

New connective tissue

[Science](#), [Biology](#)



The leucocytes involved in the inflammatory response are basophils, eosinophils, neutrophils and macrophages along with tissue cells called mast cell. The damaged tissues release chemicals like histamine, kinins, and prostaglandins that cause widening of blood vessels and an increase in blood flow to the site of injury. These chemicals initiate the white blood cells or leukocytes to migrate to the injured site that is known as chemotaxis.

The inflammatory response can be triggered by exogenous or endogenous agents like complement found in the plasma helps in releasing bradykinin and fibrinopeptides that helps antibodies to fight against the foreign substances.

Two types of white blood cells are visible near the injured site, neutrophils are first found that help in avoiding the harmful bacteria from spreading while macrophages are seen later to help to clear the damaged area of bacteria or dead cells thereby generating new tissue that resides until the injury is healed completely.

Tissue healing has various stages:

Macrophages tend to make way for new tissues and fibroblasts that are the collagen-producing cells are seen at a later stage near the injured site constructing a collagen matrix.

Angiogenesis which is a process of bringing blood flow to the region of injury by emerging new capillaries that helps in regrowth of tissue easier.

Proliferation takes up to four weeks or more depending on the severity of the injury, in cases of severe injury the area affected may compose of specific tissue cells and other tissue known as granulation tissue which forms the

scar tissue if not removed thereby decreasing the functional ability of tissue. The new cells spread in the injured area try to produce a functioning tissue that might take months or years to develop with proper functioning. Stretching is helpful in strengthening the new tissue during remodeling.

Organelles are bodies present in the cytoplasm that tend to serve various metabolic activities within the cells while lysosomes are sac-like compartments that contain several enzymes helpful in breaking down harmful cell products, waste materials, cell debris, and foreign substances in a phagocytic cell example macrophages and neutrophils.

Stroma is the supporting framework of an organ composed of connective tissue cells of an organ that support the functioning of parenchymal cells of those organ example fibroblasts, immune cells while parenchyma is functional parts of the organ in the body.

Antigen-presenting cells (APC) are white blood cells that fight against the foreign substances that enter the body through injury by sending signals to T-cells. Three types of antigen-presenting cells are Dendritic, macrophages and B cells.

Prolotherapy is a non-surgical process involved in regrowth of new ligament tissue helpful in treating chronic pain where the term "prolo" means proliferation or growth. The physician induces dextrose solution into the ligament or tendon that causes inflammation in the weak areas thus increasing blood flow and supply of nutrients to the injured area thereby repairing the tissue.