The Effectiveness of Antibiotics

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The purpose of this experiment was to determine which antibiotic was the most effective at killing and inhibiting both gram positive and gram negative bacteria. This is an interesting question for me because I have a Primary Immune Deficiency, and I take prophylactic antibiotics daily. The question of effectiveness is also valuable as bacteria resistant to antibiotics are becoming prevalent. My Hypothesis was that Chloramphenicol would be the most effective antibiotic at killing and inhibiting bacteria overall because it is a very potent broad spectrum antibiotic. Procedures performed to test my Hypothesis included obtaining both gram positive and gram negative bacteria and then testing eight different antibiotics on each bacteria to observe effectiveness. For ten days I recorded bacteria growth and measured the area that any antibiotic tested was effective at killing or inhibiting its growth. I recorded the measurements daily in a digital observations table. The results of measuring the diameter of the area of antibiotic effectiveness proved that different antibiotics are effective on different bacteria. While Chloramphenicol was overall the most effective when considering both gram positive and gram negative bacteria, it was not the most effective on the individual strains of bacteria. This result shows that testing the effectiveness in a laboratory setting can be valuable when prescribing antibiotics.