

IMMUNIZATION & TYPES OF IMMUNIZATION
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- **TYPES OF IMMUNITY**
- **Natural Immunity!!!** (Ex. Infection)
- Animals gain immunity against infectious diseases in natural conditions
- **Artificial Immunity!!!** (Ex. Vaccination)
- Strategy of pre-immunizing of animals against potential pathogens
- **Active Immunity** The immune system of animals actively work to produce an immune system (Ex. Infection in natural active immunity; Vaccination in Artificial active immunity)
- **Passive Immunity** Protection for a short period could be achieved by the transfer of immunity elements (antibodies!) produced in different animals to susceptible animals (Ex. Hyperimmune serums in Artificial passive immunity; Colostrum in natural passive immunity)

VACCINES AND ACTIVE IMMUNIZATION

- Discussion of Definitions of The Terms with Students:
- Primer Immune Response
- Seconder Immune Response
- Protective Antigen
- Herd Immunity and its Role in Prophylaxis
- Characteristics of an Ideal Vaccine

An ideal vaccine;

- Should produce long lasting immune protection
- Should active both humoral and cellular immune response for a better and a strong protection
- Should have a long shelf life
- Should be inexpensive regarding production costs
- Should not have any side-effects
- Should produce memory T and B lymphocytes
- Should produce the appropriate type of immunity against the pathogen in discussion
- Should contain the protective antigen/s required for effective protection
- Should be produced from the related strains of the country

- There are two ways to immunize animals against infectious diseases:
- **Passive immunization**
- **Active immunization**