

Kevin Gonzalez  
#33782137  
ENGL301 – Assignment 1:3  
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This assignment is centered around the importance and role of definition in technical writing. The objective is to write a definition of a term used within our field of study three different ways: parenthetical, sentence, and expanded. As we write these definitions, we must consider the audience and situation we are presenting to and as such, our goal is to differentiate between these three levels of definition and select the right level of detail based on the situation.

*Situation and audience:* A poster presentation directed towards high school students in Biology class.

**Parenthetical definition:**

There was inflammation (redness, heat, swelling, and pain) in the area around the student's ear when he had an ear infection.

**Sentence definition:**

Inflammation is the body's response to damaged tissues caused by physical or chemical stimulus entering body. Inflammation is characterized by redness, heat, swelling, and pain in the affected area.

**Expanded Definition:**

*What is inflammation?*

Inflammation is the body's response to damaged tissues caused by physical or chemical stimulus. For example, when someone falls and scrapes his or her knee, bacteria may enter the wound and cause inflammation (redness, heat, swelling, and pain) around the area.

It is important to note that inflammation does not cause illness or disease but rather, it is an indicator that your body is working towards eliminating what may cause illness. In the example presented, when bacteria enter the wound (an infection), inflammation occurs as a response to eliminate the bacteria.

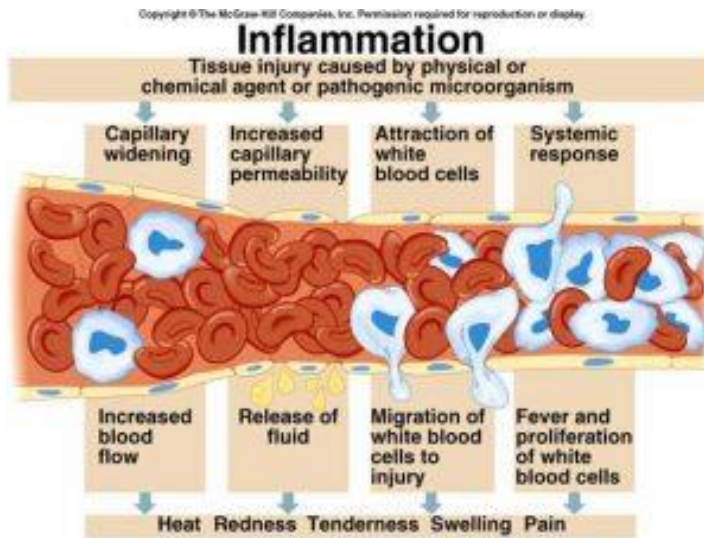
*How does inflammation work?*

Inflammation can be described in four major steps. First, using the knee scrape example from above, germs (like bacteria) enter the wound and are recognized by a macrophage, a type of immune cell that eats the bacteria to destroy it and produce chemicals to signal other immune cells (neutrophils, monocytes and more macrophages) that there is a foreign object in the body. Next, these signaling chemicals, specifically histamine, causes blood vessels to widen which increase blood flow to the area causing the redness and heat associated with inflammation but

allows for more immune cells flow towards the area to eliminate the bacteria. Also, these signaling chemicals increases the accessibility of these cells to go from the blood into the tissue where the scrape occurred. This causes fluid to enter the tissue which causes the pain and swelling of inflammation.

Thirdly, large numbers of immune cells have arrived at the injury site as a result from increased blood flow and accessibility to tissues. These immune cells will destroy the bacteria by ingesting them (phagocytosis), assisting the macrophages there. As these cells take up the bacteria, they release destructive chemicals that break down the bacteria into smaller fragments to be digested. Lastly, more chemicals are released from these immune cells to help repair the injury site, forming scabs to prevent bacteria from entering and stop bacteria in the wound from moving freely.

Similarly, the inflammatory response to a chemical stimulus like a toxin (poison) is largely the same from start to finish. The main difference is when a toxin enters the body, it attaches to healthy cells where macrophages can recognize them as a foreign object and can work towards eliminating the toxin at the expense of healthy cells. This can be troublesome if the toxin is too potent or enters the body in large quantities, but most toxins are eliminated with little damage to the person.



**Figure 1.** General flowchart outlining the major steps of inflammation featured in a post by Dart (2012) “20 Ways to Fight Inflammation”, designed by The McGraw-Hill Companies, Inc.

*What is the spectrum of inflammation?*

Inflammation is categorized into acute or chronic inflammation. Acute inflammation causes little damage to the affected area, short-term (several days) and is the first response to stimuli. Chronic inflammation is long in duration (over several weeks and months), often causing significant tissue destruction and is accompanied by persistent illness. Some diseases that are associated with chronic inflammation include rheumatoid arthritis (permanently inflamed joints) and psoriasis (chronic skin disease).

*How can inflammation be treated?*

Acute inflammation can last several days; however, shorter recovery time and lasting relief can be achieved through rest, ice, elevation (to reduce swelling), and bandages. Those with chronic inflammation from an illness may choose to use a combination of over the counter anti-inflammatory drugs such as Advil or Tylenol or prescribed drugs such as corticosteroids. While these drugs do not clear up chronic inflammation entirely, they may provide pain relief and reduce swelling and redness.

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