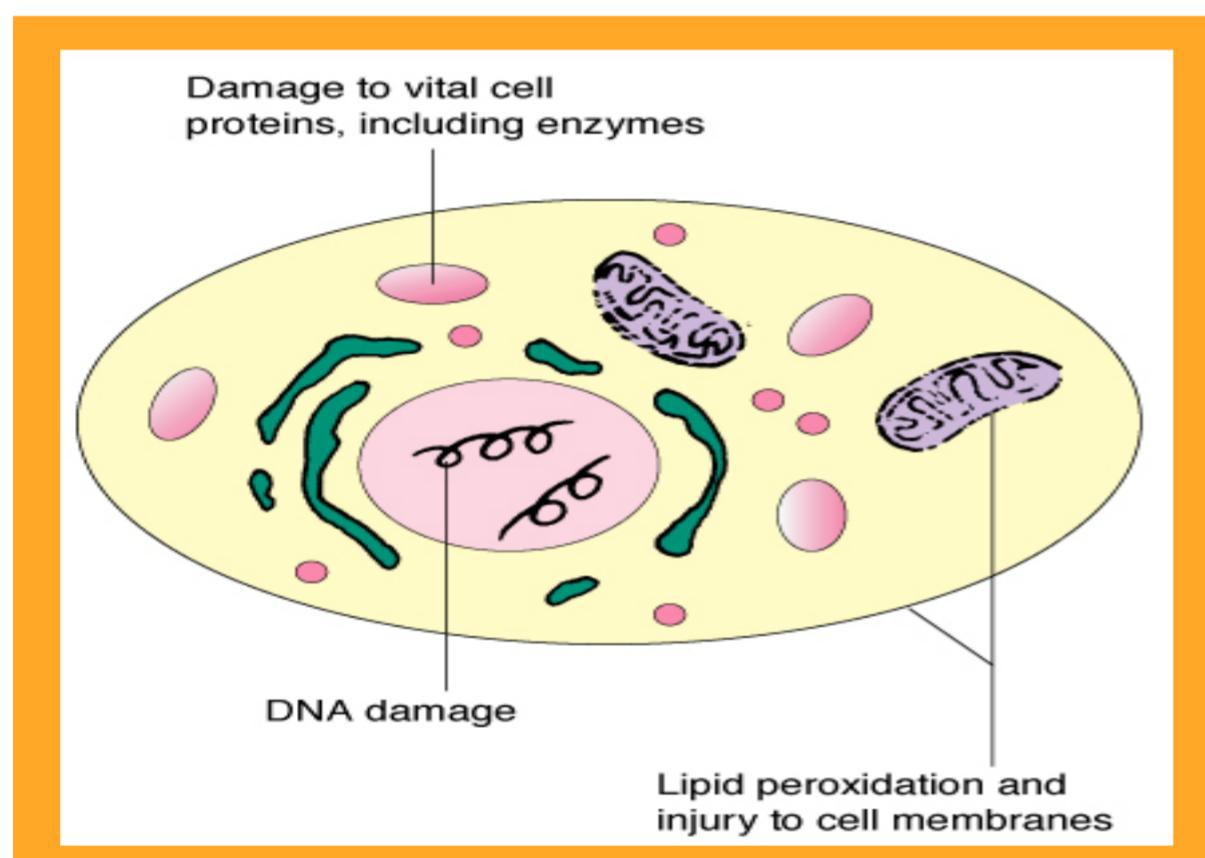
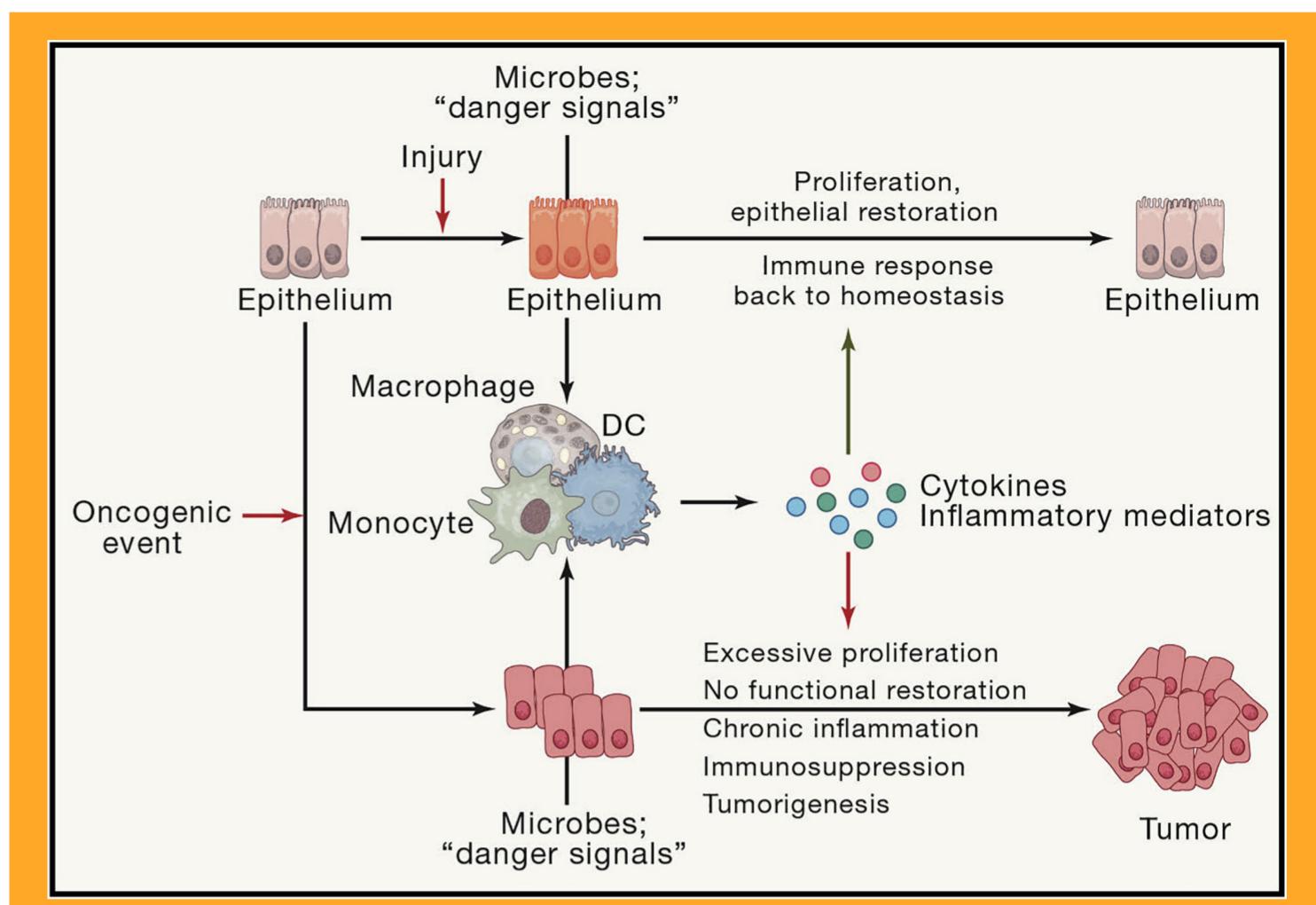


Do you want to upgrade your health habits?

Did You Know?

Inflammation, while a powerful response to acute injury, also serves to facilitate tumor growth resulting from an oncogenic event. Damage to epithelial tissue comes in the form of injury or infection and is met by the activation of myeloid cells, which release cytokines that cause inflammation. This inflammation serves to close any openings in the barrier of the epithelium, allowing for any infecting pathogens to be moved as well as sealing open injuries. After the threat is dealt with, the epithelial tissue returns to homeostasis and the sterilizing immunity generated by cytokines ceases the proliferation of new cells. Unlike injury or infection, a cancerous cell is not targeted by the sterilizing immunity, resulting in the additional crowding and cell proliferation produced by chronic inflammation directly facilitating tumor growth in epithelial cells.



This figure depicts the various cell-scale effects that oxidative stress can have on the body. The polydesaturated lipids present in the cell membrane of both the mitochondria and the cell itself are subject to degradation under oxidative stress. Additionally, protein damage in the form of DNA destruction and enzyme denaturation occurs.

Anyone who has ever pursued a healthy diet has heard of the many health benefits of antioxidants. Present in known superfoods like spinach, broccoli, and carrots, antioxidants reduce oxidative stress by correcting the balance of oxygen reactive compounds found in a cell. Oxidation of a compound, or the loss of an electron, causes a free radical to be created. This electron can then join onto another oxygen reactive compound nearby and cause a chain reaction, leading to erosion of the cell membrane. The cell is under oxidative stress when there is an imbalance in oxygen reactive compounds and this state makes it prone to membrane degradation. This imbalance means free radicals will have a greater density of oxygen reactive compounds to react with. Antioxidants are able to bond with free radicals, preventing them from further reacting.

