

### Components (Parts)

First line of defense “keep invaders out”

- Skin, saliva, mucous, tears, sweat, stomach acid

Second Line of Defense=Inflammatory response

- Histamines, Interferon(chemical product ‘that helps defeat viruses)
- White blood cells-phagocytes- Engulf unwanted cells, macrophage- large phagocytes (killers)

Third Immune Response

Immune system response to antigens,

B-cells produce antibodies, T-cells kill

### Major Types of Immunity

- Non Specific Defense
  - Barriers to invasion
  - Inflammatory response
  - Macrophages (giant white blood cells -gobblers)
  - Interferon
- Specific Defense
  - Recognition of self (what belongs in body)
  - Recognition of foreign materials
  - Specific antibodies ID specific antigens

Passive Immunity: Antibodies move by mother given to baby in milk, anti-venom

Active Immunity: Your own immune system makes its own antibodies (vaccination)

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## Immune System

Causes of Disease/ Illness

And Strategies for Preventions

Most illness or disease is caused by bacteria or viruses or parasites from the protist, fungal, animal kingdoms

Cook food properly to destroy pathogens (undercooked – raw food is not good for you)

Wash hands. Most illness is spread by contact with hands

Water treatment to provide safe, clean water (many illnesses are water-borne)

Pathogens- organisms/viruses that cause disease or illness when they infect body

Vaccines and Antibiotics

Vaccines- activate antibody production against pathogens by exposing immune system to weakened/destroyed pathogen

Antibiotics- chemicals that kill/destroy invasive organisms (normally used against bacteria)

-Normally work by interfering with bacterial cell wall formation thus killing bacteria

Antivirals- substances that prevent spread of viral infections