

energy and oxygen will speed up cleaning and repair.-More blood arrives to speed cleanup and repair-Swelling occurs, causing pain by pressing against nearby nerves

Acquired Line of defense- response to infection or vaccination

3. Lymphocytes- B Lymphocytes and T lymphocytes concentrated in spleen and lymph nodes. circulate through circulatory system and lymphatic system. Respond to antibodies. Both are produced in the bone marrow but mature in different areas.
 - B Lymphocytes- Produced in the bone marrow. Mature in the bone marrow. They produce antibodies to attach to the antigens and destroy them. Mostly respond to smaller bacteria. clones itself to provide long term immunity
 - T lymphocytes- produced in the Bone marrow, mature in the thymus. DO NOT produce antibodies, but attack the cell directly. will respond to cancer cells.

3 types T Lymphocytes

1. memory cells- stocks up for future immunity
2. cytotoxic cells-attack and kill body cells that have become infected with a pathogen. Directly kill infected host cell
3. Helper T Cells -secrete a substance that enhances humoral immunity (B cells) and cell-mediated immunity (T cells). HIV targets helper T cells

Passive immunity- short term- the passing of immunity in the form of ready made antibodies not made in the body already.

examples

natural- breast milk- antibodies passed to child

artificial- immunotherapy- inserting healthy cells into the body.

An overactive immune response against tissues and substances normally present in the body leads to these

rheumatoid arthritis- attacks the lining of the joints throughout the body and causes chronic inflammation.

diabetes type I- the immune system attacks the cells that make insulin to control blood sugar.

Active Immunity- learning and reacting self-developed by exposure to antigen and production of B and T cells

•Long term

Natural- primary immune response

Artificial- vaccines

allergy-hypersensitivity of the immune system acquired, predictable and rapid.