

# SAFALTA CLASS<sup>TM</sup>

An Initiative by **अमरउजाला**

## DISEASE:

A disorder of structure or function in a human, animal especially one that produces specific symptoms or that affects a specific location and is not simply a direct result of physical injury.

## TYPES OF DISEASE:

1. INFECTIOUS DISEASE (COMMUNICABLE DISEASE/ CONTAGIOUS DISEASE): Infectious diseases are disorders caused by organisms — such as bacteria, viruses, fungi or parasites.

2. NON INFECTIOUS DISEASE (NON COMMUNICABLE DISEASE/NON CONTAGIOUS DISEASE): A disease that is not contagious is called a noninfectious disease. These diseases are not caused by pathogens.

3. GENETIC DISEASE: A genetic disorder is a health problem caused by one or more abnormalities in the genome.

NAME OF DISEASE	CAUSED BY	INFECTED ORGAN	TRANSMITTED BY	TYPE OF VACCINE
INFLUENZA	MYXOVIRUS, A RNA VIRUS	Respiratory passages: epithelial lining of trachea and bronchi.	DROPLET	KILLED VIRUS
COMMON COLD	Large variety of viruses, commonly rhino-virus (RNA Virus)	RESPIRATORY TRACT	DROPLET	Intramuscular injection.
SMALL POX	Variola zoster (a DNA virus)	Respiratory passages, then skin	Droplet Infection (Wounds in skin)	Living attenuated virus applied
CHICKEN POX	Varicella zoster	Blistering Skin rash	Air-borne droplets	Living attenuated virus
MUMPS	A PARAMYXO VIRUS (RNA VIRUS)	PAROTID GLAND	DROPLET	Living attenuated virus
MAESLES	A PARAMYXO VIRUS (RNA VIRUS)	Respiratory passages, spreading to skin and intestines.	DROPLET	Living attenuated virus

NAME OF DISEASE	CAUSED BY	INFECTED ORGAN	TRANSMITTED BY	TYPE OF VACCINE
Poliomyelitis (polio)	Poliovirus (RNA Virus)	Pharynx and intestines, then blood; occasionally motor neurons in spinal cord, paralysis may occur.	Droplet infection or via human feces	Living attenuated virus given orally
Yellow fever	An arbovirus i.e arthropod-borne virus (RNA Virus)	Lining of blood vessels and liver	Vector- arthropods e.g ticks, mosquitoes	LIVE ATTENUATED VACCINE
AIDS	Retrovirus (RNA virus)	T- LYMPHOCYTES	Sexual intercourse homo- and hetro sexuals	NO VACCINE
Ebola hemorrhagic fever	Ebola Virus disease (EVD)	Fatal Illness in Humans, Fever	It is transmitted to people from wild animals	NO VACCINE
Zika disease	Zika Virus (mosquito borne disease)	BRAIN	AEDES MOSQUITO	NO VACCINE
DENGUE	DENGUE VIRUS	PLATELETS	AEDES MOSQUITO	LIVE ATTENUATED VACCINE

## BACTERIA:

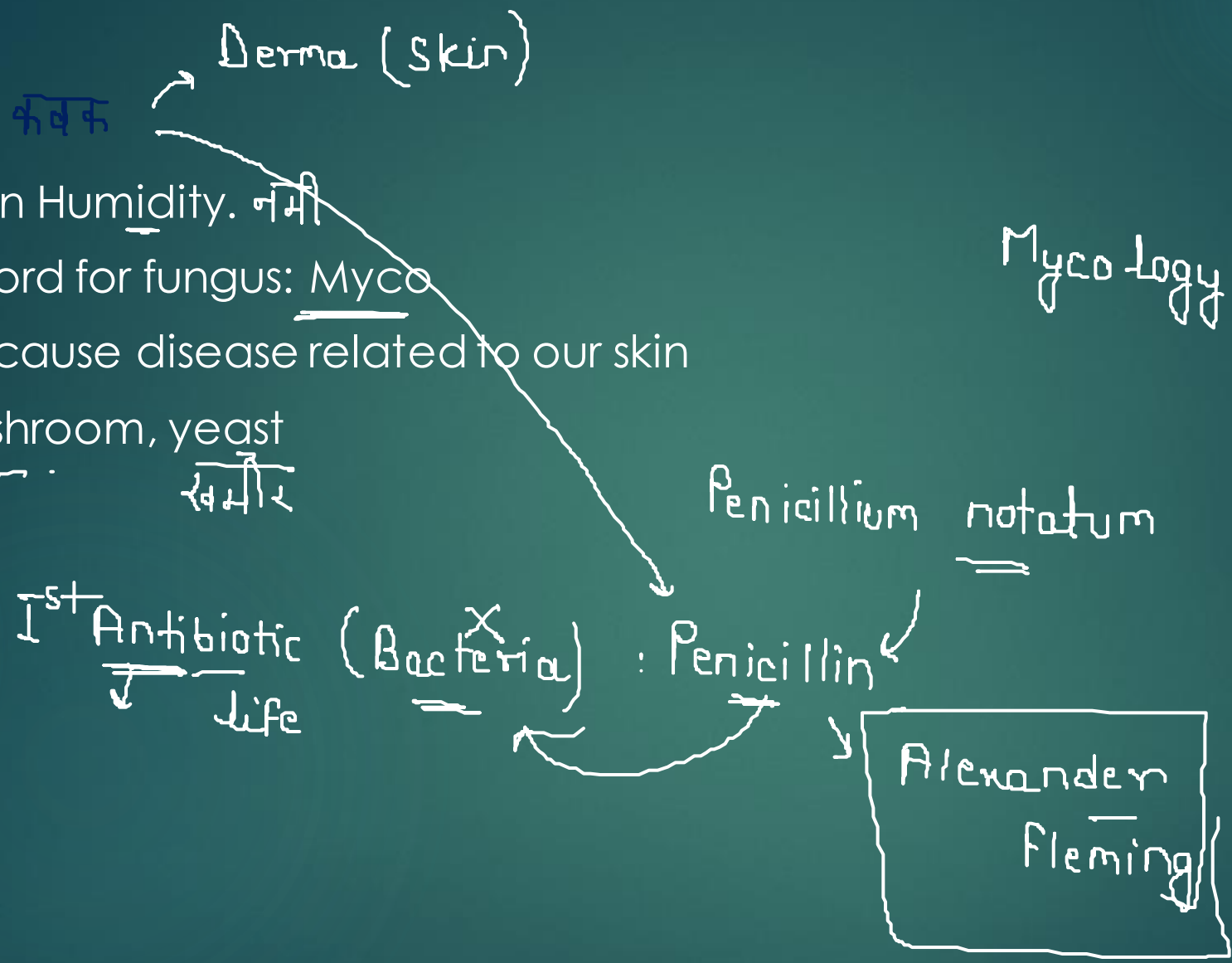
- ▶ Bacteria is a pure living thing
- ▶ It consists Prokaryotic cell.
- ▶ Unicellular organism
- ▶ Discovered by Antony Van Leeuwenhoek.

NAME OF DISEASE	CAUSED BY	INFECTED ORGAN	TRANSMISSION	TYPE OF VACCINE
TUBERCULOSIS (TB) क्षय रोग / थक्षमा रोग / तपेदिक 2030 India - 2025	<u>Imp</u> मसिनेवाला Mycobacterium tuberculosis	X Lungs, small intestine	Droplets, Drinking milk from infected cattle.	BCG living attenuated bacteria. Antibiotics e.g. streptomycin.
Whooping cough (Pertussis)	<u>Bordetella pertussis</u>	Upper respiratory tract, inducing violent coughing	<u>droplets</u>	Killed bacteria
<u>Gonorrhoea (STD)</u>	Neisseria gonorrhoeae	Reproductive organs: mainly mucous membranes of urinogenital tract	Contagion by sexual contact	Antibiotics, e.g. penicillin, streptomycin

<p>Syphilis</p> <p><u>STD</u></p>	<p>Treponema palladium</p>	<p>Reproductive organs, then eyes, bones, joints, central nervous system, heart and skin.</p>	<p>Contagion by sexual contact</p>	<p>Toxoid</p>
<p>Tetanus</p> <p>(Lock &amp; jaw disease)</p>	<p>Clostridium tetany</p> <p>6 month</p>	<p>Blood.</p> <p>Toxin produced which affects motor nerves of spinal cord and hence muscles, causing lockjaw and spreading to the muscles.</p>	<p>Wound infection</p>	<p>toxoid</p>
<p>Cholera हैजा</p> <p>* → Contagious disease</p>	<p>Vibrio cholerae</p>	<p>Alimentary <u>canal</u>: mainly small intestine.</p> <p>आहार नली</p>	<p>Fecal contamination food - or water borne of material contaminated with feces from infected person.</p>	<p>Killed bacteria: short-lived protection and not always effective Antibiotics e.g. tetracyclines, chloramphenicol</p>
<p>leprosy कृष्ण रोग</p>	<p>Mycobacterium leprae</p>	<p>Skin</p>	<p>Wound infection</p>	<p>Killed Bacteria</p>

Fungus: कवक

- ▶ Found in Humidity. नमी
- ▶ Root word for fungus: Myco
- ▶ Mainly cause disease related to our skin
- ▶ Eg: Mushroom, yeast





Disease	Pathogen responsible	Mode of transmission	Main symptoms
Ring worm <u>दृग्</u> - Skin <u>—</u>	Microsporium, Trichophyton	Direct contact from unbathed cats and dogs or objects handled by infected individuals	Contain one or more blistered areas on skin and scalp. Cause partial and temporary baldness in children
Athlete's foot <u>—</u> / <u>Worms</u> <u>—</u>	Trichophyton	Bad foot hygiene where skin remains warm and moist for long periods.	Painful itching or burning sensation in the infected areas. Crack appears in the skin, mass of loose dead skin clings between toes.
Madura foot <u>—</u> Baldness <u>जिह्मि</u> / <u>Dandruff</u>	Maurella Mycetomi	Fungi gain entry through some minor injury to the skin.	

## PROTOZOA:

- ▶ Unicellular organism एककोशिकीय जीव
- ▶ Eukaryotic organism
- ▶ Parasite in human body पुष्पिका
- ▶ First organism

Protozoa  
↓            ↓  
First    Animal

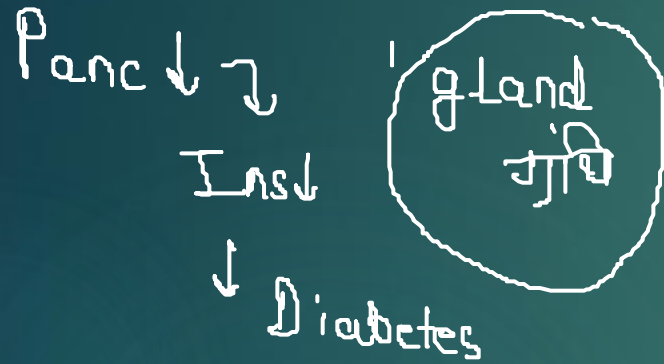
Elephantiasis / Filaria  
हाथी पाँव

<b>Disease</b>	<b>Causal Agent</b>
Amoebiasis	Entamoeba histolytica
Primary Amoebic meningoencephalitis	Naegleria fowleri
Giardiasis	Giardia Lamblia
Trichomoniasis	Trichomonas vaginalis
African Sleeping Sickness <u>Tse Tse Fly</u>	<u>Trypanosoma</u> brucei
Leishmaniasis ( Kala - azar) / <u>Black Fever / Dum Dum Fever - Sand Fly</u>	<u>Leishmania</u> donovani
Toxoplasmosis	Toxoplasma gondii
Malaria - <u>Female Anopheles</u> *	* <u>Plasmodium</u> spp.
Babesiosis	Babesia microti
Pneumocytosis ( PCP)	Pneumocystis carinii

## असंक्रामक रोग

NON INFECTIOUS DISEASE: / Non Communicable Disease (NCD)

**Non infectious diseases** are generally caused by a combination of genetic and environmental factors other than pathogens.



Malnutrition कुपोषण

Malfunctioning

RBC ↓ - Anaemia अरक्तता

Plat ↓ - Bleeding रक्तस्राव

Prot ↓ - Kwashiorkor

Iodine ↓ - Goitre धेंघा

Vitamin	Diseases and their symptoms	Available from
A (Retinol)	poor vision, night-blindness	spinach, carrots, butter, mangoes
B <sub>1</sub> (Thiamine)	extreme weakness, beri-beri	eggs, meat, yeast
B <sub>2</sub> (Riboflavin)	retarded growth, bad skin	green leafy vegetables, beans, peas, milk
B <sub>12</sub> (Cyanocobalamin)	anaemia	non-vegetarian food like meat
C (Ascorbic acid)	scurvy, swollen gums, loose teeth	lime, lemon, oranges
D (Calciferol)	rickets, brittle bones in children which break or bend easily	milk, fish, liver oil
K (Phylloquinone)	excessive bleeding due to injury	green leafy vegetables

#### Diseases Caused due to Deficiency of Minerals

Name of minerals	Diseases and their symptoms	Available from
Calcium	brittle bones, excessive bleeding, bad muscular movement	milk, green leafy vegetables
Phosphorus	bad teeth and bones	pulses, cereals, milk
Iron	anaemia, lack of red blood cells	green vegetables, pulses, meat
Iodine	goitre, enlarged thyroid gland	fish, salt from sea water
Copper	low appetite, retarded growth	pulses and leafy vegetables

Note: All Cancer are tumour

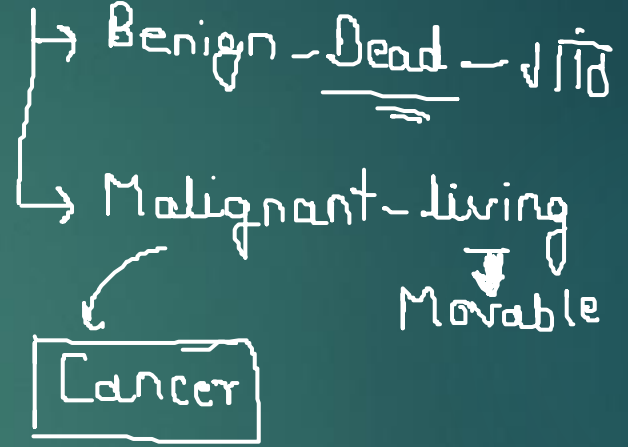
Mutation — Sudden change in DNA  
 उत्परिवर्तन

Cancer:

Oncology

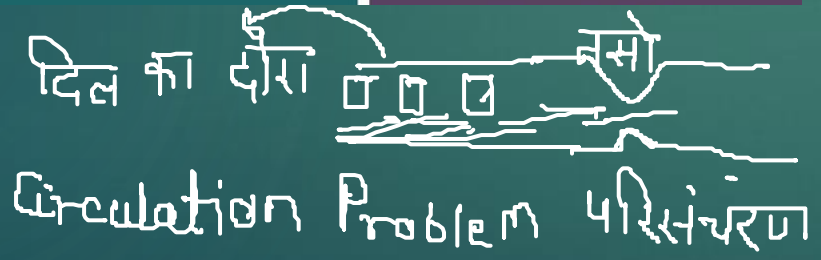
TUMOR VERSUS CANCER	
Tumor is a development of a lesion or lump in the body due to an abnormal cellular growth	Cancer is a disease caused by an uncontrolled division of abnormal cells in a part of the body
Can be benign or malignant	Malignant
✓ May not be fatal	✓ Can be fatal
Can be treated by watchful waiting or surgical removing	Can be treated by surgical removal, chemotherapy, & radiotherapy

↳ Tumor — Uncontrolled growth of cell



Heart fail

Heart attack:



Cardiac arrest → 72/min — 150/min <sup>समस्या</sup> Beating problem 200/min

### CARDIAC ARREST

CARDIAC ARREST IS AN "ELECTRICAL" PROBLEM, OCCURRING WHEN THE HEART MALFUNCTIONS & STOPS BEATING UNEXPECTEDLY.

An irregular heartbeat, caused by an electrical malfunction, triggers cardiac arrest. The heart is unable to pump blood to the brain, lungs, and other organs.

Within seconds a person will become unresponsive and stop breathing. If not treated within minutes, death occurs.

---

### HEART ATTACK

A HEART ATTACK IS A "CIRCULATION" PROBLEM, OCCURRING WHEN BLOOD TO THE HEART IS BLOCKED.

Blocked artery prevents oxygen-rich blood from reaching the heart. If this blocked artery is not reopened, the unnourished part of the heart begins to die.

Discomfort in chest, shortness of breath, cold sweats, nausea, and/or vomiting may occur. Unlike cardiac arrest, the heart doesn't stop beating during a heart attack.

AIDS : → HIV Virus → Infectious

Genetic Disease: आनुवंशिक रोग - DNA

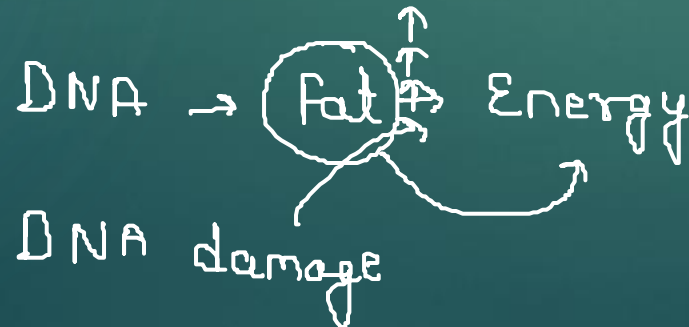
► A disease caused by an abnormality in an individual's genome.

Examples of Genetic Disease:

1. Diabetes Mellitus: <sup>मधुमेह</sup> It is a group of metabolic disorders characterized by a high blood sugar level over a prolonged period of time. Symptoms often include frequent urination, increased thirst, and increased appetite.

► It is caused by the deficiency of Insulin Hormone. (Pancreas)

2. Heart attack:- genetic disease







1 hr

( 2-5 ) min

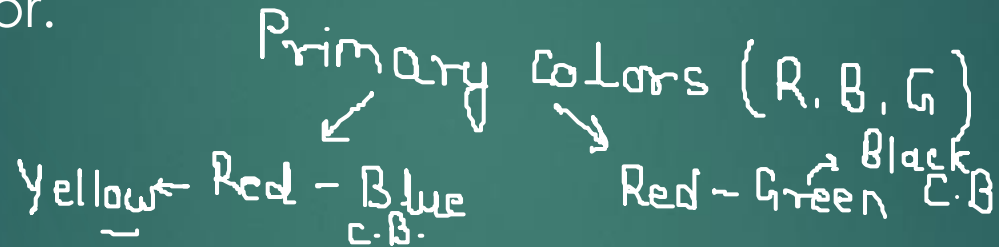
3. Hemophilia: Hemophilia is a rare disorder in which your blood doesn't clot normally because it lacks sufficient blood-clotting proteins (factor IX).

▶ Also known as Royal Disease / Christmas Disease.

शाही रोग

4. Color blindness: It is also known as color vision deficiency, is the decreased ability to see color or differences in color.

दृष्टिहीनता



5. Thalassemia: Thalassemia is an inherited blood disorder in which the body makes an abnormal form of hemoglobin. The disorder results in excessive destruction of red blood cells, which leads to anemia.

↓ RBC ↓ - Anemia

6. Sickle cell anemia: It is one of a group of disorders known as sickle cell disease. Sickle cell anemia is an inherited red blood cell disorder in which there aren't enough healthy red blood cells to carry oxygen throughout your body

