

Legionella Control is Easy

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Legionella Control

- The Legionella Control Association
- Legionella basics
- Legionella control
- Legal aspects

What is the LCA?

Membership standards association

- Exists to raise standards in legionella control
- Members are required to work to the LCA code of conduct and service delivery standards
- Members are listed on the LCA website www.legionellacontrol.org.uk
- End users can complain to the LCA about members

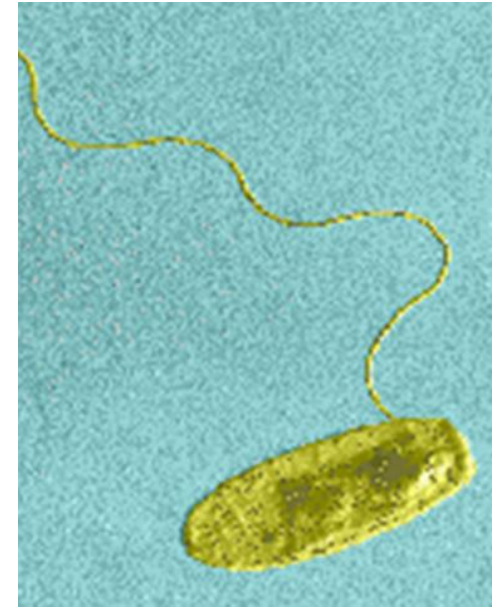
What the LCA is Not

The LCA is not:

- A regulator – we can only support/discipline our members
- A trade association – we do not lobby or promote members commercial interests
- A commercial organisation

Legionella Basics

- What is Legionella?
 - Genus of bacteria of 60+ species
 - All have potential to cause Legionnaires' disease
 - Legionella pneumophila is one species
- What is Legionnaires' disease?
 - Potentially fatal bacterial pneumonia caused by legionella bacteria
- What is Legionellosis?
 - All illnesses caused by Legionella bacteria including non-fatal types



Legionnaires' Disease

- 5% attack rate
- 12% mortality rate
- 30% as healthcare acquired infection
- 400-500 confirmed cases per year
- Estimated 6000-9000 cases per year
- Preventable

History

- During the 21st – 24th July 1976 the American Legion Department of Pennsylvania hosted the 58th state convention at the Bellevue-Stratford Hotel in Philadelphia
- Many of the hotel residents experienced illness and 34 out of the 221 affected people died



Misconceptions

- Legionnaires' disease does not affect healthy people
 - Some groups are certainly more susceptible but anybody can contract Legionnaires' disease
- Only Legionella Pneumophila serogroup 1 causes Legionnaires' disease
 - 25 species documented as causing LD
 - Majority of hospital confirmations are for LPSG1
 - The front line test only picks up LPSG1!
 - Water samples can have more than 1 species but will report 1

Legionella Control

- For a case of Legionnaires' disease to happen we need:
 - Source of legionella
 - Conditions under which legionella can grow
 - Aerosol
 - Exposure
 - Susceptibility
- CATES
- Main effort in control is in limiting growth of legionella

Legislation, Regulation, ACoP and Guidance

The legislation has not changed for 48 years –

- **HSWA 1974 fundamental principles**

The enabling regulation –

- COSHH
- MHSWR
- NCTEC
- RIDDOR

Approved Code of Practice and guidance on regulations L8 2013 (Fourth Edition)

Aimed at duty holders and gives detailed and clear information on what needs to be done to comply with your obligations under the law

PDF is free issue on line and there is a hard copy priced at £15



HSG274

The HSG274 guidance is separate to L8, and is in three parts:

- **Part 1**: Evaporative Cooling Systems
- **Part 2**: Hot and Cold Water Systems
- **Part 3**: Other Risk Systems

What Does ACoP L8 Say About Legionella Control?

- Paragraph 59 sums up legionella control:
 - a) Avoid temperatures that allow legionella growth
 - b) Avoid water stagnation
 - c) Avoid materials that favour growth
 - d) Control the release of water spray
 - e) Keep the system clean and the water in it clean
 - f) Use water treatment techniques
 - g) Maintain the system
- All the control tasks recommended in the guidance stem from this section
- The risk assessment identifies where the factors above are present and should recommend controls to mitigate risk

ACOP

59 The risk from exposure should normally be controlled by measures which do not allow the growth of legionella bacteria in the system and which reduce exposure to water droplets and aerosols. Precautions should, where appropriate, include the following:

- (a) avoiding water temperatures between 20 °C and 45 °C and conditions that favour the growth of legionella bacteria and other microorganisms;
- (b) avoiding water stagnation which may encourage the growth of biofilm;
- (c) avoiding the use of materials that harbour bacteria and other microorganisms, or provide nutrients for microbial growth. The *Water Fittings and Materials Directory*¹⁰ references fittings, materials, and appliances approved for their compliance with the UK legal requirements for plumbing fittings and water using appliances;
- (d) controlling the release of water spray;
- (e) maintaining the cleanliness of the system and water in it;
- (f) using water treatment techniques;
- (g) taking action to ensure the correct and safe operation and maintenance of the water system.

Translation

- Keep the hot, hot, keep the cold, cold
- Keep water moving
- Build water systems out of suitable materials
- Keep water systems clean
- Treat the water – for some systems
- Maintain it

What a Water System Must Have

- Risk assessment (HSG274 appendix 1)
 - Site specific, identifying risks and recommending actions to achieve ALARP level of risk
- Written scheme of control (HSG274 appendix 2)
 - Details of what is being done to control legionella
 - Controls that are in place
 - Monitoring, control limits and what to do if out of spec
- Defined management arrangements and documented responsibilities
- Records of all work done

How do You Get There?

- Risk assessment should detail a recommended set of tasks for a control scheme
 - Should be specific, not just cut and paste from guidance
- Written scheme takes these tasks and records what is done, how, who by, where its recorded, etc.
- Records show that the tasks have been done

Hot and Cold Water

- Hot stored above 60°C, distributed above 50°C
- Cold stored and distributed below 20°C
- Inspect cold water tanks/inside calorifiers and clean when dirty
- Maintain system
 - Thermostatic mixer valves
 - Expansion vessels
 - Balance valves
 - Etc.

Where Does HSE Guidance Come In?

- Guidance is there to assist in designing the appropriate control scheme
- Blindly following the guidance without reference to risk assessment may result in risks being missed
- Table 2.1 is a good starting point for control scheme tasks
- Be wary of risk assessors who cut and paste from this table
- Many options and examples – HSG274 is not a specification or a compliance document

Summary

- Potentially fatal disease
- High mortality rate
- Public perception in the press is negative
- Prosecution not uncommon based on risk
- Personal legal consequences
- Preventable with relatively simple measures

Thank you

Any Questions?