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**COVID-19 Considerations-Water management for the control of legionella, pseudomonas and mycobacterium**

# COVID-19 Considerations-Water management for the control of legionella, pseudomonas and mycobacterium

### LCA Statement issued 11/04/2020 for primary dental care

Whilst water systems may not seem to be high on the priority list during the COVID-19 pandemic it is important for the health and safety of patients, staff, and visitors that all water systems are managed safely. Evidence from China (Zhou et al., 2020) is that half of COVID-19 fatalities had experienced a secondary infection. This suggests patients are at increased risk of secondary infections and for some months after recovery.

Bacteria may grow and develop biofilms, which, combined with the generation of aerosols from high speed powered handpieces and ultrasonic devices, may expose your patients to microbial pathogens including Legionella, Pseudomonas and Mycobacterium species. These pathogens can proliferate in water systems and DUWLs between 20°C to 45°C, in the water during shutdown and this stagnated

### What do I need to have in place and why?

The Duty Holder along with the Registered Manager/Responsible Person (RP) must make sure that a Water Safety Plan (WSP has been agreed for implementation to manage all water systems, including Dental Unit Water Lines (DWULs) and associated equipment. Up to date risk assessments along with documented management plans (schemes of control) and monitoring plans to validate and verify their effectiveness.

Within the WSP, as well as plans for decommissioning equipment and water systems, a recommissioning plan must also be agreed and implemented prior to returning and providing dental care to ensure that all water systems are managed safely and the risk of potential infection is reduced.

To view the full LCA Statement issued for Primary Dental Care please see:

https://www.legionellacontrol.org.uk/\_data/pdf/Advice-for-Dental-Surgeries-120420-v01.0-2.pdf

The LCA states “It is essential that when buildings/practices reopen following the lifting of COVID-19 restrictions, that any water system is not simply put straight back into use. During the period of shutdown, it would be sensible to formulate a recommissioning plan for each water system to allow safe start-up and assurance to users that it is safe. Any plan for recommissioning buildings must take into account the safety of the operatives carrying out the work. It is foreseeable that the hazard present within water systems in this situation would be greater than normally expected. Reasonably practicable measures such as limiting aerosol, minimising exposure and use of RPE should be considered”

The below recommissioning checklist is an example list (although not exhaustive) and can be adapted to suit local practice and requirements of the WSP, legionella risk assessment and scheme of control.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Water management area:** | **YES** | **Date completed** | **NO** | **If no, contact the manufacturer/risk assessment provider for further advice** |
| Were evaporative cooling systems if applicable) left switched on or switched off safely |  | ??????? |  | ??????? |
| Were all air-conditioning units and humidifiers (if applicable) switched off as per the written scheme of control |  | ??????? |  | ??????? |
| Were stored water levels in tanks (if applicable) dropped to maintain <24 hours storage |  | ??????? |  | ??????? |
| Has regular/weekly flushing of all water systems been completed or as per the written scheme of control and pipework not left to drain down |  | ??????? |  | ??????? |
| When flushing has taken place were all operating valves in the open position to allow particulate matter to flow through |  |  |  | ?????? |
| Has temperature been monitored to ensure thermal gain in cold water has been controlled |  |  |  | ?????? |
| Have hot water outlets been flushed as per the written scheme of control and temperature confirmed to be above 55 deg C (Healthcare premises) |  |  |  | ?????? |
| Have cold water outlets been flushed as per the written scheme of control and temperature confirmed to be above 20 deg C |  |  |  | ?????? |
| Are point of use tap filters fitted, or going to be fitted before reopening |  |  |  | ?????? |

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| Are water samples to be taken 7-10 days before re-opening |  |  |  | ?????? |
| Are weekly samples going to be taken to ensure that the TVC count is < 100-200 colony forming units per millilitre (CFU/mL) |  |  |  | ?????? |
| Where DUWL’s have been shut down >2months is tubing being replaced before use |  |  |  | ?????? |
| Are DUWL’s to be disinfected with hypochlorite 50 mg/L free chlorine per 1 hour or equivalent i.e. 25mg/L for 2 hours |  |  |  | ?????? |
| Will all DUWL’s be sampled 48hours after disinfection to ensure that the TVC count is < 100-200 colony forming units per millilitre (CFU/mL) |  |  |  | ?????? |
| Where inline filters are present will these be replaced or disinfected as per the written scheme of control/manufacturers guidance |  |  |  | ?????? |
| Will disposable filters be changed as per the written scheme |  |  |  | ?????? |
| Will the dental chair, spittoon and cup filling services (if applicable) be flushed through for 3 minutes or as per the written scheme of control/manufacturer |  |  |  | ?????? |
| Will the wet lines suction be recommissioned as per the written scheme of control/manufacturer |  |  |  | ?????? |

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| Will the RO Unit be recommissioned as per the written scheme of control/manufacturer e.g. Fill and drain the machine twice before using any water. Then complete a water sample/TVC dip slide test. Do not use the RO water until safe results have been confirmed |  |  |  | ?????? |
| Will the self-filling automatic radiographic processors be recommissioned as per the written scheme of control/manufacturer |  |  |  | ?????? |
| Will the autoclaves be recommissioned as per the written scheme of control/manufacturer e.g. Check that nothing has fallen in the reservoir. Fill the tank with 1ltr of RO/sterile/bottled water and allow to drain out into the sink or bucket. Then fill with fresh RO/sterile/bottled water. Power on. (If it’s a vacuum autoclave, then run a vac test followed by a steam penetration test. If it’s a non-vacuum autoclave run the normal default cycle) |  |  |  | ?????? |
| Will the washer disinfector(s) be recommissioned as per the written scheme of control/manufacturer e.g. If water has been isolated, re-open water lines, run a full cycle still using water instead of detergent. If it runs ok, remove detergent line from water and place in detergent. Run 2 full cycles to ensure detergent has fully replaced all water in detergent line. |  |  |  | ?????? |

### Key Points to remember

* All water systems should have a risk assessment
* All premises should have a written waterline and Legionella management plan (scheme of control) which should be written by experienced and competent people (competent person is someone with the necessary skills, knowledge and experience to carry out this function).
* All the recommendations of the written scheme and risk assessment should be implemented
* Legionella and other waterborne pathogens should be controlled within the DUWLs
* Disinfect, clean and flush domestic water systems such as taps and showers prior to re-use
* Keep records of all actions taken during decommissioning and recommissioning
* Take samples to validate your actions have been effective at least 48 hours after any disinfection or pasteurisation.

Further resource and guidance are available via:

* <https://www.hse.gov.uk/pubns/books/l8.htm>
* <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/170689/HTM_01-05_2013.pdf>
* <https://www.gov.uk/government/publications/hot-and-cold-water-supply-storage-and-distribution-systems-for-healthcare-premises>
* <https://www.gov.uk/government/publications/decontamination-in-primary-care-dental-practices>