

HUMAN HEALTH AND DISEASE

COMMON DISEASES IN HUMANS

BACTERIAL AND VIRAL DISEASE (PREVENTION AND CONTROL)

COMMON DISEASES IN HUMANS

A wide range of organisms belonging to bacteria, viruses, fungi, protozoans, helminths, etc., could cause diseases in man. Such disease causing organisms are called pathogens. Most parasites are therefore pathogens as they cause harm to the host by living in (or on) them. The pathogens can enter our body by various means. multiply and interfere with normal vital activities. resulting in morphological and functional damage. Pathogens have to adapt to life within the environment of the host. For example. the pathogens that enter the gut must know a way of surviving in the stomach at low pH and resisting the various digestive enzymes

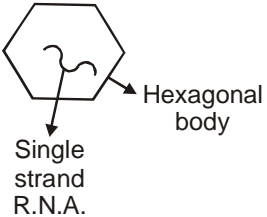
Common Human Diseases

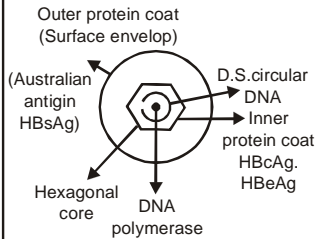
Disease (s)	Pathogens	Symptoms
(A) Bacterial diseases 1. Tuberculosis	Mycobacterium tuberculosis Mode of injection - Droplet injection	Chronic cough, fever, weakness, bloody sputum, breathlessness treatment - DOTS (Direct observation treatment short course) Investigation - Mantoux test
2. Diphtheria	Corynebacterium diphtheriae	High grade fever, difficulty in breathing (Investigation - Schick test)
3. Whooping cough (Pertussis) (100 days cough)	Bordetella pertussis	Presistent large bouts of cough
4. Cholera	Vibrio cholerae	Diarrhoea, dehydration, vomiting
5. Pneumonia	Streptococcus pneumoniae (Earlier Diplococcus pneumoniae)	Infection in lungs, difficulty in breathing, high fever

6. Tetanus (Lock jaw)	Clostridium tetani	Sustained contraction of body muscles, spasm, lock jaw, unconsciousness, opisthotonus, Risus Sardonius - Stretching of facial muscles
7. Leprosy or Hanson's disease	Mycobacterium leprae	Patches on skin, ulcer and nodules formation in skin and nerves, deformities, ulceration and wasting of fingers and toes
8. Typhoid fever	Salmonella typhi	High Fever, loss of appetite, intestinal ulcers, bradycardia and perforation Detect by widal test
9. Plague (Black death)	Yersinia pestis (Earlier name-Pasteurella pestis)	High fever, headache, enlargement of axillary lymph nodes, unconsciousness

(B) Viral diseases		
1. Polio or poliomyelitis	Polio virus (Group-Picorna virus)	Fever, headache, paralysis
2. Influenza	Orthomyxovirus	Sudden fever after headache, nasal discharge
3. Measles	Paramyxovirus	High grade fever, white-brown patches on body and blisters
4. Chicken pox	Pox virus (Varicella-herpes virus)	Rashes on body with fever (Dew drop like appearance of vesicle)
5. Mumps	Para myxovirus	Painful swelling in parotid gland
6. Dengue fever or Break bone fever	(Arbovirus (Flavi)) Vector-Aedes aegypti	Fever, pain in muscles and joints haemorrhagic condition in body (Torniquet test)
7. Chikun gunya	Togavirus (Flavi)	Fever, joint pain, arthritis
8. Rabies (hydrophobia)	Rabdo virus or street virus (Vector-Rabbit, dog, cat and wild animals)	Affect CNS - Madness, hydrophobia due to laryngeal spasm and 100% death after symptoms. For prevention - Human diploid cell culture vaccine.

(C) Protozoan diseases		
1. Malaria	Plasmodium sps.	High fever with chill of intermittent periodicity, pain in joints
2. Amoebiasis	Entamoeba histolytica	Intestinal spasm, dysentery
3. Diarrhoea	Giardia intestinalis	Vomiting, loose motions
4. African sleeping sickness	Trypanosoma gambiensi	Patient feels sleepy, nervous system impairment
5. Kala azar	Leishmania donovani	High fever associated with enlargement of spleen and liver
(D) Helminth diseases		
1. Ascariasis	Ascaris lumbricoides	Abdominal spasm, insomnia, vomiting, loose motions, restlessness

<p>Hepatitis types (A, B, C, D, E affect liver)</p> <p>Hepatitis A (epidemic jaundice or infectious hepatitis) (Most common cause of Jaundice)</p>	<p>• HAV (Enterovirus type-72) – SS RNA 2 – 6 weeks</p>  <p>Single strand R.N.A.</p> <p>Hexagonal body</p>	<p>Contaminated food and water through faecooral route or intestinal route.</p>	<p>Fever, vomiting, Hepatomegaly jaundice (increase) bilirubin in blood due to liver infection. Liver does not change bilirubin. This bilirubin accumulates in various body parts so body become yellowish and also excrete bilirubin in urine. Dark urine, whitish stool P -hepatitis. A vaccine T/t – Bed rest less protein & more carbohydrate diet γ-globulin, interferon</p>
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Hepatitis B Serum hepatitis (STD)	HBV – Double stranded circular DNA size = 42 nm 2 to 6 months 	<ul style="list-style-type: none"> Sexual contact, blood contact, mother to child by placenta called vertical transmission (Liver.) (More infectious than AIDS) 	Fever, vomiting, jaundice, dark urine whitish stool Investigation– Serum bilirubin SGPT (Serum glutamic pyruvic transminase test) 5 – 40 I.U. ELISA test
Hepatitis – C (Non–A, Non–B hepatitis)	HCV SS R.N.A.	By Blood Transfusion (90%) Post Blood transfusion Hepatitis)	
Hepatitis – E Similar to Hepatitis A	HEV (R.N.A.)	Water born disease	
Hepatitis – D or Delta Hepatitis	Hepatitis B (Carrier state) SS RNA		Prophylaxis – Hepatitis B Vaccine (0, 1, 6 months) Engerix – B Shenvac – B Enivac – B

Some STDs, their Pathogens and Symptoms		
Disease (s)	Pathogens	Symptoms
(A) Bacterial 1. Syphilis or French pox (Inclubation Period) – Aprox 21 days	Treponema pallidum	Round elevated ulcers on genital organs Investigation - VDRL test (Venereal disease research laboratory test)
2. Gonorrhoea (2 to 5 days)	Neisseria gonorrhoeae	Infection of urethra in male, discharge of white thick fluid from urethra, pain during urination In females– Infection in cervix, pain and burning during micturition

3. Vaginitis	Gardnerella vaginalis	Grayish–white discharge from vagina
4. Chancroid	Haemophilus ducreyi	Foul smelling discharge and ulcers
5. Chlamydiasis	Chlamydia trachomatis	Recurrent pain and infection in urinary tract
(B) Viral 1. Herpes genitalis	HSV-2(DNA) Virus and penis	In males–Painful rashes on prepuce, glans In females–Rashes on vulva and upper part of vagina
2. Condyloma acuminatum	Papova DNA Virus	Itching and fever
3. Molluscum contagiosum	Pox DNA Virus	Pain
4. AIDS	Human Immuno-deficiency Virus (HIV)	Immune system failure, fever, diarrhoea etc.

Note : Some other bacterial diseases-

Tuberculosis, Whooping cough (Pertussis), Cholera, Leprosy

Note : Some other viral diseases –

Polio or poliomyelitis, Influenza, Measles, Chicken pox, Mumps, Rabies,

SARS (Severe Acute Respiratory Syndrome), Swine flu

