

Aids to Health

- **Immunity**
- Ability of the body to fight infectious agents
- On the basis of the immunity possessed by the body, immunity can be innate immunity and acquired immunity.
 - **Innate immunity** is a non-specific type of defence mechanism.
 - It has four types of barriers –
 - **Physical barrier:** Example, skin covering of the body, secretion of mucous in the respiratory tract
 - **Physiological barrier:** Example, acid in the stomach, tears from the eyes
 - **Cellular barrier:** Example, monocytes and lymphocytes in blood
 - **Cytokine barrier:** Example, interferon
 - **Acquired immunity** is a specific type of defence mechanism. It shows two types of responses: primary response and secondary response.
 - **It involves two types of lymphocytes –**
 - **B lymphocytes:** Show humoral immune response
 - **T lymphocytes:** Show cell mediated immunity (CMI)
- On the basis of production of antibodies, immunity can be further categorised as –
 - **Active immunity:** Body produces its own antibodies against antigens

- **Passive immunity:** Readymade antibody is transferred from one individual to another
 - Colostrum (contains antibodies IgA) is an example of passive immunity provided by the mother to her child.
- **Vaccination:** It is the protection of the body from communicable diseases by administration of agents (called vaccines) that mimic the microbes. Vaccines are available against tetanus, polio, etc.
- **Antibodies:** Special, proteinous chemicals produced by B-lymphocytes present in our blood, in response to the entry of any foreign pathogen on our body.
- **Immunity** is the ability of an organism to resist an attack of pathogen.
- Immunity is of two types – innate (inborn due to genetic makeup) and acquired (acquired during life time).
- Acquired immunity is of two types – active and passive.
- **Active immunity**
 - Resistance is developed due to a previous infection. Person's immune system synthesizes antibodies.
 - Two types – Natural and artificial
 - Natural is conferred when a person suffers and survives from a disease and artificial is conferred by vaccination.
- **Passive immunity**
 - Resistance is provided by inculcating the individual with ready made antibodies.
 - Two types – Natural and artificial
 - **Natural** – Through mother blood to foetus
 - **Artificial** – Through antiserum obtained from animals blood.

- Body's local defence system included skin, nose, eyes, mouth, HCl in stomach.
- Vaccine – inoculation of dead, weakened or small doses of virulent germs to invoke immune system of body.
- **External health aids**
- **Antiseptic** – Chemicals applied locally to destroy germs eg. – Lysol, iodine benzoic acid.
- **Disinfectants** – Strong chemicals to destroy microbes on floors, instruments, etc eg. – phenyl, DDT, etc.
- **Sterilization** – Process of eliminating all the microbes from equipment using chemicals, heat or radiations.
- **Antibiotics**
- Some bacteria or fungi inhibits the growth of other microbes and are used as medicines to fight disease causing microbes.
- Eg. – Mould *Penicillium notatum* in penicillin acts against bacterium *Staphylococcus*.
- **Chemotherapy** - A kind of treatment that uses chemical substances to cure a disease.