POLICY STATEMENT	Routine environmental monitoring has proven expensive and of little value. The only routine environmental microbiological assay regimen generally recommended today is for QA purposes such as Type 1 water cultures and Pharmacy sterility checks. All other environmental microbiological assays should be performed only in response to epidemiologic investigations suggesting that environmental or medical-device surfaces may be microbial reservoirs or sources of healthcare associated disease transmission. Microbiological assays may also be helpful in testing the effectiveness of new or modified cleaning and/or disinfecting procedures. Moreover no environmental monitoring should be conducted without prior approval of Infection Prevention and Control and the Microbiology Laboratory.
PURPOSE	This procedure provides technical instruction for the performance of Environmental Cultures.
SCOPE	This procedure applies to testing personnel authorized to perform testing. This group includes, but is not limited to Laboratory Technologists as well as leads and supervisory personnel.
RESPONSIBILITY	All the above personnel are responsible for following the Environmental Cultures procedure without exception. In addition, testing personnel are also responsible for evaluating the results and taking proper remedial action.
RELATED DOCUMENTS	MICR 6335 J Water Cultures.doc

SPECIMEN HANDLING

Culturette swabs are acceptable for certain surfaces where RODAC plates are not appropriate for use.

Moistened swab rinse should be used on nonabsorbent surfaces, corners, crevices, devices or instruments.

1. Moisten the swab in a test tube containing 5 ml. sterile saline by immersing the swab head in the saline and wringing out the excess fluid by pressing and rotating the swab on the inside surface of the tube above the fluid
2. Slowly rotate the moistened swab on the surface while pulling the swab toward you in close parallel streaks.
3. Repeat the swab motion with the same swab in streaks at right angles to the first streaks.
4. Place the swab head in a tube of Trypticase Soy Broth and break the applicator stick below the portion that was handled.
5. Cap the tube and deliver to the Microbiology laboratory expeditiously.

RODAC Plates should be used on previously cleaned and sanitized flat, nonabsorbent surfaces.

1. Press the plate firmly, without circular or linear movement, against a dry surface
2. Use a minimum of 15 plates for an average hospital room
3. Allow plates to come to room temperature before taking samples.
4. Cover the plates and deliver to the Microbiology laboratory expeditiously.

Settling plates should be used for sterility checks from the pharmacy hoods.

1. Trypticase Soy Agar II with 5% Sheep Blood plates are placed in the areas to be tested with the cover removed.
2. After the plates are exposed to the air for 1 - 3 hours (depending on location), the plates are covered and deliver to the Microbiology laboratory expeditiously.

REAGENTS

RODAC plates

Trypticase Soy Agar II with 5% Sheep Blood (BAP)

Other media appropriate for the organisms being investigated.

Store at Media at 2ºC to 8ºC. DO NOT use the beyond the expiration date.

QUALITY CONTROL

Quality control is performed by the manufacturer according to CLSI Guidelines

ORDER

- Pharmacy specimens = Order ENVIR; source TOUCH (Rodac) or SET (BAP); specimen description: all areas (A1 to etc)
- Infection Control specimens = Order ENVIR; source SURF (Surface) specimen description: all areas (A1 to etc)

PROCEDURE

Submitted specimens are test requested under the department submitting the samples.

Moistened Swab Rinse

1. Shake the tube end to end 50 times or vortex for 30 seconds
2. Plant an aliquot of the sample on BAP
3. Streak the plate using the streak plate method - see *MICR 6140 R Specimen Processing*
4. Incubate the plate at 35°C.
5. Examine the plates at 24 and 48 hours.
6. Identify the colonies to the level as appropriate.

RODAC and Settling Plates

1. Plates are incubated at 35ºC
2. Examine the plates at 24 and 48 hours.
3. Report the number of colonies seen using the comment “COL” = [#] COLONIES OF GROWTH
4. If more than 25 colonies are growing report >25

REPORTING

In Meditech enter the number of colonies seen or the organism growing.

REFERENCE

Garcia, L. Clinical Microbiology Procedure Handbook. 3nd Edition, Volume 3, American Society for Microbiology, Washington, D.C.

- Section 13 .10, Microbiological Assay of Environmental and Medical-Device Surfaces
- Section 14.4 Preparation and Quality Control for Laboratory Water

TYPE 1 WATER TESTING – BACTERIAL COUNT

ORDER

- Chemistry water = Order ENVIR; source WATER; specimen description: collection location on label
- Histology water = Order ENVIR; source WATER; specimen description: WATER

PROCEDURE

1. Flush the system by allowing water to flow for 1 minute
2. Collect a minimum of 10 ml of water in a sterile container
3. Process the sample within 1 hour or 6 hours if stored 2ºC to 8ºC
4. Melt 15 ml (3 small tubes) of TSA (trypticase soy agar)
5. Cool to 46-50°C. Do not let agar solidify.
6. Label a sterile empty petri plate
7. Vortex the water sample or invert it multiple times to mix
8. Use a sterile syringe to transfer 1 ml of the water sample to a sterile petri dish
9. Pour the molten agar into the plate and mix by careful rotation
10. After the agar has solidified, invert the petri plate
11. Incubate at 35°C for 24 hours
12. Incubate an additional 24 hours at 20° to 26°C (room temperature)

REPORTING

1. Count the number of colonies each day
2. Enter the number of colonies in Meditech - Enter Results
3. The acceptable bacterial count for type 1 water is ≤10 CFU/ml. If the bacterial count exceeds the acceptable range of 10 CFU/ml, immediately notify:
    - Chemistry Lead Technologist or Medical Technologist II
    - Histology Lead Technician or Manager.