
Club facilities (involving water supplies) will have been dormant during the lock-down period presenting potentially ideal conditions for legionella bacteria to thrive and it would be prudent for clubs to consider this along with any remedial action necessary prior to re-opening facilities. To assist clubs we have produced this Guidance Noteⁱ.

Key Facts

Legionnaires' Disease

- Potentially fatal form of pneumonia.
- Incubation period 2-10 days (usually 3-6 days).
- Infection rate <5% with a fatality rate of approximately 12%.
- Some will not develop the full-blown symptoms, but acquire flu-like symptoms.
- Contracted by inhaling aerosols contaminated with Legionella bacteria.

Legionnaires' Disease Symptoms

The severity of symptoms vary greatly, ranging from a mild cough to rapidly fatal pneumonia. There may be initial influenza-like symptoms, such as:

- Fever;
- Loss of appetite;
- Headache;
- Tiredness;
- Severe muscular aches;
- Breathlessness & confusion;
- Dry cough.

Death occurs in 10-15% of healthy people because of progressive pneumonia with respiratory and multi-organ failure.

Potential for mis-diagnosis and confusion with other illnesses.

Legionella Bacteria Environment

- Water temperatures of 20°C - 45°C (thrives at body temperature 37°C).
- Stagnant water – poor daily turnover, blind-end pipework, lack of use or flushing.
- Systems containing nutrients for bacterial growth, e.g. rust, sludge, sediment, scale, organic matter and biofilms.

Aerosol Transmission

An aerosol is a suspension of small particles in the air, small enough to be inhaled deep into the lungs and big enough to carry viable bacteria (particles of 1µm to 3µm). A true aerosol is not normally visible and may not be wet.

Legionnaires' Disease – Higher Risk Groups

- Men appear to be more susceptible than women.
- Immuno-suppressed people of all ages are at greater risk.
- People over the age of 45.
- Alcoholics & smokers.
- People suffering from cancer, chronic respiratory disease or kidney disease.

Health & Safety Responsibility

- Duty Holder creates the risk and is therefore responsible for controlling the risk.
- COVID-19 does not absolve the Duty Holder from any legal duty.
- Normal controls and legal requirements continue to apply.

Legal Architecture

- Health & Safety at Work etc., Act 1974
- Management of Health & Safety at Work Regulations 1999
- COSHH Regulations 2002
- Approved Code of Practice L8 - The Control of Legionella Bacteria in Water Systems
- Guidance Notes – HSG 274 Parts 1 to 3

Increased Risks

Closing of sailing clubs due to COVID-19 will have caused an increased risk due to the potential for legionella bacteria (if present) to proliferate with the water system, i.e. low building occupancy and lack of use, low water turn-over, potential water stagnation, exacerbated by recent warm weather.

Normal Operations – Temperature Regime

Traditional approach to Legionella control:

- Hot water should be stored at 60°C.
- Hot water should be distributed, so within one minute of running it reaches 50°C.
- Cold water should be stored at <20°C (tanks).
- Cold water temperature at outlet should be <20°C after running for 2 minutes.

The reasons behind these parameters are:

- <20°C – Any bacteria present will be dormant, but remain viable.
- >20°C and <45°C – Legionella bacteria will multiply rapidly.
- 50°C – 90% bacteria kill rate within 2 hours.
- 60°C – 90% bacteria kill rate within 2 minutes.
- 70°C – Rapid kill rate to 100%.

Legionella Bacteria Nutrients

Any of the following elements within the water system can form a medium on which the bacteria can feed and multiply:

- Scale

- Sediment
- Corrosion
- Waste matter
- Detritus
- Biofilm.

Recommended Control Measures¹

Prior to re-commissioning of club house, boat shed and water supply sources the following measures should be considered / implemented:

2-3 weeks prior to re-occupation:

- Check cold water storage tanks for any debris, detritus, foreign materials, pests etc.
- Consider taking samples to check for the presence of Legionella – this will allow time for action prior to building re-occupation².
- Consider conducting building chlorination, especially where cold water storage tanks are in place. The volume of cold water may have become stagnant and have suffered thermal gain (>20°C)³.
- Showerhead cleaning and disinfection should be carried out (should be done on a quarterly basis).
- Cold water systems (including outside taps) should be turned over at all outlets on a twice weekly basis (short-term measure).
- System running & flushing – the hot water system should be operated and run in isolation prior to persons being allowed access.
- Temperatures of hot and cold water should be taken and recorded as outlined above – any recordings outside the safe operating parameters must be reported and remedial action implemented.
- Document all inspections & action taken.

2-3 days prior to re-occupation:

- Raise temperature of hot water storage vessels to 60°C and draw through to all associated outlets.
- Flush and purge all outlets until the temperatures at the outlet stabilises and is comparable to supply water and purge to drain.
- Minimise exposure to aerosol by removing shower heads, covering spray taps with a clean cloth or placing a clean plastic bag over fixed showerheads and cutting the corner of the bag.
- Once flushing has started it should be continued until all outlets are back in regular use.
- Disinfect all water drains.
- Purge hot water urns, refill, heat and drain (following manufacturer's instructions).
- Document all actions in site maintenance log-book.

Risk Assessment

¹ Clubs may elect to undertake control measures themselves, in doing so it is necessary to appointment someone with the necessary skills e.g. health and safety competencies/responsibilities, if such competency requirements cannot be met you should consider appointing specialist contractors.

² Consider contacting a water regulation company to carry out a test.

³ Consider seeking independent assistance before taking any chlorination action.

Conduct a Legionella Risk Assessment⁴.

Written Control Scheme

Recommended adoption of a written control scheme.

Personal Protective Equipment

Any persons undertaking checks on water storage tanks and/or undertaking purging operations must limit their exposure to aerosol droplets.

Gloves, safety glasses and a face respirator mask should be provided and worn to minimise exposure.

Conclusion

Clubs should make sure they regularly flush the water system through by routinely operating hot and cold taps around (and outside) the building to make sure water does not stagnate in the pipes and tanks and allow Legionella bacteria to grow. Keep a log to show which taps, toilets, showers etc. have been flushed and for how long. Include this within the Risk Assessment.

Further Information

There is a wealth of information on the internet about dealing with water system hygiene management and the prevention of Legionnaires disease.

If you have any queries, questions or comments on the information contained in this leaflet, kindly contact the Legal Team on 023 8060 4223 or legal@rya.org.uk.

RYA Responsibility Statement:

The RYA Legal Team provides generic legal advice for RYA members, affiliated clubs, class associations and Recognised Training Centres. The information contained in this Guidance represents the RYA's interpretation of the law as at the date of this edition. The RYA takes all reasonable care to ensure that the information contained in this Guidance is accurate and that any opinions, interpretations and guidance expressed have been carefully considered in the context in which they are expressed. However, before taking any action based on the contents of this Guidance, readers are advised to confirm the up to date position and to take appropriate professional advice specific to their individual circumstances.

ⁱ This Guidance Note was drawn up with the help of Ogston Sailing Club.

⁴ For advice on conducting risk assessments see <https://www.rya.org.uk/the-club-zone/Pages/health-safety.aspx#3>