6 Standards to Insist Upon for Every Ultrasound Probe Repair

Probe repairs should not just fix the issue at hand, they should actually extend the life of your device.

The key to getting more life out of each probe is understanding what goes into a sustainable, long-term repair vs. a short-term fix, and knowing the criteria you should be discussing with each provider to really understand what you're getting and how they measure up to proven best practices for extending the life and lowering overall costs of ownership.

Following are 6 questions to ask repair providers to really know what you're getting.

1)What are your Benchmarking Standards?

OEM's do not release detailed specifications, bills of materials or electronic schematics. Providers should invest in researching and testing functions, components and outputs of new probes to fully characterize each model. Findings are used to identify the best processes for returning a probe back to the performance level it was originally intended to achieve, and ensure the device is safe and effective. There is a huge difference between getting a probe working again and getting it back to OEM form, fit and function. Innovatus Imaging collects data from their research and



manufacturing processes upon which they base proprietary Gold Standard Testing which they apply to repairs.

2 How do you Assess Chemical Compatibility? OEM's spend considerable time and money ensuring their materials can withstand exposure to harsh chemicals and environments with minimal deterioration and no irritation or negative effects to the patient. You should expect the same from materials and chemicals used during a repair. Look for partners that have a dedicated process for testing all aspects of a probe, far beyond just the items or components repaired, to identify areas that could lead to secondary failures, putting your probe back out of commission. One-way engineers and technicians, at Innovatus Imaging's Center of Excellence for Ultrasound, do this is by conducting proprietary exposure tests using numerous manufacturer-approved as well as unapproved chemicals. Ask repair providers how they assess chemical compatibility on the materials used in their repairs and if they are ISO-10993 compliant.

3 What is the source for your Replacement Parts? When harvested vs. new or specialty-built parts are used in a repair, you may end up with a short-term fix vs. a long-term solution. Many harvested parts, such as cables, have been repaired multiple times making them unstable. Also, bear in-mind that it's impossible to harvest and reuse certain components on and in an ultrasound probe. At Innovatus Imaging, cables are mechanically tested to determine how many times they can bend before compromising performance quality. It's important to ask providers where and how replacement parts are sourced and if they have procedures in-place to qualify them.

4 Do you conduct Holistic Testing as part of the repair process? As tempting as it is to go with the "quick fix" promise, it can sometimes mean prolonged down time. Testing all aspects of a probe during the repair process and assuring the probe is returned in top working order is critical to your device lifecycle and ROI. Failing to conduct holistic testing can often lead to latent, secondary failures as parts not inspected during the initial repair may fail. Skipping this step to get devices back to customers in record time, can often result in more downtime and higher operational costs down the road. Before choosing a repair partner, be sure to ask about holistic testing applied to each probe serviced.

5 Do you have Manufacturing Experience? Providers which are also device manufacturers have a strong foundation of research, technological innovations and proprietary processes which are often applied to repairs. Applying a manufacturing mindset and process rigor to repairs often increases a probe's sustainability and lifetime. Innovatus' Center of Excellence for Design and Manufacturing in Denver CO is an FDA registered manufacturing site which continually researches new methods for greater efficiencies and outcomes for imaging experts and patients, some of which are applied to repair processes for ultrasound probes.

6 What is the Depth Of Experience you bring to repair processes? Experience matters when it comes to repairing something as critical as diagnostic imaging devices. Ask providers about their length of time in the industry and quantity of repairs performed. Both matter. For example, the teams at Innovatus Imaging are applying learnings from 40 years of experience and 150,000 plus repairs to help predict failures, determine material durability and define best-in-class probe repair processes. Data driven repairs ensure proper diagnosis, repairs and maximized service life of transducers. This equates to proven performance and long-term cost reduction.

All probe repairs are performed in-house by technicians trained to our standards for quality and sustainability.

These six steps are just a few of the standards you should expect and insist upon for every Standard, 3D and TEE probe repair. For more information, visit www.innovatusimaging.com.

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