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September 2021

## Why can bacteria be harmful one day but deadly the next?

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### Citation of this paper:

Diamond, Jaclyn, "Why can bacteria be harmful one day but deadly the next?" (2021). *Inspiring Minds – Showcasing Western’s Graduate Research, Scholarship and Creative Activity*. 83.

<https://ir.lib.uwo.ca/inspiringminds/83>

## **Why can bacteria be harmless one day but deadly the next?**

By: Jaclyn Diamond

Under supervision by: Dr. David E. Heinrichs

Most of the time when someone gets a cut, they will put a bandage on it and wait for it to heal with no complications. Sometimes that cut may get infected, but a little bit of antibiotic ointment will clear it up easily. In the worst of cases, instead of the infection clearing up, it will enter your body and cause a potentially fatal bacterial infection. I study the bacteria commonly known as “staph” but known to scientists as *Staphylococcus aureus*. Around 1/3 of the world’s population have *S. aureus* living naturally on their skin doing no harm until it sees an opportunity. My research aims to understand why sometimes *S. aureus* will cause no issue, but other times lead to fatal infections. The hope is that the more we understand the conditions leading to such deadly infections, the better we will be able to prevent and treat these diseases.