The Effect of Different Types of Masks on the Amount of Bacteria Spread

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Throughout this experiment, four different types of face masks were tested to see how much bacteria is spread while wearing them (N95, Kn95, blue surgical mask, cloth mask and no mask as the control group) . The purpose of this experiment was to reveal the difference of efficiency between more quality masks with more layers and filters and masks with less layers and a non filtrable material. The hypothesis was that if the mask has more layers of fabric it will spread less bacteria when used because the more layers, the more filtration the bacteria has to go through. To test this theory, the different types of masks were worn while coughing directly onto a panel of plexiglass. The plexiglass was then swabbed and put into a petri dish and grown. After 4 days of incubation, the amount of bacteria colonies and qualitative features such as relative size and color were measured. Based on the data, it was shown that the cloth cotton mask produced the most amount of bacteria colonies and the N95 mask had the least. The masks that performed best are made of a multi layered polypropylene filter material that was fitted to the face and allowed the least amount of bacteria to be released. Thus, based on the conclusions drawn from the data, the experiment's result coincides with the initial hypothesis and proves the effectiveness of different types of masks.