

EXERCISE # 4

DISTRIBUTION OF MICROORGANISMS IN THE ENVIRONMENT

Objectives:

Upon completion of this exercise, the student will be able to:

1. Explain the importance of aseptic technique.
2. Define a colony and explain colonial morphology.

Discussion:

Microorganisms are present throughout your environment including in and on your body; therefore, it is important to use aseptic technique when working with microorganisms in the laboratory. In future exercises the proper use of aseptic technique when transferring organisms will be demonstrated. This exercise is designed to demonstrate the presence of microorganisms in a variety of selected environments.

Procedure:

1. Each student will take one nutrient agar plate and one malt agar plate and expose **both** plates, as demonstrated by the laboratory instructor, to **one** of the environments listed below:
 - a. bench top, chair, floor, sink, etc. - using a sterile swab moistened with sterile saline.
 - b. the body (skin surface, tongue, gum, teeth, etc.) - using a sterile swab moistened with sterile saline.
 - c. the air (lab, outdoors, bathroom, stockroom, etc) - leave plates open in the environment for 20 minutes.
2. Invert all plates, label properly and incubate as instructed. Next lab period, these plates will be examined for types of colonial growth.
3. Observe the demo's of different types of colonial morphology (yeast, bacteria, molds, size, color, consistency, etc)

Questions:

1. How does the microbial population on the nutrient agar differ from that seen on the malt agar? Why?
2. In view of the results of this exercise, explain the importance of aseptic technique.
3. What temperature is room temperature?
4. Define: a colony, a mycelium