

Germicides: Antiseptics and Disinfectants

Review disk diffusion tests.

Antiseptics – primarily used on living tissue

Disinfectants – primarily used on inanimate objects and surfaces

Sometimes they can be used interchangeably. (e.g. isopropyl alcohol, hydrogen peroxide)

Agar plates were covered with bacteria using swabs.

Paper disks were dipped in different chemicals (70% isopropyl alcohol, H₂O₂, betadine, dilute bleach, Amphyl (Lysol), Listerine).

Factors affecting diffusion of chemicals thru agar:

1. Neutralization – agar is organic matter that can bind to the chemical neutralizing it
2. Dilution – agar is mostly water which may dilute the chemical below its effective concentration.
3. Diffusion – large molecules diffuse more slowly or maybe not at all thru the agar

The results of disk diffusion disinfectants and antiseptics using agar may not appear to be very good. In other words, the different germicides may appear to be less effective than they really are because of the problems listed above. Hydrogen peroxide (3%) is always the best.

This picture is meant to illustrate the concept. These are not results from our experiment.

