

Local Public Health Department Environmental Guidance

Legionella in a Healthcare Setting

It is the responsibility of the Local Health Department (LHD) or Health Authority to oversee the daily operations of assessments, mitigation and remediation efforts during a Legionella outbreak in a healthcare facility. These duties fall primarily to the Communicable Disease (CD) and Environmental Health (EH) Staff, but can and should extend to any public health nurse to cover illness, vacations, etc. It is recommended that LHD and Communicable Disease Branch (CDB) determine the frequency of on-site visits on a case by case basis. The following guidance is intended to assist the local health department to monitor facility control measures from an environmental perspective.

Initial Facility Inspection and Continued Monitoring for a Single *Legionella* Case:

- A. Obtain a detailed map(s) of the facility with patient room numbers or other pertinent identifiers to log where EH samples may be taken and/or ill patients are identified.
- B. Include Food Service and Environmental Services Directors at facility; typically they are very familiar with locations and how water is used throughout the facility
- C. The facility should make a staff member available to escort LHD staff into patient areas.
- D. On site environmental inspection is warranted to ascertain the facility water system is working appropriately.
 - a. Verify system working appropriately; identify any recent or ongoing plumbing issues, known dead legs, etc.
 - b. Temperature, pH and Chlorine levels
- E. Verify that water temperatures are within appropriate ranges at all faucets and water heaters. (*NC Department of Environment and Natural Resources T15A: 18A .1300*)
 1. The LHD staff may request temperature logs to validate frequency of review by facility.
 2. Inspect drip pans of air conditioning units and water heaters to assess any pooling and/or dripping of condensate.
 3. If water samples must be collected prior to contracting with a *Legionella* specialist, coordinate with the CDB for Legionella sampling and testing guidance documents.

4. Obtain Chlorine levels and pH of facility potable water.
 - a. Most LHDs do not have the equipment to perform this function; therefore, it will fall to the contractor when environmental samples are obtained.

5. Inspect the facility and grounds for any obvious source of aerosolized, i.e. water fountains, showers, hot tubs, misters, laundry facilities, kitchen sinks/dishwashers (industrial variety), outdoor irrigation systems, ice machines, areas where power washers may be used to clean equipment, etc.

Additional Steps for a *Legionella* Outbreak:

Point of Use Filters:

- F. Point of use 0.2 micron filters may be installed on faucets and showers in the facility. EH specialist should be onsite to observe the proper installation of these filters. Water filters prevent bacteria from entering the environment at the point of use.
- G. Obtain the filter information from the distributor for staff education.
- H. Facility should appoint a team to track and document filter placement and replacement.
 - a. Contact CDB for spreadsheet template
- I. Ensure inline point of use 0.2 micron filters are installed and maintained on all ice machines in use in the facility.
- J. Filter placement **MUST** be checked by a LHD staff member for date and proper installation (e.g. no visible leaks around unit where it attaches to the faucet/shower).
- K. Facility staff should be diligent in making sure residents who are more mobile do not remove filters.
 - a. Installing filters with a quick disconnect fitting located toward the rear and out of sight, is a deterrent to residents removing them as it is more difficult.
- L. All filters **MUST** be dated for visible inspection. (*dates written directly on the unit with permanent marker work best, stickers provided with the units often fall off or in the case of residents with altered mental status – the residents can and will remove them*)
- M. The facility **MUST** keep accurate records of each filter placement such as room number, number of filters in each location (e.g. 1 faucet and 2 showers heads in Rm 112, B wing/floor). A spreadsheet template is attached.
- N. For facilities with mentally impaired patients, it may be necessary to attach the filters directly to the faucet without the quick disconnect attachment, thereby making inadvertent removal less likely.

- a. Facilities with this type of population are strongly encouraged to have their staff perform routine checks each shift to ensure filters remain properly installed.
- b. In these situations it may be necessary for the facility to purchase new fittings to accommodate the filters so there is a proper fit.

Restrictions:

- O. Bottled water **MUST** be used (to avoid splashing) for hand hygiene, bathing, shaving, brushing teeth, mouth rinsing, drinking and washing ready to eat foods until 0.2 micron filters are in place and inspected by the LHD for proper fit/installation.
- P. While water restrictions are in place/remediation occurring, ensure facility has plans for resident meals that can be made either without or with minimal water usage (cold cuts, fruit, etc.) as well as disposable paper products.
- Q. Toilet lids must be closed by staff during flushing.
 - a. Toilets without lids should be avoided when at all possible.
- R. LHD may need to support coordination of portable hand washing stations for the facility.
 - a. County Emergency Management is a great resource to contact for assistance with procuring appropriate resources.

Communications:

- S. The LHD staff should strive to maintain a good working relationship with the facility(s).
 - a. The LHD should call a few days ahead to arrange to be on site to observe that filter changes are being done per manufactures recommendations in all areas.
- T. Templates are available through the CDB for communication with staff, residents and families.
- U. Share all written communications with the CDB for review prior to formal release to ensure messaging and language is consistent.
- V. The LHD should verify that appropriate signage is posted to alert visitors that restrictions are in place at all entrances to the facility.
- W. LHD staff are strongly encouraged to become involved with the contracted engineering company who has *Legionella* mitigation and remediation experience.

Resources:

A. 0.2 Micron Filter Information:

http://news.pall.com/article_display.cfm?article_id=4658

B. Recommended Inspection Supplies:

- a. Pen and Paper – take detailed notes
- b. Clipboards
- c. Thermometer to check water temperatures
- d. pH and Chlorine test strips if available (LHD's do not have these supplies – check expiration dates if they are available)
- e. Extra batteries (for thermometers)

C. Recommended Environmental Testing Supplies:

- a. Labels for any samples that may be collected
- b. Permanent markers (check to make sure they are not old and dried out)
- c. Personal Protective Equipment (gloves, N95 masks if testing cooling towers- **staff must have current fit testing**)
- d. Alcohol swabs
- e. Packing supplies (tape, sharpies, rubber bands, coolers, boxes for supplies and shipping containers)
- f. Sampling Supplies – Must be sterile and of proper type/size (consult with CDB)
- g. Hand Sanitizer

D. Environmental Sampling and Testing Guidance: Contact the CDB for guidance, assistance and supplies should environmental sampling be necessary prior to contractor being consulted

E. LHD Staff Self-care:

- a. Take snacks and drinks for LHD staff - leaving the facility is not always an option