

A microscopic image showing several rod-shaped Legionella bacteria. The bacteria are stained, with a blue outer layer and a reddish-brown internal structure. They are connected by thin, wavy filaments. The background is dark and grainy.

**Legionella:
Sources, Harbourage,
Cases & LA Response**

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Legionellosis

- Ubiquitous - Opportunist - Selective

- Human disease occurs when

- A water supply becomes infected

And

- That supply is released in aerosol form

In

The presence of a susceptible person(s)

Sources

Any aerosolised infected supply:

Commonly

- Evaporative cooling towers
- Spa baths
- Domestic Hot & Cold Supplies

Sources

Also

- Irrigation systems
- Jet hoses
- Food display cabinets with humidifiers
- Floor cleaners
- Compost
- Decorative fountains
- Fish tanks

Problems in buildings

- Building not fully occupied
- More than one supply
- Over capacity
- Change of usage
- Poor maintenance
- System altered, pipework layout unknown
- Poor design- inaccessibility

Cases of interest: Expect the unexpected

- Heathrow Terminal 5 construction
- Pub in LB Havering
- Hotel in Milton Keynes
- RO RO ferry Harwich

Concrete Batching plant



**Pressure hose
connected to
batching plant**











Milton Keynes

- Hotel with number of cases connected
- Poor maintenance
- Poor control
- Spa bath overflow into swimming pool
- Balance tank outside under wooden cover
- Plant room equipment not calibrated, test chemicals past date.

North Sea Ro – Ro Ferry



Related causes

- Systems risks not understood and therefore controlled
- Where treatment had been applied only temporary control achieved
- Engineering solution needed in addition to chemical
- All the gear, no idea!

Response to notification

- No cases, single or many cases, cluster?
- Information received from CCDC, Patient/Relative, Suspect premises, Laboratory, Other LA's: Make sure all are aware
- Contact CCDC, HPA Lab, CFI
 - Discuss seek advice
 - Agree investigation strategy
- Information gathering- Commonality

Plan your response

- Staff competence – ask for help if you need it
- Equipment – May need ladders, spanners, plumber
- Sampling equipment – What do you need
How much will you need?
Do you have it?
- Premises past history
- Who do you need to see?
- Initial inspection:
Document review
Controls: In house / Water treatment Co.

Safety

- Asbestos present?
- Confined spaces
- Difficult access
- Edge protection
- Exposure of sampler to potentially infected source

Investigation

- Bear in mind formal action may ensue
- Notes, photocopies, photographs, well documented sampling, data loggers
- R. v Board of Trustees of Science Museum (1993)

Working with others

Depending on site

- CCDC
- CFI- Colindale
- HPA Microbiology Laboratory Service
(The lab)
- Path lab
- Other LA's
- HSE?
- PCT- Especially if hospital possibly implicated
- Does premises have an Estates/Maintenance department?

A blue-tinted photograph of a vast ocean under a cloudy sky. The text "Keep everybody aware of what is going on" is overlaid in white.

Keep everybody aware of what is going on



Thank You For Staying Awake

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