Legionella Policy

Legionnaires' disease. The control of legionella bacteria in water systems.

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| Approved by (Sponsor Group) |  |
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| Name of originator/author: | Contracts and Compliances Manager |
| Executive Director lead : |  |
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| --- | --- |
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| Trustwide | x |
| Mental Health and LD |  |
| Community Health Services |  |

Version Control Summary

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| 1.0 | 28th October 2008 | John Hill, Deputy Director Estates, Facilities & Capital Development | Final | Initial Policy |
| 2.0 | 19th April 2016 | Sean O’Sullivan Acting Associate Director & PFI Contract Manager | Final | Reviewed. No major changes |
| 3.0 | November 2019 | John Hill, Director of Estates, Facilities & Capital Development | Final | 3 yearly review |

Contents

| **Paragraph** | | **Page** |
| --- | --- | --- |
| 1 | Executive summary  Introduction | 4  4 |
| 2 | Purpose | 4 |
| 3 | Duties | 5 |
| 4 | Risk Assessment | 5 |
| 5 | Review and Records | 6 |
| 6 | Notification and Reporting | 7 |
| 7 | Prevention or Control | 7 |
| 8 | New Works and Commissioning | 7 |
| 9 | Action to be taken if a Single Patient with Legionnaires’ disease | 8 |
| 10 | Action to be taken in the Event of an Outbreak | 9 |
| 11 | Cleaning, Disinfection and Repair | 9 |
| 12 | Training | 10 |
| 13 | Reference | 10 |
| 14 | Impact Assessment Tool | 12 |
| **Appendices** | |  |
| Appendix A | Contractor Sampling and Testing Schedule | 14 |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Executive summary**

The Trust accepts its responsibility under the Health and Safety at Work etc. Act 1974 and the Control of Substances Hazardous to Health Regulations 2002 to take all reasonable precautions to prevent or control the harmful effects of contaminated water (i.e., Legionella) to service users, staff and other persons working at or using its premises.

Legionellosis is a collective term for diseases caused by legionella bacteria including the most serious Legionnaires’ disease, as well as the similar but less serious conditions of Pontiac fever and Lochgoilhead fever. Legionnaires’ disease is a potentially fatal form of pneumonia and everyone is potentially at risk of infection, but with elderly and immunocompromised patients being more susceptible.

Health and social care providers should carry out a full risk assessment of their hot and cold water systems and ensure adequate measures are in place to control the risks.

East London NHS Foundation Trust have a robust framework in place to control the risk of exposure to Legionella throughout the Trust Estates. The Trust complies with the law:

• To minimise the risk of exposure.

• To enable standard monitoring is carried out throughout the Trust Sites.

• Ensure that standards are co-ordinated with others to minimise its impact.

• Ensure the Trust’s built estate complies with all relevant standards and legislations.

**1 Introduction**

The purpose of this document is to provide a broad framework for controlling the risk of exposure across the estate to the Legionella bacterium. This document commits the Trust to taking preventative action including continual monitoring and outlines action to be taken in the event that such actions prove not to be effective.

This document intends to reflect how the Trust will take the necessary steps to comply with the requirements of the Health & Safety at Work etc Act, Control of Substances Hazardous to Health Regulations 1999 and the Health and Safety Commission Document Approved Code of Practice and Guidance Document (L8) – Legionnaires’’ Disease: The control of legionella bacteria in water systems 4th edition.

**2 Purpose**

To minimise the risk of exposure to Legionella by eliminating conditions that would allow the organism to proliferate, and where such condition do exist to take action to control the risk. These measures are actively managed and clear auditable records are to be maintained

**3 Duties**

Statutory Duty Holder– Chief Executive

Person with statutory responsibility; for monitoring, supervision and implementation, delegated to Director of Estates, Facilities & Capital Development to take managerial responsibility for the implementation of precautions.

Responsible Persons: Contracts and Compliance Manager

Management: Director of Estates, Facilities & Capital Development

Responsible for day to day control and implementation of operational procedures.

A regular review of communication and procedures is undertaken and performance of external consultants or contractors who have responsibility for certain parts of the control regimes, such as monitoring and sampling are measured. The names and contact details of external consultants ae to be clearly stated in the Legionella Control record files.

**4 Risk Assessment**

The last risk assessment commissioned by the Trust was with Clearwater Technology between December 2017 and November 2019. The Trust will undertake a review of the current risk assessment at least every 2 years and at such time the Trust suspects that it is no longer valid due to such factors as the following:

• Changes to the water system

• Building use or layout changes

• Availability of new information about risk or control

• Results indicating ineffective control measures

• A case of Legionella at the Trust

In addition to the annual programme the Trust will ensure that appropriate checks and commissioning procedures are followed locally where alterations and adaptations have been undertaken. These checks must occur before the area is handed over and brought back into use, as new work is seen to increase foreseeable risk.

At the time of undertaking risk assessments, an action plan must evolve to identify clearly all the necessary action required to control the risk.

The following factors will be assessed:

• Availability of up to date plans

• Presence of Legionella

• Source of water supply – mains or tank

• Temperature of mains supply

• Temperature of stored water

• Temperature of flow and return water supplies

• Water quality – impurities in the water supply and concentration

• Presence of additional factors to sustain growth e.g. build-up of scale, rust and sludge

• In plant, pipe work or on outlets

• Condition of plant

• Normal plant operation and procedures in event of breakdown

• Risk of aerosol generation at any point in the system

• Intensity/frequency of use of facility or space

• Dead legs

**5 Review and Records**

The monitoring system, training, management system, communication and system condition needs to be kept under constant review. This will be managed by the designated responsible person and actions identified will be undertaken to ensure that controls remain effective. A regular report by exception will be submitted by Estates & Facilities to the Infection Control Committee identifying in summary current status, actions taken in reporting period, outstanding issues and risks.

Records will be maintained for the following:

• Management structure

• Results of monitoring and PPM results

• Risk assessments

• Chemical analysis of water

• Action plans arising from risk assessments

• Details of completed of corrective actions or precautions taken

• Where action will not remove risk, statements will be recorded for control procedures

• Process review records

• Log books for all relevant plant and inspections made

• Certification of cleaning and disinfection work for new and existing buildings/departments

**6 Notification and Reporting**

Results of the above routine checks will be reported to the Infection Control Committee on an annual basis, by the Director of Estates or a nominated person representing of Estates and Facilities or in the form of a written pro-forma.

In addition, the Infection Control Nurse must be informed immediately by the Responsible person from Estates under the following circumstances:

• Any situation leading to the need for cleaning, disinfection and repair of the hot and

• Cold water systems (see section)

• Any significant change to the systems

• Addition of any air conditioning facilities

• Any significant change in the Risk Assessment

• If there is any failure in any of the routine monitoring checks

• If, for any reason, it is not possible to perform any of these checks at the recommended time intervals

**7 Prevention or Control**

On completion of the annual or interim risk assessments by the trust appointed contractor, an action plan is to be developed for future preventative maintenance or measures to be implemented to control exposure to the identified risk, block by block across the Trust.

If preventative measures are to remain effective in minimising risk a process of checking, inspecting and monitoring must be implemented. See table 1.0 for monitoring framework.

**7.1 Treatment and Control Programmes for Domestic Hot and cold water systems.**

The Approved Code of Practice (ACOP) states that the risk from exposure to legionella should be prevented or controlled. Precautions should include the use of water treatment techniques.

It is essential that the system is kept clean, because the efficacy of the control method (both temperature and biocide activity) may be reduced substantially in systems that are fouled with organic matter such as slimes or inorganic matter such as scale.

A temperature control regime is implemented and monitored by the trust appointed contractor. To demonstrate that the control remains effective.

**7.2 For cooling towers the guidance in HSG274 part 1 will be strictly adhered to**

**8 New Works and Commissioning**

A clear brief will be given to the design team in order that they get a full understanding of client requirements for operating conditions, performance, commissioning records and operation and maintenance manuals. The design will provide suitable conditions for the health safety and welfare of the occupants’ users and visitors. The designer will also have the responsibility of carrying out a risk assessment of the installation and maintenance of the design, highlighting any risks to personnel and detailing measures to minimise those risks.

The designer will have clear responsibility to specify requirements for the provision of adequate commissioning and the preparation of adequate operation and maintenance manuals.

It will be the clear responsibility of the designers and project managers to ensure that adequate precautions are taken to control the risk during commissioning and start up, and should address such issues as pipes that have been charged and left standing for any length of time before the work is carried out or the area is brought into operation. A commissioning report must be produced, handed over and accepted before practical completion will have deemed to have been achieved. This must contain all details of tests undertaken, outcomes and certificates of compliance. Formal checks will be made to authenticate the tests results. This information will then be incorporated in to the Health & Safety File. The designer must also hand over as built drawing for structure, fabric and services which must contain items detailed below and update the Trust records.

• System overview

• Record drawings

• Manufacturers literature and maintenance instructions

• Access point locations

• Commissioning records

• Maintenance schedules including frequencies

• Safety information

• Record sheets of changes to original system

• Statutory compliance information

**9 Action to be taken if a Single Patient with Legionnaires’ disease**

**9.1 Confirm the diagnosis**

If the patient has a definite diagnosis of legionella pneumonia, ensure the deputy director infection control is informed. If the patient is unwell they will be admitted to the acute hospital for further investigations and management.

**9.2 Convene Incident Control Team**

If the case is considered definitely nosocomial, an incident management team will carry out risk assessment with the Public Health Team and infection control.

Risk assessment will include:

Length of ELFT stay (admission)

Defined as [Nosocomial] if patient in hospital for all ten days before the onset of symptoms or probably nosocomial if patient in hospital for between one and nine of the ten days before the onset of symptoms AND a type of Legionella isolated that was indistinguishable from isolates obtained from the sampling the hospital water system at about the same time.

The Incident Control Team will decide on the need for environmental sampling and remedial control measures, on the advice of PHE/Health Protection Team and HSE.

**10 Action to be taken in the Event of an Outbreak of Legionnaires’ disease**

Cases of Legionnaires’ disease can be defined as:

i) Sporadic - a single case not associated with any other cases;

ii) Cluster/outbreak - two or more cases associated with a single source with dates of onset within six months of each other;

iii) Linked - two or more cases associated with a single source with dates of onset more than six months apart.

In the case of a suspected outbreak or linked cases of (2 or more) Legionnaires’ disease, the Director of Infection Control (DIPC) must be informed and a Hospital Incident Control team must be convened (see section 9.2) who will liaise with PHE/Health Protection Team to form an incident plan. They will advise on implementing action to control the problem, including taking samples to investigate potential source.

Statements from the responsible person, authorised supervisor, works plant operatives and specialist contractors/consultants are to be obtained and all operational records are to be scrutinised. Infringements of agreed process are to be investigated

**11 Cleaning, Disinfection and Repair**

**11.1 Air Conditioning & Ventilation Plant**

If potential cause is through air conditioning shut down and decommission system, take samples cover air intakes and outlets. Investigate cause, identify plant failure and repair. Disinfect system, clean and disinfect again. Take samples and obtain clearance before starting re-commissioning.

**11.2 Hot & Cold Water Services**

Should be cleaned and disinfected in the following situations:

If routine checks and monitoring indicate control mechanisms are no longer effective (see table 1).

If the system or part has been substantially altered in a manner that may lead to contaminants in the system where there is no confidence that the contractor undertaking the alterations has completed the agreed commissioning process effectively during or following an outbreak or suspected risk of legionellosis.

Disinfection must be carried out by thermal or chemical process. Staff, patients and visitors must be informed of action and warned of risks arising to ensure that water services are not used by unauthorised personnel until process is complete, clearance is given and samples have been taken where necessary.

a) Chemical – check, disinfect, clean and disinfect calorifiers and tanks; chlorination by specialist contractor in controlled defined concentrations. If there is heavy organic contamination, the contractor should check, disinfect and clean calorifiers and tanks before undertaking a second disinfection process. Building occupants should be warned that the water is heavily chlorinated.

b) Thermal- raise temperature of contents of calorifiers to over 60°C and circulate through entire system for minimum of 1 hour; check temperatures before mixer valves; temperature should not be below 60°C; run all outlets sequentially for a minimum of 5 minutes at full temperature then reduce to normal operating temperatures and recommission system. This process requires strict management control and limitation on system usage as there is a high risk of severe scalding/burns.

It may be necessary to shut down the hot and cold water supply systems, repair, disinfect, clean and disinfect again, followed by further sampling before final clearance for restarting the system is obtained.

**12 Training**

The Trust must ensure that those persons who have responsibility for undertaking programmed monitoring, risk assessments, specifying and implementing precautionary measures and maintaining related plant, equipment and conduits have the training, instruction and resources to ensure they are competent and to enable them to undertake their tasks efficiently, effectively and safely. The Trust employs contractors and annually the training records are checked to ensure compliance.

All Trust staff during induction are to be made aware of issues relating to legionella and its control.

Records of training shall be maintained as a hard copy and electronically.

**13 References**

Legionnaires’’ Disease – The Control of Legionella Bacteria in Water Systems

Approved Code of Practice & Guidance (L8) Fourth Edition

Control of Substances Hazardous to Health Regulations 2002

Health Technical Memorandum (HTM 04) – Water systems Part A – B - C

Guidelines for investigating single cases of Legionnaires’ disease. JV Lee, C Joseph, on behalf of the PHLS Atypical Pneumonia Working Group. Communicable Disease and Public Health 2002; 5(2): 157-62

HSG 274

Management of health and safety at work regulations 1999

The Water Supply (Water Fitting) Regulations 1999

The Water supply (Water Quality) Regulations 2001

[www.hse.gov.uk](http://www.hse.gov.uk)

14. Impact Assessment Tool

|  |  |  | **Comments** |
| --- | --- | --- | --- |
| **1** | **Briefly describe the policy/decision?** |  | Guideline to control the risk of exposure to Legionella Bacterium and Prevention of Legionella |
| 1.1 | **Briefly describe the purpose or objective of the policy/decision?** |  | To ensure control measures are to remain effective for preventing or controlling the risk of exposure to Legionella Bacteria |
| 1.2  1.3 | **Does the policy/decision have a legitimate aim?**  **Is the policy/decision necessary, proportionate and lawful?** | YES  YES | Provide the East London NHS Foundation Trust’s approach to control the risk of exposure to Legionella.  To ensure comply with legal duties towards staff and patients. |
| **2** | **Will the policy/decision affect one group or a combination of groups less or more favourably than others on the basis of:**  Race, Colour, Nationality, Gender, Age, Sexual orientation, Disability, Religion, Language  (Disability includes: learning disabilities, physical disability, sensory impairment and mental illness) | NO | No Adverse Impact.  The policy is designed to be sensitive to the needs of all groups and takes into account  Race, Colour, Nationality, Gender, Age, Sexual orientation, Disability, Religion, and Language |
| 2.1 | **List or describe the evidence that some groups will be affected differently?** |  | The policy has been developed in accordance with the NHS requirements |
| **3** | **Will the policy/decision affect or restrict anyone’s human rights? (see attached list)** | NO | The policy has been developed in accordance with the NHS requirements |
| 3.1 | **If the answer to Q3 is yes, which rights will be affected or restricted?**  **a) absolute right**  e.g. the right to protection from inhuman & degrading treatment  **b) limited right**  e.g. the right to liberty  **c) qualified right**  e.g. the right to respect for private and family life; freedom of expression; peaceful enjoyment of property etc; | **N/A** | The policy will have no direct impact on Human Rights |
| 3.2 | **Can the policy/decision be achieved without the infringement of human rights?** |  | The policy will have no direct impact on any of the areas listed. |
| **4** | **Will this policy/decision:**   * **Reduce or increase waste** * **reduce or increase use of energy** * **Have an impact on the use of transport** * **Create community employment opportunities** | NO | The policy will have no direct impact on any of the areas listed. |
| **5** | **What action is to be taken to minimise the impact that the policy/decision will have on equality and diversity and human rights.** | N/A | N/A |
| 5.1 | **What action is to be taken to minimise the impact that the policy/decision will have on the environment** | N/A | N/A |
| **6** | **Have you consulted with relevant groups around this policy/decision?**   * **Staff members** * **Service Users** * **Carers** * **Other agencies** |  | This policy has been distributed to the Matrons, Infection Control Committee for comment and input |
| 6.1 | **Do you have further plans to consult with the relevant groups** | NO | NO |
| **7** | **Will the policy/decision be monitored?** |  | Ongoing monitoring will be in place by Estates & Facilities. |
| 7.1 | **Will the policy/decision be reviewed?**  **If yes, when?** | YES | Bi-annually, next review is due in January 2018. |
| 7.2 | **Will this policy/decision and this Impact assessment be published?**  **If yes, list when and where this information will be available.** | YES | On the intranet – in the Policies section |

Appendix A – Contractor Sampling & Testing Schedule

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| --- | --- | --- | --- |
| **Service** | **Task** | **Frequency** | **Comment** |
| Hot Water Services | * Sampling- at source, plant and outlets * Temperature flow and return checks to calorifiers * Temperature checks on a representative sample of taps before mixer valve (TMV) * Temperature of sentinel taps * Monitor consumption rates * Visual check on internal surfaces for scale and sludge | Annually  Monthly  Monthly  Monthly  Min 2 years | Include laboratory checks  Outgoing water temperature must not drop below 60°C, return at least 50°C  To be at least 45°C after a minute  To be at least 50°C after a minute  To coincide with insurance inspections strip down and repair as necessary |
| Cold Water Services | * Check water temperature in tanks at ball valve (inlet) but mentioned below * Check water temperature in tanks remote from ball valve * Temperature checks on a representative sample of taps on a rotational basis * Visually inspect water tanks for integrity, condition, scale and sediment/sludge; drain down, clean and paint * Laboratory checks * Monitor consumption rates | monthly  monthly  Annually  Annually  Annually | Water temperature must not rise above 20°C  Water temperature must not rise above 20°Cto be below 20 °C after 2 minute run off A bio-film (scale and sludge) must not be allowed to form on water containment or conduits that are in contact with water  Comment on hardness, corrosion, dissolved solids and microbiological control and carry out remedial work where necessary |
| Shower Heads | * Dismantle, clean and descale shower heads and hoses | quarterly or as necessary |  |
| Little used outlets | * Flush through and purge to drain; without aerosol effect; remove from system if practical | Weekly | Domestic staff function instructed through contract variation |
| Dead legs | * Inspect installation, update plans identify dead legs and eliminate where practical | 6 monthly or where change of use of an area |  |
| Plant | * Visual check of plant internally for scale and sludge; clean, descale and remove sludge as necessary * Check pump performance | Min 2 years  Weekly through BMS | To coincide with insurance inspections |
| Incoming Mains Supply | * Temperature checks * Laboratory checks for what? | 6 Monthly  Annually | If temperature rises above 20°C action to be taken by Supply Authority. Check in summer and winter |
| Air conditioning plant and air cooled condensers | * Inspect plant and equipment; check if drains are clear, that there are is no build-up of water or leaks; check filters, fans, drain taps * Inspect for contaminants and water droplets; repair plant and clean ductwork as necessary | 6 monthly  Annually | Change filters and belts quarterly/annually as recommended by manufacturer.  Annually, open up inspect, clean, disinfect and repair as necessary |