



PHILIPS

Ultrasound

Affiniti

Evaluating performance in a busy imaging center



Derry Imaging Center

Derry Imaging Center is an ACR-accredited full-service imaging center serving southern New Hampshire with high-quality, convenient examinations at low cost. The facility's two locations offer a full range of ultrasound exams, from abdominal to vascular to high-resolution breast imaging. The center performs approximately 7,500 ultrasound exams annually. Derry is designated a Breast Imaging Center of Excellence by the ACR.

Derry Imaging Center undertook a study to compare the new Philips Affiniti ultrasound system to its current ultrasound systems, scanning 207 patients during the course of three months in 2014–2015.

The center performs a range of scanning: approximately 25% small parts (breast, thyroid, testicle), 35% abdominal, 20% vascular, 15% pelvic, and 5% miscellaneous (including MSK, hernia, 2nd trimester OB).

Imaging larger patients

More than one-third (34.9%) of adults in the U.S. are considered obese.¹ Ultrasound imaging for the technically difficult patient (TDP) because of overweight or obesity is a challenge because it can be difficult to achieve the penetration required for high-quality diagnostic images. As a result, pathology could be missed or patients may require additional studies that can increase the cost of the diagnosis or expose the patient to unnecessary radiation if other types of imaging studies are required.



Heidi Clark, Director of Diagnostic Imaging at Derry, says the center is very familiar with the difficulties in serving this patient population. “Far and away the biggest challenge is maintaining image resolution on the technically difficult patient,” she says. “That’s why I like the Affiniti. I thought it demonstrates better penetration and resolution not only in technically difficult patients, but also across other types of scanning. With the increasing size of patients, that assistance increases our diagnostic confidence.”

Affiniti in action

The center has five sonographers, including a breast-credentialed sonographer and three vascular-credentialed sonographers. Multiple sonographers participated in the study of Affiniti against the center’s existing reference ultrasound systems.

Excellent near field resolution

Clinicians found that near field resolution of the Affiniti was excellent, as was panoramic scanning. Fast frame rates were considered an advantage. “I think that the Affiniti performed extremely well across all types of exams, but particularly that it had excellent near field resolution compared to the other equipment we have here,” says Clark. “It was consistently something that would impress us every time, particularly on small parts imaging, where you need the near field resolution.”

Intuitive to use

Sonographers found the system intuitive to use from the first day. “The presets and iSCAN to optimize the images really helped a lot,” Clark says. “There wasn’t a lot of tweaking to get the results they were looking for. It certainly is extremely user friendly.” She notes that time to acquire images was better compared to the reference system, and attributes it to the ease in creating and editing preset parameters and to the streamlined steps to annotate and measure.

Ergonomically advantageous

Even though the ultrasound scanning rooms at Derry are fairly large, the team found the size and weight of the Affiniti system to be an advantage because the system is so easy to move and swivel. The large monitor size, lightweight probes, quietness of the system, and the articulated arm are all seen as very ergonomically desirable by the sonographers. “We used the articulating arm a lot. For example, in a biopsy, you want to be able to position the monitor so that the radiologist can see the image well,” Clark says.



“Without Affiniti, it would have been an equivocal exam, perhaps even requiring a follow-up study.”



Heidi Clark
Director of Diagnostic Imaging
Derry Imaging Center

Results from Derry Imaging Center

Affiniti vs reference ultrasound system	Better	Equal
Ease of learning	x	
Time to complete exam		x
Time/adjustments to get images	x	
Effort/time/diagnostic quality in technically difficult patients	x	
Number of steps to annotate, measure	x	
Usability/ease of use		x
Workflow		x
System size relative to exam room		x
Size and weight of machine/transducers	x	

Confident liver scan

A liver scan performed with a reference machine left the sonographers unsure if what they were seeing was an artifact, even with the range of tools available on the machine. Clark says, “We were trying to look at it from different positions. It was a struggle. We switched over to the Affiniti and it really popped right out. We could say that this is a definite, not a maybe. Without Affiniti, it would have been an equivocal exam, perhaps even requiring a follow-up study.”

A surprising TDP

Technically difficult patients come in all shapes and sizes. Case in point: an adult patient of very slight stature presented for a superficial MSK scan. The ankle in question was so slender that the area was not able to be visualized using the probe on the reference machine. “The L15-7io probe gave us better skin contact and so we were able to do the test using the Affiniti. It was impossible with the other probe,” says Clark.

The user experience with Philips

Affiniti performed well across all exam types and all levels of service from breast imaging to 3D endovaginal work. Clark says, “Philips is constantly striving to improve its products and they’re interested in any and all input that we have as a user. That’s a big thing.”

1. Ogden CL, Carroll MD, Kit BK, Flegal, KM. Prevalence of Childhood and Adult Obesity in the United States, 2011–2012. JAMA. 2014;311(8):806–814. doi:10.1001/jama.2014.732.

