

Erika Baker

Senior Division Microbiology

Eye Can't See Clearly Now! A Comparison Study Of Contact Types With E. coli And S. epidermidis

The purpose of this project was to determine if particular types of contact lenses, colored, disposable or hard promote the growth of Escherichia coli k12 and Staphylococcus epidermidis on the eye. For the procedure, the researcher poured 64 agar plates. Stock cultures of E. coli and S. epidermidis were made. Then each contact type was placed into broth tubes that contained the stock cultures. They were incubated for 24 hours. The researcher then conducted serial dilutions from 10⁻¹ to 10⁻⁸ of each contact type with each type of bacteria. This was done by placing saline solution into round bottom tubes. Then .1 ml of the stock culture with contacts was added to the 10⁻¹ tube, .1 ml of that was added to the next tube and so on. These 64 tubes were incubated for 24 hours. The researcher then plated each solution onto the agar plates and allowed them to incubate. Colonies were counted on each plate using a colony counter. The data shows that the hard contact lenses grew the most bacteria with an average of 4498 colonies of E. coli and 2339 colonies of S. epidermidis. Following in second was the colored contacts. They had an average of 45 E. coli colonies and 250 S. epidermidis colonies. The contact type that promoted the least amount of bacterial colonies was the disposable contacts. They had an average of 20 E. coli colonies and 80 S. epidermidis colonies. The researcher's hypothesis was rejected. If used properly the researcher would recommend disposable contact lenses based on this research.