

**LAC+USC MEDICAL CENTER  
DEPARTMENT OF INFECTION CONTROL & PREVENTION  
POLICY & PROCEDURE**

Subject: <b>Environmental Microbiologic Sampling</b>	Original Issue Date: 01/2012	<b>Policy No.</b> IPC-07
	Supersedes: 4/2016	<b>Effective Date:</b> Dec 2021
<b>Departments Consulted:</b> Epidemiology Safety Office Microbiology	<b>Reviewed &amp; Approved by:</b> Paul Holtom MD, Hospital Epidemiologist Noah Wald-Dickler MD, Associate Hospital Epidemiologist Ramon Sanchez, Environmental Safety Officer	<b>Approved by:</b> Infection Control Committee

**1). BACKGROUND**

Before 1970, U.S. hospitals routinely scheduled microbiologic culturing of the air and environmental surfaces (e.g., floors, walls, and counter tops) termed “environmental culturing”. By 1970, the CDC and the American Hospital Association advocated the *discontinuation* of routine environmental culturing because 1) rates of healthcare-associated infections had not been associated with levels of general environmental microbial contamination and 2) because meaningful standards for permissible level of microbial contamination of environmental surfaces or air do not exist.<sup>1</sup>

**2). STATEMENT OF POLICY**

Microbiologic sampling of air, water, and inanimate surfaces is an expensive and time-consuming process complicated by many variables in protocol, analysis, and interpretation. Therefore, routine environmental culturing of medical center air, water, or surfaces is **NOT** to be performed, except in specific exceptions as outlined below.

**3). ENVIRONMENTAL SAMPLING IN DISEASE OUTBREAK INVESTIGATION**

One scenario in which environmental microbiologic sampling may be indicated is in the investigation of an outbreak of disease or infections where environmental reservoirs are implicated epidemiologically in disease transmission. In such cases, the Department of Infection Control and Prevention will define the extent of the outbreak and coordinate, as appropriate (and in conjunction with LA County Public Health), environmental culturing. Should environmental sampling and culturing for microorganisms be indicated, such services will **not** be performed by hospital clinical and laboratory staff, rather by appropriately licensed contracting labs with certification and expertise in environmental sample collection, culture, and reporting.

**4). ENVIRONMENTAL AIR SAMPLING IN DESIGNATED AREAS**

Environmental sampling and culturing of air specimens may be affected by several factors including indoor traffic, temperature, relative humidity, airflow dynamics, relative concentration of particles, and the performance of air handling components.

Certain regulatory requirements may require air sampling for potential pathogens in specific hospital areas (e.g., pharmacy sterile compounding areas).<sup>2</sup> Additionally, air sampling may be indicated to evaluate for potential hazards in certain remediation circumstances (e.g. substantial water leaks). In such cases, air sampling will only be performed by certified or licensed personnel of contracted environmental sampling vendors. All samples will be collected, prepared, and delivered for processing by the appropriate contracted laboratory. Reports of testing results will be communicated by the contracting lab to the Safety Office and the Department of Infection Control and Prevention. Any necessary changes to clinical operations or services required as a result of environmental microbiologic sampling results (e.g. temporary closure of a particular area) will be communicated by Infection Control & Prevention to area supervisors/managers.

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Executive Director's Initials:

**5. ENVIROMENTAL WATER SAMPLING**

To comply with American Society of Heath, Refrigerating, and Air-Conditioning Engineers (ASHRAE)<sup>3</sup> and related Joint Commission Environment of Care<sup>4</sup> standards requiring organizations to have a water management program that addresses *Legionella* and other waterborne pathogens, the LAC+USC Medical Center has adopted a comprehensive Water Management Program to reduce risks associated with *Legionella* and other waterborne pathogens that may be present in building water systems.

The overall Water Management Program's oversight and compliance fall under the guise of the Director of Facilities Management with the Program's implementation, daily operation, maintenance, and monitoring duties being the responsibility of the Chief Stationary Engineer.

Please refer to the full document "Water Management Program for Building Water Systems" for details of the program.

Section 5 of the Water Management Program outlines details of routine environmental water sampling of potable water outlets, cooling water systems, and other at-risk water systems within the facility. The County of Los Angeles Internal Services Department (ISD) has partnered with Nalco Water, an EcoLab Company, to perform the routine water sampling and testing for *Legionella* bacteria. As with air sampling, all environmental water samples will be collected, prepared by, and delivered for processing by the appropriate contracted laboratory. Reports of testing results will be communicated by the contracting lab to the Safety Office and the Department of Infection Control and Prevention. Any necessary changes to clinical operations or services required as a result of environmental microbiologic sampling results (e.g. temporary closure of a particular area) will be communicated by Infection Control & Prevention to area supervisors/managers.

The need for remedial action based on water testing results is based on the concentration of any *Legionella* bacteria found and the risk of aerosol exposure potential from the water source. No action is necessary when test results show no detectable *Legionella*. Complete remediation procedures are outlined in detail in the Water Management Program.

**REFERENCES**

1. CDC Environmental Infection Control Guidelines (2003). Available at <https://www.cdc.gov/infectioncontrol/guidelines/environmental>
2. US Pharmacopeia (USP) Chapter 707: Pharmaceutical Compounding – Sterile Preparations
3. ASHRAE Standard 188-2018 "Legionellosis: Risk Management for Building Water Systems"
4. Joint Commission Standard EC.02.05.02
5. LAC+USC Medical Center Water Management Plan