Cellulitis is a bacterial infection of the dermis and subcutaneous tissue layers of the skin. It is an acute infection that is often originates from an infected wound can lead to serious illness. It is not a reportable disease, but it is a relatively common infection. Cellulitis is not a contagious infection because it affects the deeper layers of the skin. The epidermal layer acts as a barrier and prevents contagions. Cellulitis at a microscopic level features dermal edema, lymphatic dilation and diffusion, and heavy neutrophil infiltration around the blood vessels. One can get the infection through a break in the cutaneous barrier of the skin. Such breaks include fungal foot infections, ulcers, venous leg ulcers, and toe web space barriers. When not caused by a wound or a catheter cellulitis is most commonly occurs on the legs and feet, but can develop anywhere on the body. Cellulitis is more common on the legs because of the association with blood circulation and infection. The elderly and those with lowered immune systems are at more of a risk for cellulitis. Diabetics are also more at risk because of their weakened immune system. There can also be genetic factors in susceptibility to the infection. The condition that makes an individual more susceptible to cellulitis can be passed down. There are over 200,000 cases per year in the United States alone. It can be very serious in different areas of the body, such as the eye which is called periorbital cellulitis. This form of infection requires quick treatment because the infection can be spread through the eye socket to the brain. There are other influences on the skin such as low temperatures and low surface PH levels which can help reduce the colonization of the pathogenic organisms which can result in cellulitis. A complication that accompanies cellulitis is an abscess, which is a collection of pus that has built up within the tissue of the skin.

There are many types of bacteria that can cause cellulitis, however it is very difficult to gather culturing samples of the infected cell tissue. Cultures performed with needle aspiration will usually yield negative results, as well as biopsy examination. When the results are positive, the concentration of bacteria is still very low. There are multiple possible reasons for the lack of results. One solution is that there is a very small number of bacteria responsible for the cellulitis reaction. Another reason could be that the body’s immune system acts so quickly before the host individual is at treatment facility, the number of viable bacteria has been brought to a very low amount or has been completely. In healthy adults cellulitis is most commonly caused by streptococci (*Streptococcus pyogenes*) and *Staphylococcus aureus*. These are the two most agreed upon causes, however with the difficulty of culturing there are several studies that demonstrate conflicting evidence in regards to the causative organisms. Some bacteria’s that can also cause cellulitis include paturella multocida, which can be attained through a dog or cat bite. There can also be infection after a break in the skin caused by a saltwater fish or shellfish as a result from the bacteria Erysipelothrix rhusiopathiae. The bacteria that frequently causes periorbital cellulitis is *Haemophilus influenza*. It is also the bacteria that commonly causes cellulitis in children younger than three.

The symptoms for cellulitis on the affected skin is typically swollen, red and painful to the touch. Erythema is a key symptom and there is also warmth in the affected area is significant in comparison the surrounding skin. Others signs of cellulitis include enlarged lymph nodes near the area of infection as well as fever and general sickness. Blood pressure can be lowered if the bacteria enters that blood stream, but this only is severe infections. This can lead to abnormal heart valve issues and an immune system weakness. The signs for cellulitis a doctor looks for during his diagnosis are easily spotted. The patient’s recent medical history and their symptoms alongside their physical examination is typically enough for diagnosis of cellulitis. Doctors are not able to specify the specific bacteria that caused the infection through the basic examination. A biopsy is not necessary because an antibiotic can be prescribed to treat the most common causal bacteria’s. A blood sample is not always taken for cellulitis, but it is recommended by the Infectious Disease Society of America. They recommend tests for blood cultures, levels of creatinine, bicarbonate, creatine phosphokinase and c-reactive protein. The expected duration of a case of cellulitis is dependent on the extent to which the tissue has been infected. Within a couple of days cellulitis can form serious complications in the body if not treated. Once an antibiotic has been taken cellulitis will typically go improve quickly within a couple of days.

The antibiotics that will likely be prescribed to someone with cellulitis include dicloxacillin, amoxicillin, and cephalexin. These are the most commonly prescribed antibiotics. When there are outstanding circumstances that require other alternatives, cefazolin, cefuroxime, ceftriaxone, nafcillin and oxacillin may be prescribed depending on the patient’s recent medical history and their physical examination. Depending on the case, drainage may be required in order to ensure the infected tissue is effectively cleared. The prognosis for cellulitis is generally good, but the main issue is that it can be recurring. Recurrence is more of a concern in those with poor circulation and swelling of the legs. Cellulitis can be a recurring infection because of the nature of its infection. If individual has preexisting conditions that puts them at a greater risk of infection such as eczema, athlete’s foot, reopened wounds and unhealed incisions. Humans are not the only animals that are able to be infected by cellulitis. Horses are able to acquire it usually through a secondary wound. An antibiotic is supplied to the horse just as it is for humans. In conclusion, Cellulitis is a bacterial infection that should be addresses quickly in order to avoid any major complications, and if properly attended to will not lead to serious long lasting problems.