University Hospitals of Leicester NHS
NHS Trust

Policy for the Decontamination of Ultrasound Probes

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Trust Lead:	Teresa Lardner, Advanced Practitioner in Ultrasound
Board Director Lead:	Carolyn Fox, Chief Nurse
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REVIEW DATES AND DETAILS OF CHANGES MADE DURING THE REVIEW

This policy is a complete rewrite of the Guideline for the Decontamination of Trans-vaginal probes (B33/2016) to include all ultrasound probes and following the introduction of the Trophon decontamination system.

KEY WORDS

Decontamination, ultrasound, probes, Trophon, Tristel Trio

1 INTRODUCTION AND OVERVIEW

Decontamination is a term used to describe a range of processes, including cleaning, disinfection and/or sterilisation, which remove or destroy contamination and thereby prevent infectious agents or other contaminants reaching a susceptible body site in sufficient quantities to cause infection or any other harmful response (NHS Estates 2003).

Safe and correct decontamination of non-sterile reusable equipment between patients is essential to maintain a high standard of infection prevention and protection for patients.

The British Medical Ultrasound Society (BMUS) has the following advice (BMUS 2017): 'All ultrasound transducer probes should be cleaned immediately after a scan to remove all organic residues and body fluids. This involves removal of the used probe cover (if used), wiping off the gel followed by thorough cleaning with probe compatible cleaning agents as per probe manufacturer's instructions. Ultrasound probes should then undergo appropriate disinfection or sterilisation.'

All critical probes (probes contacting sterile tissues or blood) should be preferably sterilised, but if sterilisation is not possible, they must as a minimum be high level disinfected and used with a sterile sheath.

All semi-critical probes (both semi-invasive probes contacting mucous membranes and non-invasive probes contacting non-intact/broken skin) should, as a minimum, be high level disinfected either manually or with automated systems.

High level disinfection is still required when using a sheath as sheaths can have micro-perforations or can break.

All non-critical probes contacting only intact skin may be low level disinfected. Only probe manufacturer recommended, and probe compatible disinfection products should be used to avoid any damage to the probe. After reprocessing the probes should be stored to prevent recontamination.

This document outlines the process for the decontamination of ultrasound probes at the University Hospitals of Leicester (UHL) NHS Trust

2 POLICY SCOPE

This policy applies to all clinical staff at UHL including sonographers, radiology assistants, nurses, radiologists, obstetricians and gynaecologists who conduct examinations using ultrasound probes or assist with the procedure.

This policy replaces the UHL Guideline for the decontamination of transvaginal ultrasound probes B33/2016.

This policy is designed to ensure appropriate decontamination management of ultrasound probes and the safe and correct use of the trophon® EPR system and Tristel Trio Wipe System.

It is essential that everyone adheres to this policy whenever using the equipment and ensure that appropriate Personal Protective Equipment (PPE) is used as required and instructed at all times.

Any issues relating to ultrasound transducers must be escalated to the relevant Head of Department.

3 DEFINITIONS AND ABBREVIATIONS

Transducer/Probe – A device that produces and detects sound waves and converts them into electrical signals. These are then used to create images of structures within the body.

Trophon® EPR system – High level disinfection system for ultrasound probes.

Tristel trio wipe system – a 3 stage decontamination process for ultrasound probes.

Ultrasound – a diagnostic imaging technique based on the application of high frequency sound waves.

BMUS – British Medical Ultrasound Society.

PPE - Personal protective equipment used to protect the wearer against health or safety risks at work.

TRUS - Trans-rectal Ultrasound Guided Biopsy.

HLD – High Level Disinfectant – used to disinfect medical devices to inhibit most viable microorganisms.

4 ROLES AND RESPONSIBILITIES

The **Executive Lead** for this Policy is the Chief Nurse.

The **Matron** is responsible for ensuring the policy is communicated across Imaging services.

Line Managers/Superintendent Sonographers are responsible for the Imaging staff, identifying roles, ensuring training and competency are completed and assessed and that the policy is followed.

All staff who use the trophon decontamination unit must ensure they are familiar with the procedure and adhere to this policy.

5 POLICY IMPLEMENTATION AND ASSOCIATED DOCUMENTS

Standard Operational Procedure: Ultrasound probe decontamination

All ultrasound probes must be decontaminated after every scan and before starting the list in the morning.

The operator's hands must be washed or decontaminated with alcohol gel hand rub both before and after the scan.

Infection Control

- All non-intracavity probes must be cleaned using the trophon®EPR weekly.
- Good hand hygiene is the most effective method of infection control.
- Hands must be washed or cleansed with alcohol gel between every patient.
- Units should be cleaned at the end of the working day as appropriate and be left in a suitable condition for use in the next scheduled clinic.
- Couches should be covered by disposable paper which is changed for each patient.

- Couches should be routinely cleaned with disposable clinical wipes or soap and water at the end of each clinic or more frequently as required.
- Appropriate PPE must be worn.
- All contaminated clinical waste must be disposed of in clinical waste disposal bags.
- All general waste should be disposed of in black bags.

Decontamination of equipment after each procedure

Please see **Appendix 1** Ultrasound probe decontamination algorithm

Intracavity and non-intracavity probes

1. Wipe the probe clear of gel with a single-use cloth/paper.

2. Do **not** use Clinell wipes to clean the probe just before putting it in the Trophon machine as this may damage the probe surface.

3. Clinell wipes should be used to clean the cable as this does not go in the Trophon.

4. The probe holder must also be cleaned.

Intracavity probes

These must be decontaminated using either trophon® EPR High level disinfection system or Tristel Trio Wipes System as part of a 3 stage Decontamination process after every use.

Fusion Trans-rectal Ultrasound (TRUS)

There is a dedicated intra-cavity probe which should be used for TRUS biopsies. This is kept in the Fusion cupboard in ultrasound room 3 at LGH and should be stored in there after each use. The probe for TRUS will be colour coded red at the port connector.

Trophon® EPR

All users must complete the online training course provided by Nanosonics. This training guide is designed to ensure understanding of all operation aspects when using trophon® EPR system. A certificate of completion is issued and a copy stored in the department with the radiology Department assistants manager.

The trophon®EPR Operation Training Guide is to be read in conjunction with the trophon® EPR Training video.

The trophon®EPR must be used in accordance with the manufacturer's instructions.

Care must be taken to ensure the probe does not touch the walls inside the cabinet as this can damage the probe and reduce the efficacy of the decontamination process.

When performing high level disinfection of ultrasound probes with the trophon® EPR, it is not necessary to disconnect the probe from the ultrasound system. The probe should then be inactive (not selected) during the disinfection cycle.

The probe will be hot when removed from the cabinet immediately after the cycle is finished. Care must be taken to ensure it has cooled before using.

Full instructions on using the trophon®EPR system can be found via the Nanosonics website after the mandatory online training has been completed

The system is designed to be powered 24/7 and should not be turned off.

The fluid-based chemicals need to be regularly refreshed and circulated throughout the system to ensure optimal functionality and efficacy.

Any unavoidable power loss, e.g. to relocate the system, should be kept to the shortest possible timescale.

The trophon system will enter a low power consumption/sleep mode after 2 hours of inactivity. To reactivate, press the blue illuminated button, following this the system will enter a WARM UP phase taking approximately 6-10 minutes prior to being ready for use. During this time the chamber door will remain locked.

Storage and Management of Trophon Consumables

Trophon Nanonebulant cartridges must be stored in a lockable cupboard/unit or restricted access area. Please ensure that cases, boxes and individual cartridges of Nanonebulant are stored the correct way up as indicated by the symbols on the packaging and in accordance with the instructions for use.

Chemical Indicators (CIs) should be kept out of sources of direct light and heat. It is recommended that the CI strips are left inside the silver box and removed as required.

Expiry date of trophon consumables should be checked prior to use. Any expired products should not be used.

In the event of the probe undergoing a high-level disinfection cycle longer than 3 hours ago prior to being used the device should be reprocessed.

Appropriate PPE (gloves, aprons, etc.) must be used as required/directed.

The exterior of the trophon unit should be routinely cleaned in accordance with the cleaning and decontamination instructions provided.

Fault Management and Reporting

The trophon units are covered by a full support contract. In the event of a system fault or issue stop using the equipment immediately. Please note the serial number of the trophon unit and any error codes detailed and contact Nanosonics via the details below:

- Nanosonics UK Customer Service Tel: 01484 860 581
- Email: ukservice@nanosonics.eu

In the event of a trophon system breakdown please report to your Area Manager/Lead and use other rooms for intracavity scanning.

Tristel Trio Wipes System

Due to widespread use of ultrasound across UHL trust and community sites, it is not feasible to have a trophon machine available in all locations. In these situations, the Tristel Trio Wipe System must be used to decontaminate intracavity probes.

The Tristel Trio Wipe System must be used in accordance with the manufacturer's instructions. It is essential that the correct procedure and timings are followed as this will affect the efficacy of the system.

The Tristel Traceability book in each ultrasound scan room at the end of the decontamination procedure must be completed and the ultrasound report must state that the Tristel Trio System was used to decontaminate the probe.

Care must be taken to check the use by dates on the product. Particularly as this system is used in lower throughput areas.

Full instructions on using the Tristel Trio Wipes System can be found via these 2 links

http://www.tristel.com/sites/default/files/trl_247-2_trio_user_guide_gb.pdf

http://www.tristel.com/sites/default/files/mkt-wal-040-6_tristel_trio_wipes_system_endocavity_ultrasound_probe.pdf

6 EDUCATION AND TRAINING REQUIREMENTS

All clinical staff new to the department must undertake orientation of the department including information regarding this policy.

Only staff who have completed training in the decontamination processes may undertake High level decontamination.

COSHH Guidance for Tristel and Trophon, as set out in COSHH risk assessment must be followed.

7 PROCESS FOR MONITORING COMPLIANCE

Element to be monitored	Lead	Tool	Frequency	Reporting arrangements. Who or what committee will the completed report go to.
All staff up to date with relevant training	Sonographer lead	appraisal	Annually	Imaging Operations Board
Audit of compliance to policy	Matron	Data collection	Annually	Imaging Operations Board

General

- All ultrasound reports for intracavity examinations must state the method of decontamination used.
- All staff are up to date with annual infection control training.

Trophon

- Documenting in the ultrasound report the trophon cleaning completion cycle number.
- Recording the high-level disinfection cycle in the log book using the printed sticker.
- All trophon systems are serviced and checked for efficacy by Nanosonics annually.

Tristel

- Documenting in the ultrasound report the Tristel trip Wipe System used
- Recording the data in the Tristel audit trail book using the sticker provided

8 EQUALITY IMPACT ASSESSMENT

- The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
- As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

9 SUPPORTING REFERENCES, EVIDENCE BASE AND RELATED POLICIES

Related UHL Documents

- UHL Control of Substances Hazardous to Health Policy 2016 B10/2002
- Cleaning and Decontamination for Infection Prevention 2015 B65/2011
- Hand Hygiene Policy 2015 B32/2003
- Personal Protective Equipment at Work Policy 2013 B9/2004

References

- Nanosonics https://www.nanosonics.co.uk
- Tristel Solutions Ltd http://www.tristel.com
- GE Transducer Cleaning and Disinfection Guidelines December 2015
- SCoR/BMUS Guidelines for Professional Ultrasound Practice. Revision 2. December 2017
- NHS Scotland Guidance for Decontamination of Semi-Critical Ultrasound Probes; Semi-invasive and Non-invasive Ultrasound Probes March 2016

10 PROCESS FOR VERSION CONTROL, DOCUMENT ARCHIVING AND REVIEW

The updated version of the policy will be available through INsite and on the Imaging 'I' drive.

The policy will be reviewed every three years or sooner in response to clinical or risk issues.

11 DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT

Development and Approval record for this Document		
Author:	**Teresa Lardner** **Claire Jones-Manning**	**Advanced Practitioner in Ultrasound** **Decontamination Lead**
Reviewed by:	**Imaging Ops Board**	**V2 October 2018**
Approved by:	**PGC**	**30.10.18**
Review Record		
Date	**Reviewed By**	**Description of changes**

Appendix 1

Ultrasound probe decontamination algorithm