for deeper structure view.

Continuous Wave (CW) Doppler

Utilizes continuous transmission and reception of ultrasound waves. This is accomplished by two dedicated transducer elements: one that solely sends a signal and another that only receives.

3D Ultrasound

Often used in fetal, cardiac, trans-rectal and intra-vascular applications. Specifically the Volumetric Convex Transducer is often used for viewing the baby, commonly referred to as Baby Face. 3D/4D Endo-Cavity is often used in prenatal and high risk pregnancies and can see movements in the baby in realtime.

Speckle Reduction Imaging

In an average ultrasound test, there are speckles, or disturbances that result from the echo that is projected from the ultrasound probe. With SRI the noise and speckles are reduced in realtime.

Features Cont.

Color Doppler

Color Doppler is the presentation of the velocity by color scale. Color Doppler images are generally combined with grayscale images to display duplex ultrasonography images, allowing for simultaneous visualization of the anatomy of the area typically the flow in an artery or a jet of blood flow over a heart valve, CD determines speed and direction.

Needle Visualization

Needle Visualization is important for successful ultrasound-guided procedures. Ultrasound does not penetrate solid structures such as bone or metal, making it difficult for many ultrasounds to see the needle. Having special Needle Visualization software will adjust the beam angle of the ultrasound in order to provide a clear definition of the needle and soft tissue structure.

It's important to learn about these features as well as any other features the system may have and how they will benefit the ultrasound imaging services you provide. Generally, the more features, the more expensive the ultrasound system.



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Portability

Traditional ultrasounds (console systems) are large and often difficult to move from room to room. With the improvements in technology ultrasound systems have decreased in size and improved in imaging capability. In fact, some ultrasound systems have turned to a more mobile system and are now the sizes of laptop computers with a small cart. These systems are for the practitioner who prefers to move the Ultrasound to the patient rather than have a dedicated room for ultrasound procedures. In addition, the majority of ultrasound-guided interventions are done using portable machines.

Pricing

You may be tempted to set a budget before taking a look at the features you want and how you will use the machine. However, it should be the other way around. Are you able and willing to make a payment in straight cash? Or do you plan to pay in installments? Many medical equipment dealers work with leasing companies and lenders who can provide excellent rates and overall monthly payment plans. With leasing as an option at a low monthly payment you may be able to purchase a system that provides higher end features than if you had paid out of pocket for the system.

Parts & Services

Most ultrasound machines will perform well for many years without any issues. However, if something goes wrong and you need technical support, you will have to go through your supplier. Check the warranty policy that comes with your ultrasound machine and discuss with your supplier your options in case your machine malfunctions. Do ask about replacement-parts availability. If there's a need to replace parts, ask what they keep in stock and the turnaround, especially for systems manufactured outside of the US. Make sure that the basic parts, such as the monitor, supplies, casters, keyboards, and panels are widely available.

Take time to study the service contract. Dealers and manufacturers of the best ultrasound machines offer quality customer and technical support.



Ultrasound is a key tool that many medical practitioners rely on these days. Thanks to the constant innovation in sonography, the image quality and reliability has dramatically improved, now with better features like 3D/4D for more detailed and accurate imaging.

Ultrasound systems come in different sizes, features and prices. From console to compact & portable ones, you are will find the best ultrasound solution for your practice with our team.

Learn More

Visit our website to look at just a few of the new and refurbished ultrasound options we provide and if you have time complete our US suggestion tool to take a look at the features on these options.

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