



## **Services provided by the Public Health Laboratory Limerick with respect to samples received from the Healthcare environment.**

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## **1.0 Introduction**

The Public Health Laboratory is a permanent facility at the HSE West Building, Ballycummin Ave, Raheen Business Park, Limerick and all testing is carried out there.

The Public Health Laboratory forms part of the Microbiology Laboratory, which is attached to the Pathology Department, University Hospital, Limerick.

It is the policy of this laboratory to achieve and maintain a high standard of quality of work carried out within the laboratory and to meet its customer's requirements.

The laboratory is accredited to ISO 17025: 2017 with the Irish National Accreditation Board (INAB). All work for which the laboratory holds INAB accreditation must meet the requirements of the INAB accreditation board. The laboratory is assessed annually.

Our scope of accreditation is available at:

<http://www.inab.ie/directoryofaccreditedbodies/laboratoryaccreditationtesting/096T.pdf>

The Laboratory accepts samples from various hospital environments. The type of samples, tests to be performed, method to be used and guidelines for the results are decided through consultation with the Consultant Microbiologist, the laboratory and the relevant hospital departments. Consultation occurs by phone and e-mail. If ISO methods (International Standard methods) are available and relevant, these methods will normally be used.

The PHL procedure for reporting non-compliant water sample results (ML153) is detailed in appendix 1.

New items of equipment that require testing by the PHL need to be detailed in a 'Set-up form for routine testing of hospital water samples' (ML179) available from the PHL.

Please ring the Technical/ Quality Manager to discuss your requirements in advance of sending samples.

Food samples from Healthcare environments are also analysed. Please contact the Technical Manager for details.

## **2.0 SAMPLE HANDLING- Waters**

### **2.1 Sampling**

Sampling is carried out by the relevant staff members in the Hospital departments according to their procedures. Sample containers can be provided to the departments by the Public Health Laboratory. Any changes to sampling schedules should be discussed with the PHL.

### **2.2 Labelling**

All samples must be labelled appropriately and should be accompanied by the current 'Form to Accompany Hospital Water Sample to Public Health Laboratory, Limerick', ( ML145) or 'Form for Endoscopy UHL Water Samples to the Public Health Laboratory, Limerick' (ML323). Forms are available from the PHL in paper or electronic format. The form should be completed as fully as possible with all the relevant details.

### **2.3 Storage**

It is recommended that samples be tested as soon as possible after being sampled but if the samples need to be stored before sending to the laboratory the following is recommended.

Waters from washer disinfectors, water samples from Reverse Osmosis units and rinse water samples from endoscopy channels:

- Sample should be tested within 4 Hours of collection or stored at <10°C and tested within 48 hours of collection.

Water and Fluid for haemodialysis and related therapies, Ultrapure dialysis waters, ultrapure dialysis fluid, waters from pharmacy and samples from hydrotherapy pools.

- Sample should be tested within 4 Hours of collection or stored at <10°C and tested within 24 hours of collection.

### **2.4 Transportation**

Ensure that the samples are transported under appropriate conditions to the Laboratory reception located in the main UHL or to the Public Health Laboratory Raheen directly. Samples for microbiological analysis should reach the laboratory in a condition microbiologically unchanged from that existing at the time of sampling.

Samples can be transported at room temperature in suitable transport containers to protect the samples from damage or leakage if the transfer time is short.

There are various routes of transport of samples to the laboratory depending on the hospital site. Samples delivered to the Pathology Reception in UHL before 09.00am will be transferred to the PHL that day. Samples received after this time will be stored in the coldroom in the Microbiology Dept. and transferred to PHL the following morning.

Samples from Nenagh Hospital and St. Johns Hospital are delivered directly to PHL Raheen.

Samples from Croom Hospital and Ennis Hospital are transported to UHL and then to PHL.

## **2.5 Receipt in the Public Health Laboratory (PHL)**

The PHL will accept water samples from the hospital environment Monday to Friday from 9.00 am to 4.00pm.

On receipt of the sample, deviations from specified conditions, for example transport temperature, specimen leaking in transit, time to testing exceeding that specified for the sample type, are recorded.

When there is doubt as to the suitability of a sample for testing, or when a sample does not conform to the description provided, or the test required is not specified in sufficient detail, the laboratory will consult the requestor for further instructions before proceeding.

Communication with the requestor is documented.

When the requestor requires the sample to be tested, acknowledging a deviation from specified conditions, the laboratory will include a disclaimer in the report indicating which results may be affected by the deviation.

## **3.0 SAMPLE HANDLING- Foods and Environmental Swabs**

### **3.1 Sampling**

Contact the Technical Manager to set up a sampling schedule. Dates and times will be agreed locally. Please refer to: Examining food, water and environmental samples from healthcare environments- Public Health England (available on line)- Procedure for sampling foods.

### **3.2 Labelling**

All samples must be labelled with the location and sample details, and accompanied by the current 'Food Safety Laboratory Service Sample Request Form' completed as fully as possible.

### **3.3 Storage**

Store samples in a fridge or a coolbox between 1-8°C taking care to keep raw foods in a separate box from ready to eat foods, and hot samples separate from cold.

### **3.4 Transportation**

Deliver directly to the Public Health Laboratory, Raheen at the agreed time. The sample receipt book will be completed and signed by the receiver and the submitter. Transport at 2-8°C for chilled samples, temperatures of 8-10°C are acceptable for transport times less than 4 hours.

### **3.5 Receipt in the Public Health Laboratory (PHL)**

The PHL will accept food samples from the hospital environment Monday to Wednesday from 9.00 am to 4.00pm (2pm on Wednesdays).

On receipt of the sample, deviations from specified conditions, for example transport temperature, specimen leaking in transit, time to testing exceeding that specified for the sample type, are recorded.

When there is doubt as to the suitability of a sample for testing, or when a sample does not conform to the description provided, or the test required is not specified in sufficient detail, the laboratory will consult the requestor for further instructions before proceeding.

Communication with the requestor is documented.

When the requestor requires the sample to be tested, acknowledging a deviation from specified conditions, the laboratory will include a disclaimer in the report indicating which results may be affected by the deviation.

### **4.0 TESTING**

The laboratory processes water samples up to 4.30pm daily Monday to Friday. Samples received in the laboratory **after** this time will be processed on the next working day.

Food samples and swab samples are processed on Tuesday and Wednesdays.

Foods are tested as per “Examining food, water and environmental samples from healthcare environments. Microbiological guidelines. Public Health England.” Parameters will vary depending on the food type. Listeria detection is performed on all food samples regardless of the sample type or the shelf life.

The reading of the relevant tests is performed daily Monday to Saturday.

There is **no cover** in the PHL on weekdays post 5:00pm or on Sundays or Bank holidays.

The procedures for the laboratory test methods are available from the PHL on request.

The relevant testing information pertaining to the different types of waters samples processed is listed in tables 1- 7 in this document.

### **5.0 REPORTING.**

Completed reports are technically authorised by the Technical/Quality Manager or Deputies and then clinically authorised by the Consultant Microbiologist or the Chief Medical Scientist.

Out of specification water results are telephoned to the requesting location, emailed to the UHL Consultant Microbiologists, UHL Micro Registrars and IPCN (Infection Prevention & Control Nurses). See Appendix 2 for details. Food samples containing pathogens at a hazardous level will be telephoned to the requesting source A.S.A.P. and emailed to the UHL Consultant Microbiologists and UHL Micro Registrars. It is the responsibility of the customer to contact the Environmental Health Department with this result.

Note: If *Listeria monocytogenes* is detected but is below the legal limit as per EU reg 2073 then the EHS does not need to be informed.

Reports are then issued to the staff member in charge of the relevant hospital departments and sent to the respective locations by email.

## **6.0 Designation of results and Measurement Uncertainty.**

Measurement Uncertainty (MU) has been calculated for all our accredited test methods.

This is available on request.

### **6.1 Food Samples**

#### **Testing Requirements and interpretation of results for ready-to-eat foods including sandwiches**

##### **Result Designation:**

- TM2 ACC **FSAI GN3** –select Category.
- TM3 Bacillus **FSAI GN3**
- TM5 Clostridium **FSAI GN3**
- TM6 E. coli **FSAI GN3 (Check 2073 also)**
- TM7D L. mono **Not Designated or 2073/2005**
- TM7E L. mono **2073/2005**
- TM7D L.species **FSAI GN3 (Check 2073 also)**
- TM7E L.species **FSAI GN3 (Check 2073 also)**
- TM8 Salmonella **FSAI GN3 (Check 2073 also)**
- TM9 Coagulase Positive Staphylococci **FSAI GN3 (Check 2073 also)**
- TM24 Enterobacteriaceae **FSAI GN3 (Check 2073 also and FSAI GN3 pg15**

##### **Table 4)**

**Reference used:** FSAI GN3, Revision 4, Commission Regulation (EC) No. 2073/2005 as amended.

The decision rule will outline whether or not MU (Measurement Uncertainty) is taken into account when applying conformity to the specification limits.

The decision rule used (unless otherwise instructed by the customer) is:

In cases where the measured result +/- MU is below the limit then the result is designated as **compliant/ satisfactory** (depending on the legislation or guidance document it is designated against).

Where the measured result is close to the limit such that the  $\pm$ MU overlaps the limit: the result is **Not Designated**

If sample designation applies then the following comment is added: *This sample cannot be designated under [insert legislation/guidance note here], as some results- see above- cannot be designated. This is because the result value overlaps the specified limit when measurement uncertainty (MU) is applied*.

## **6.2 Hospital Water Samples**

A statement of the required specification is included on the hospital water samples but the results are not designated against this specification.

If a designation to this specification is required, then please contact the laboratory so that a decision rule can be agreed.

Results that are above an agreed action limit and considered unsatisfactory (as stated on ML147 and below in Table 1 to Table 6) are phoned to the agreed number as stated in ML153.

Measurement Uncertainty is not taken into consideration for these phoned results.

## **7.0 CONTACT**

If you want to discuss any issues in relation to the service provided by the PHL please ring Chief Medical Scientist/Technical Manager Liz Murphy Ext. (46)4265 or Quality Managers Ext. (46)4261.

The laboratory performs customer satisfaction surveys every 2 years to obtain feedback, both positive and negative, from its customers. These are analysed and a report prepared of findings. The results are distributed to the customer along with a letter addressing issues encountered. Your participation in these surveys is greatly appreciated.

**Table 1: Relevant testing information pertaining to Final rinse waters from Washer Disinfectors employing chemical disinfection for thermolabile endoscopes**

Test name	Description of test	Minimum volume required	Satisfactory results	Suggested Frequency
TM28.1	Total viable count in 100ml of volume received performed using Reasoners 2 Agar incubated at 30°C for 5 days. Read after 48hrs & 5 days.	200mls	<10 cfu/100ml	Weekly
TM20	Enumeration and confirmation of <i>Pseudomonas aeruginosa</i> in 100mls of volume received using Membrane Filtration Method	100mls	0cfu/100ml	Weekly
TM32	Detection and Enumeration of <i>Legionella</i> spp. and <i>L. pneumophila</i> serogroups 1-14 in 1Litre of volume received by Membrane Filtration Method	1 Litre	<i>Legionella</i> spp Not Detected in 1L	Annually
TM35*	Isolation of <i>Mycobacterium</i> species in 100ml of volume received performed using Middlebrook 7H10 Agar incubated at 30°C for 28 days.	100mls	Not Detected in 100ml	Annually

**References used:** ISO 15883:2006/Washer – Disinfectors Part 1/ Amendment 1:2014 (E):  
General requirements, terms, definitions and tests.

ISO 15883 Part 4: 2018 Requirements and tests for washer disinfectors  
employing chemical disinfection for thermolabile endoscopes.

**Note:** Tests marked \* are not accredited.

**Table 2: Relevant testing information pertaining to Rinse samples from endoscope channels**

Test name	Description of test	Minimum volume required	Satisfactory results	Suggested Frequency
TM28*	Total Viable count in volume received performed using Tryptone Soya Agar incubated at 30°C for 48H	Flush with 20mls	<20cfu/channel Indicator organisms should not be found at any time.	As required, usually new scopes or post repair. Investigation of source of infection

**Reference used:** European Society of Gastrointestinal Endoscopy (ESGE)- European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) guideline for quality assurance in reprocessing: Microbiological surveillance testing in endoscopy : 2007.

**Note:** Tests marked \* are not accredited.



**Table 3: Relevant testing information pertaining to Water and Fluid for haemodialysis and related therapies and Ultrapure Dialysis Water and Ultrapure Dialysis Fluid.**

Test name	Description of test	Minimum volume required	Satisfactory results	Suggested Frequency
TM34	Total viable count in 1ml of volume received performed using Reasoners 2 Agar incubated at 22°C for 7 days. Read after 48hrs & 7 days.	10mls	<100cfu/ml	Weekly
TM34.1	Total viable count in 100ml of volume received performed using Reasoners 2 Agar incubated at 22°C for 7 days. Read after 48hrs & 7 days.(Ultrapure Water/Fluid)	100mls	<0.1cfu/ml	Weekly

**Reference used:** ISO 23500-3:2019 Preparation and quality management of fluids for haemodialysis and related therapies-part 3 Water for Haemodialysis and Related Therapies.  
 ISO 23500-5:2019: Preparation and quality management of fluids for haemodialysis and related therapies-part 5 Quality of dialysis fluid for haemodialysis and related therapies

**Table 4: Relevant testing information pertaining to Water sample from Water treatment systems/Reverse osmosis units**

Test name	Description of test	Minimum volume required	Satisfactory results	Suggested Frequency
TM28.1	Total viable count in 100ml of volume received performed using Reasoners 2 Agar incubated at 30°C for 5 days. Read after 48hrs & 5 days.	200mls	Dependent on manufacturers specifications	As required
TM34	Total viable count in 1ml of volume received performed using Reasoners 2 Agar incubated at 22°C for 7 days. Read after 48hrs & 5 days.	10mls	Dependent on manufacturers specifications	As required

**References used:** Tested according to manufacturers specification.

ISO 15883:2006 Washer – Disinfectors Part 1/ Amendment 1:2014 (E):  
 General requirements, terms, definitions and tests.

**Table 5: Relevant testing information pertaining to Hydrotherapy pools**

Test name	Description of test	Minimum volume required	Satisfactory results	Suggested Frequency
TM17	General coliforms & <i>E.coli</i> count in 100ml of volume received using Colilert® MPN method	100mls	0 cfu/100ml	Weekly
TM20	Enumeration and confirmation of <i>Pseudomonas aeruginosa</i> in 100ml of volume received using membrane filtration method.	100mls	0 cfu/100ml	Weekly
TM23D	Total viable count in 1ml of volume received performed using Yeast Extract Agar incubated at 37° C for 24 hours.	10mls	<10 cfu/ml	Weekly

**Reference used:** Examining food, water and environmental samples from healthcare environments; Microbiological Guidelines: PHE: 2020

**Table 6: Relevant testing information pertaining to Water samples from Pharmacy**

Test name	Description of test	Minimum volume required	Satisfactory results	Suggested Frequency
TM23B	Total viable count in 1ml of volume received performed using Yeast Extract Agar incubated at 22° C for 72 hours.	10mls	No abnormal change	As required

**Reference used:** Guidelines set out by Pharmacy, UHL.

**Table 7: Relevant testing information pertaining to Water samples from Augmented Care Units**

Test name	Description of test	Minimum volume required	Satisfactory results	Suggested Frequency
TM20	Enumeration and confirmation of <i>Pseudomonas aeruginosa</i> in 100ml of volume received using membrane filtration method.	100mls	0 cfu/100ml	Annual

**Reference used:** Health Technical Memorandum 04-01: safe water in healthcare premises: Part C- *Pseudomonas aeruginosa* –advice for augmented care units.

## **Appendix 1: ML153 Procedures for reporting hospital waters.**

### **Details of all calls /e-mails are recorded in 'Contact Manager' on LIMS**

- All non negative samples must be phoned to the requesting source ASAP.
  - For WD's in which the product is rinsed after the disinfection stage there should be <10cfu /100ml of final rinse water. Ref: ISO 15883-4
  - For RO samples refer to specifications on ML147
  - For Dialysis Waters and Dialysis Fluid: Action Level (TVC):  $\geq 50$ cfu/ml
  - For Ultrapure Dialysis Water and Ultrapure Dialysis Fluid: Action Limit  $>0.1$  cfu/ml

### **University Hospital Limerick: Endoscopy Dept./ Respiratory/Bronchoscopy Dept.**

- **Ring:** Mon- Friday      Endoscopy      Niamh Maguire ext: 2368, 5856 or 2773  
Respiratory/Bronchoscopy Dept.: Lena Augustine (Mary) Ext; 2150/ 2628
- **Email** Mon- Sat. Requesting Department Head, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars, & C.C. Liz Murphy, Quality Managers. Include phone details in e-mail.
- **On Saturdays include Assistant Matrons on email.**
- **Email** report to relevant Clinical Nurse Manager.

### **University Hospital Limerick: Dialysis Dept.**

- **Ring Mon- Friday** Dialysis Dept. ext 2400.
- **Email Mon- Sat.** Lisa Woods, Agnes Daly, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars & C.C. Liz Murphy, Quality Managers. Include phone details in e-mail.
- Email reports to Clinical Nurse Manager.

### **University Hospital Limerick: Technical Services**

#### **Ring: Mon- Friday**

John Heelan	061-482005
Martin O'Reilly	ext. 2629

- **Email:** Mon-Sat. Requesting Department Head, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars & C.C. Liz Murphy, Quality Managers. Include Phone Details in Email.
- **Email:** Report to Requesting Department Head

**Clinical Engineering Dept (Ultrapore Dialysis Water/Fluid).**

**Ring:** Mon- Friday

[Karen Quinlan](#) 061-482763

- **Email:** Mon-Sat. Requesting Department Head, [clinicaleng@hse.ie](mailto:clinicaleng@hse.ie), [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars & C.C. Liz Murphy, Quality Managers. Include Phone Details in Email.

**Email:** Report to Requesting Department Head

[UHL Pharmacy Dept. 061-482091/2092](#)

**University Maternity Hospital Limerick: Neonatal Unit**

For positive counts of *Pseudomonas aeruginosa* from water samples from UMHL.

- **Email:** Mon-Sat. John Heelan, Larry Murphy, Martin O'Reilly, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars Assistant Directors of Midwifery (ADOM's) & C.C. Liz Murphy, Maureen O'Hara, Quality Managers.
- **Email:** Report to John Heelan.

**Ennis Hospital: Endoscopy and HSDU**

- **Ring:** Mon- Friday  
Endoscopy [Rosemary Reid](#) 065-6863414 ([Ennis Reception 065-6863412](#) and ask for Dept.)  
HSDU (CSSD) Kathleen Horgan/Joe Cassidy 065-6863159
- **Email:** Mon- Sat.: Requesting Department Head, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars & C.C. Liz Murphy, Quality Managers. Include phone details in e-mail.
- **Email** report to Endoscopy manager, or CNM in HSDU.

### **Procedure for reporting Hospital Waters**

#### **Nenagh Hospital: Endoscopy and Technical Services**

- **Ring:** Mon- Friday Endoscopy Emma Dollard 067 31491 Ext 176/137  
If no reply ring Theatre Noreen Kelly Ryan 067-42324  
Technical Services [Tony Mc Bride 067-42383](#)  
[Phone SUPPLY water out of spec.only.](#)  
On Saturday ring \*7055 Nursing office, give result to ADN
- **Email** Mon- Sat. Requesting Department Head, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars & C.C. Liz Murphy, Quality Managers. Include phone details in e-mail.
- **Email** reports to Clinical Nurse Manager or [Tony Mc Bride](#).
- **Email** reports to Clinical Nurse Manager.

#### **St. John's Hospital:**

- **Ring Mon-Fri** Thomas Murphy, CSSD, (061-462186 / 061-462311)  
**Saturday** Assistant Director of Nursing at 462210
- **E-mail** Thomas Murphy, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars & C.C. Liz Murphy, Quality Managers. Include phone details in e-mail.
- **Email** report to Thomas Murphy, CSSD Manager.

#### **Croom Hospital Hydrotherapy Pool**

- **Ring Mon-Fri** Mary Flahive 061- 485421.
- **E-mail** Mon-Sat. Mary Flahive, [AcuteIPCNurses@hse.ie](mailto:AcuteIPCNurses@hse.ie) (Infection Prevention & Control Nurses), UHL Consultant Microbiologists, UHL Micro Registrars & C.C. Liz Murphy, Quality Managers. Include phone details in e-mail.
- **Email** Report to Mary Flahive.