

Appendix E
 Air Sampling Requests and Report Form

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AIR SAMPLING REQUESTS AND REPORT FORM

Air sampling for mold counts is collected during construction activities in the setting of hospital onset infection investigations in high-risk units of the hospital. Air sampling for mold counts may be collected at strategically important locations during the demolition and construction phases of projects. The purpose of air sampling is to assess dust and microbial mitigation at the project site. For lengthy projects, multiple air samplings may be required. If mold counts are found to be unacceptable, construction activities may be ordered stopped by HEIP. Air sampling for mold counts in areas exceeding acceptable ranges listed within this policy should be repeated after thorough project site evaluation and after corrections have been made in areas where mitigation of dust and microbial growth is compromised.

Department Responsibility

Department of Hospital Epidemiology and Infection Prevention (HEIP):

1. Performs patient surveillance by reviewing microbiology and autopsy reports, investigating nurse/physician reports, and performing chart review as needed.
2. Identifies areas requiring air sampling prior to construction utilizing a walk-through assessment with Design and Construction Project Manager.
3. Monitors and inspects construction projects (or delegates to trained Facilities personnel), and plans concurrent meetings as needed. Requests additional air sampling related to construction as needed.
4. Orders additional event-related air sampling (e.g. post water leakage in ceilings, ceiling tile collapse, etc.).

Office of Environment, Health and Safety (EH&S):

1. Performs a pre-sampling walk-through assessment and documentation of findings utilizing report form(s). (See Forms attached.)
2. Performs fungal sampling using an approved bioaerosol sampler or other equipment deemed appropriate by the Industrial Hygiene (IH) team. Performs particle sampling using an approved handheld particle counter.
3. Obtains particle counts when appropriate or by request from HEIP.

Office of Design, Construction and Facilities Management:

1. Advises HEIP of upcoming construction or maintenance projects.
2. Advises HEIP of dates of specific construction and demolition phases to allow timely ordering of air sampling.

Monitoring Strategy

Routine and Ad-hoc Air Sampling:

- a. **Routine sampling** will be performed on a monthly basis on the units providing care to our most at risk patient populations. Services designated for routine air sampling include adult and

pediatric hematology/oncology, adult transplant services, and pediatric bone marrow transplant. A list of sites for routine sampling will be generated by HEIP and maintained in EH&S. Changes or addition to these locations should be communicated using the MICROBIOLOGY REQUISITION FOR AIR SAMPLES form (see form at end of Appendix E).

- b. ***Ad-hoc sampling*** may be requested by HEIP as needed (i.e. in response to an identified case of healthcare-associated mycosis or a potential cluster of fungal disease, construction project – see below). Specific locations and requested date of sampling will be submitted to EH&S via MCSS ticket as described below using the “MICROBIOLOGY REQUISITION FOR AIR SAMPLES.”
- c. ***Sampling*** will be conducted and samples submitted to the environmental laboratory by EH&S personnel as described below.
 1. The completed “MICROBIOLOGY REQUISITION FOR AIR SAMPLES” form shall be returned via e-mail (preferred) or fax (353-4348) to HEIP within 3 days of sampling.
 2. The completed “MICROBIOLOGY REQUISITION FOR AIR SAMPLES” form shall be returned to the submitting staff person (preferred) or faxed (353-4348) to HEIP within 3 days of sampling.
- d. ***Sampling Outside Air:*** A sample of outside ambient air (e.g. ER parking lot and/or loading dock) shall be collected with each routine or ad-hoc sampling as a control for the testing media and device.

Construction Projects

- a. ***Air sampling*** shall be based upon a completed Infection Prevention Risk Assessment for each project.
 1. Design and Construction shall submit an Infection Prevention Risk Assessment for each project to HEIP during a pre-construction meeting, in advance of initiation of the project per HEIP Policy 5.1.
 2. IP personnel will complete the air sampling request form and e-mail to personnel designated by EH&S. EH&S will notify HEIP of changes to designated personnel.
 3. Should air sampling be needed on an emergent basis, the Director of EH&S shall be paged in addition to the e-mail submission of the request.
 4. Completed “MICROBIOLOGY REQUISITION FOR AIR SAMPLES” form shall be returned to HEIP as described above.
- b. ***Locations for sampling*** will be decided during construction/maintenance project planning and site walk through. Those locations will be detailed on the MICROBIOLOGY REQUISITION FOR AIR SAMPLES form submitted to EH&S. In general, air sampling is obtained outside the barriers.
- c. ***Outside ambient air sampling*** a sample of the outside ambient air (ER parking lot and/or loading dock) will be collected with each routine sampling as a control for the testing media and device.

d. Timing of sampling:

1. Routine sampling throughout the construction phase in accordance with the recommendations of HEIP.
2. IP may arrange in advance with EH&S the desired testing dates for specific locations when repeat sampling will be needed during a construction project. Such arrangements shall be made in writing to the designated certified industrial hygienist.
3. EH&S desires 48-hour notice to plan accordingly, but will attempt to fulfill every request as reasonably feasible.

e. Submitting Samples:

Each sample or series of samples will be submitted to an environmental laboratory and the completed request/report form returned via e-mail or fax (353-4348) to the HEIP office within three days of the sampling date.

Investigation of the air quality of room(s) of patient(s) diagnosed with or suspected of having a healthcare-associated fungal infection of the lower respiratory tract shall be requested by HEIP in accordance with the internal HEIP SOP for hospital onset invasive fungal infections.

- a. HEIP will notify EH&S of the area(s) to be sampled via MCSS ticket, attaching the “AD-HOC AIR SAMPLING REQUEST FORM.” Sampling shall be scheduled to meet the needs of the specific unit/department involved.
- b. Each sample shall be submitted to the environmental laboratory and the completed “AD-HOC AIR SAMPLING REQUEST FORM” returned via e-mail or fax to the HEIP office within three days of the sampling date.

Sampling Procedure:

1. The involved unit/department(s) shall be notified by EH&S of approximate date/time to expect sampling to occur.
2. Items to be addressed in the “Observations” section of the request/report form by the EH&S staff person include physical condition of the area, amount of traffic, time and weather conditions, open vs. closed windows and doors, etc. Observations should include factors associated with increased risk of the presence of fungal spores such as plants, holes in ceilings or walls, or obviously dusty conditions.
 - a. Sampling with the equipment designated by the IH team will be completed according to the manufacturer’s instructions.
 - b. Unless otherwise specified, all air sampling requests by HEIP will include a particle count of the locations to be sampled as well as the outside ambient air sample for a control.

Equipment for Sampling:

1. Bio-aerosol sampler
2. Handheld particle counter
3. Temperature and relative humidity meter

Reporting of Results:

1. EH&S will report environmental testing results to HEIP via email.
2. Ranges of Acceptability:
 - a. Bio-air sampling results of 0-10 CFU will be considered within the acceptable range.
 - b. Results of greater than 10 CFU will be considered above the acceptable range. Areas with results of greater than 10 CFU shall be sampled again by EH&S and investigated by HEIP for possible sources. EH&S will be notified of the need for repeat sampling via the "AD-HOC AIR SAMPLING REQUEST FORM" as described above.
 - c. Should repeat air sampling again reveal elevated fungal counts, HEIP, EH&S, the Project Manager and/or Facilities Management will investigate for possible sources and determine what, if any, interventions are to be taken. Elevated fungal counts and intervention strategies will be discussed at monthly ICC meetings. .
3. HEIP will maintain a record of historic environmental testing and relevant information collected at the time of sampling.
4. Regular reports, including walk-through assessments/plans, culture results, interventions and written evaluations will be completed by HEIP staff. As appropriate, these reports will be sent to the Infection Prevention Committee, Office of Environment, Health and Safety, or any other pertinent committee/ department.



**HOSPITAL EPIDEMIOLOGY AND
 INFECTION PREVENTION:
 GUIDELINES FOR CONSTRUCTION/RENOVATION/DEMOLITION
 PROJECTS AND ENVIRONMENTAL CONTROL OF ASPERGILLOSIS
 AND OTHER NOSOCOMIAL INFECTIONS**

POLICY 5.1E
Issued: 12/06
Last Approval: 07/22

MICROBIOLOGY REQUISITION FOR AIR SAMPLES
 (one copy for lab; one copy retained by EH&S)

MOP # 1641

If MOP is unknown, please provide the following:		Questions? Please contact:	
Bill-To Department	HEIP		415-502-7361
Budget Account # (ZZ Account #)			415-476-0547
PI or MD 5-Digit Code			

Collection Date		Collection Time	
SF Gate Weather	Temperature	Humidity	
Reason for Request:			

For Laboratory Use Only Order Code: SDES: AIR SREQ: Enter Site Sampled

SAMPLE # – LOCATION & TIME SAMPLED	TEMP (F°) & RELATIVE HUMIDITY (%)	Total Particle Count (>0.3 microns)	NOTES/OBSERVATIONS
1.	/		
2.	/		
3.	/		
4.	/		
5.	/		
6.	/		

FOR PARTICLE COUNTS: Flow rate (L/min): _____ Volume Collected (L)/Sample: _____
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