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American study identifies necessity for broader ultrasound probe decontamination due to non-compliance with required guidelines

The first ever large-scale national survey of ultrasound probe use and decontamination practice in the USA reveals significant non-compliance with current guidelines for reprocessing of surface ultrasound probes.[1]

Published in the American Journal of Infection Control (AJIC), the survey amongst infection preventionists throughout the USA confirms the expansion of ultrasound to most hospital departments. Importantly, the survey reveals a wide range of probe use and reprocessing practice and significant non-compliance with guidelines. The study concluded that the findings underscore the urgent need to review policies and practice to ensure best practice for patient safety.

During certain ultrasound procedures, both intracavity and surface probes can become contaminated with clinically relevant pathogens. Failure to comply with required reprocessing procedures puts patients at risk of cross contamination.[2] The resulting potentially serious patient safety consequences have been widely documented and are highlighted in the survey.

Major guidelines in the USA recommend that for 'critical ultrasound probes' i.e. probes that enter or contact sterile tissues or the blood system, sterilization or high level disinfection and use of a sterile sheath is required.[3,4] While the survey identified compliance with guidelines was relatively high for reprocessing intracavity "semi-critical" transducers, such as those used internally in trans-vaginal or trans-rectal ultrasound, in the case of surface ultrasound probes, compliance is low. For semi-critical procedures, such as ultrasound guided tissue sampling procedures (e.g. biopsies), the survey demonstrated there was 41% non-compliance with the required decontamination practice. Non-compliance was also identified in ultrasound guided delivery of drugs / therapeutics, such as nerve blocks or intra-articular injections, where there was 61% non-compliance. For ultrasound probe usage across non-intact skin e.g. burns, skin breakdown or partially healed wounds, non-compliance was 45%.

"This is an important survey with some alarming results. We identified a number of variations in current practice that involve reprocessing of ultrasound probes. These variations conflict with existing evidence-based recommendations and represent risks to the safety of patients," said Ruth Carrico, an Associate Professor at the University of Louisville and one of the survey authors.

"There are areas of procedure awareness that need to be addressed, such as the application of high level disinfection to all surface ultrasound transducers used in invasive procedures. There may also be a belief that a sterile transducer cover provides protection, but covers can break or leak. I encourage infection prevention and control professionals to work with others in their facilities to ensure that their internal policies are consistent with national guidelines."

Michael Kavanagh, Nanosonics' Chief Executive Officer and President agreed the outcomes of the survey highlight the requirement for education to ensure the infection prevention community and clinical practitioners are aware of the cross contamination risks associated with semi-critical surface ultrasound probes which are used across the wide range of ultrasound procedures. "It is important that the healthcare community is kept up to date with latest practice as well as the evidenced based guidelines which require high level disinfection for all semi-critical surface probes. The trophon device is designed for both intracavity as well as surface probes and is validated for use with over 1,000 different probes across all major ultrasound companies. Using trophon for all semi-critical probes represents a large opportunity for Nanosonics and the outcomes of this study helps bring the necessary attention to this important topic."

Michael Kavanagh
CEO / President

For more information please contact:
Michael Kavanagh, CEO on (02) 8063 1600 or McGregor Grant, CFO, on (02) 8063 1600

References

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About Nanosonics
Nanosonics Limited is developing a portfolio of decontamination products designed to reduce the spread of infection, improving the safety of patients, clinics, their staff and the environment. The Company is an innovator in infection prevention and owns intellectual property relating to a unique disinfection and sterilisation technology which can be suited to a variety of global markets that aim to deliver improved standards of care. Initial market applications are designed for the reprocessing of reusable medical instruments. The Company's first product is designed to disinfect ultrasound transducers. For more information about Nanosonics please visit www.nanosonics.com.au