Abstract: Cellulitis is a bacterial infection of the skin that is often preceded by a tear in the skin. In the majority of cases it is easily treated with antibiotics. Although not uncommon, many individuals are not aware of this type of infection. This paper details a case study regarding one individual’s experience with the infection and their process of seeking treatment. The purpose of the writing of this assignment is to fulfill course requirements for BBH 411W and to stand as a personal writing sample, but the findings should not be treated as generalizable research.
**Summary of Medical Condition**

The medical condition *cellulitis* is an infection of the skin; often as a result from bacteria entering a cut or a wound. The most common cellulitis-causing bacteria is *Staphylococcus aureus*\(^1\). The condition is first recognized by a mal appearance of the skin such as redness, swelling that can appear as hard lumps, a sensation of burning or heat and increased sensitivity. In some cases the infection can lead to the secretion of white or yellow pus, most commonly occurring in cases that go untreated\(^1\). There are various means to how an individual becomes infected with bacteria in the tissues of skin, among the common methods include unsanitary surgical procedures, exposed wounds, and chronic eczema\(^2\). The physical symptoms arise as the body attempts to fight against the bacteria from growing. For example, the swelling is usually due to an increased influx of fluid and the feeling of warmth is to prevent the bacteria from a favorable growing environment.

Although the general population is at risk for cellulitis anytime a cut or wound is exposed to the environment, there are certain risk factors that are suggested to increase one’s chance of developing the infection. Skin abnormalities such as eczema or a rash from another medical condition, diabetes, decreased blood circulation, and liver disease are said to increase the chance for developing cellulitis. All of these risk factors in some form suppress the individual’s ability to fight infection or provide an easier route for the bacteria to enter and infect the skin. A case-control study conducted in France suggests that personal characteristics such as being overweight and high levels of alcohol use are potential risk factors. The study also found that lymphedema, caused by damage to a lymphatic tissue, was one of the highest risk factors\(^3\). A case study

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1 Normandin, Bree, Kim, Steve M.D. “Cellulitis” *Healthline*. 2016 January 27
conducted of late found that recent visits to the hospital with open wounds or cuts put the individual at an increased risk. The common bacteria, *Staphylococcus aureus*, is often transferred throughout hospitals and unfortunately infects many patients.\(^4\)

**Case Study**

Mila Carry* (name changed for confidentiality) is a 21 year old female. She recently went on vacation with friends that involved camping and the opportunity to interact with people from all over the world. During the trip she received several bug bites on her legs, causing her to scratch profusely over the course of a week. Upon returning from the trip, she noticed the scratching had led to small cuts in the area of the bites. A week after returning home she noticed the skin around the bite had increasingly become red and swollen. After a day or so, the areas began to feel warm and she was in moderate discomfort. She made an appointment with a general physician and after results from a blood sample, her diagnosis was confirmed: she had cellulitis. The blood test can confirm a high white blood cell count that would indicate a possible bacterial infection. The individual had never had cellulitis before and did not have any of the suggested risk factors like diabetes, long-term circulation issues or being overweight. Mila had recently been diagnosed with a kidney infection (within the last month) that put her on antibiotics for around 5 days.

A blood test can confirm the diagnosis of cellulitis by testing positive for either *Staphylococcus* or *Streptococcus* bacteria. This diagnosis comes after initial signs of cellulitis like skin redness and swelling at the site of a bite. After a blood test confirmed her diagnosis, Mila was prescribed an antibiotic that she was instructed to take for 5 days. She was told to make sure to keep the area clean and avoid scratching the area of the bites as to not expose the cuts to further bacteria. It was also important that she not consume alcohol during the antibiotics, as it

would make the drugs ineffective. After one week, the discomfort had decreased greatly and the area showed decreased swelling and redness. Once the antibiotic pack had been completed it took about another week for her legs to appear mostly clear of the cellulitis. The antibiotics are usually the main treatment plan for cellulitis and are considered to be effective\(^5\). The earlier the cellulitis is treated the better the antibiotic will be at targeting the infection and decreasing symptoms. An acute infection of cellulitis is not suggested to cause long-term negative health outcomes.

The physician hypothesized that the infection was caused by scratching of bug bites that were present on the leg. The scratching caused exposure of internal tissue of the skin to the outside environment. Mila’s travels and interaction with the public increased her risk of contracting \textit{Staphylococcus aureus}, as it often circulates in large groups of people. In the future Mila should attempt not to scratch bug bites in order to avoid breakage of the skin. In the case the skin experiences a tear, it is important to keep the skin clean and covered so that pathogens are prevented entry\(^6\).

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\(^6\) Mason, James et. al. “Prophylactic antibiotics to prevent cellulitis of the leg” \textit{PLOS Journals}. 14 February 2014.