

## How are infectious diseases spread?

Health	and Disease
Health	Being free from
	illness or injury.
Disease	A condition caused
	by any part of an
	organism not
	functioning
	properly.
	A disease which can
	be transmitted
Communicable	between organisms;
disease	also known as an
	infectious or
	contagious disease.
	A disease that is not
	transmissible
	directly from person
	to person. Can be
	caused by poor
Non-	lifestyle choices (e.g
communicable	Type 2 diabetes),
disease	inheriting a genetic
	disorder (e.g. sickle
	cell anaemia), or
	body processes
	malfunctioning (e.g.
	cancer).
	Organism which can
Microorganism	only be seen using a
	microscope.
Pathogen	Disease-causing
	microorganism.
Spread of com	municable diseases
Spread of	Through cuts in skin
pathogens in	by being ingested or
animals	breathed in; during
	sexual intercourse.

	Via vectors (carriers)
	e.g. insects; direct
Spread of	contact with
•	infected sap;
pathogens in	infected fungal
plants	spores or seeds
	being spread by the
	wind.
	Method of disease
	transmission;
Droplet	pathogens are
infection	spread by airborne
	droplets from
	mouth/nose.
Diagnosis	Identifying a disease
Diagnosis	in a plant or animal.
	The time between a
	pathogen entering
	your body and
Incubation	symptoms
period	appearing.
	Pathogens
	reproduce in this
	time.
	The number of new
Incidence of	cases of a disease,
disease	per unit population,
	per unit time.

Type of pathogen	Animal disease example	Plant disease example
Bacteria	Tuberculosis	Crown gall disease
Fungi	Athlete's foot	Powdery mildew
Viruses	Influenza (flu)	Tobacco mosaic disease
Protozoa	Malaria	Coffee phloem necrosis

Preventing spre	ead of communicable
d	iseases
Preventing spread of communicable diseases	Covering coughs/sneezes; not touching infected materials; using condoms to prevent STIs; not sharing needles; washing hands; cooking food correctly; drinking clean water; burning diseased plant material; using chemical dips on farms.
Huma	n infections
Food poisoning	Caused by bacteria and the toxins they produce.  Campylobacter, salmonella and E.coli 0157 can all cause illness. Symptoms include vomiting, diarrhoea and fever. The bacteria are killed by thorough cooking
Sexually transmitted infections (STIs)	Chlamydia - caused by bacteria.  Gonorrhoea - caused by bacteria.  Genital herpes - caused by a virus.  HIV - caused by a virus.  Symptoms - weakened immune system; often develops into AIDS, when the body can no longer fight lifethreatening infections.

Primary defences of the body against disease (Nonspecific defences)  How scabs form  How scabs form  Primary defences  (Nonspecific defences)  Acid in stomach - kills pathogens.  Tears - contain lysozymes, enzymes that destroy bacteria.  Platelets at the site of the cut work to form a blood clot which keeps skin clean, prevents microorganisms entering and allows time for cut to heal.  Phagocytes are white blood cells that engulf and digest microorganisms.  Lymphocytes make antibodies or antitoxins.  Proteins on the surface of a microorganism.  Proteins made by lymphocytes which destroy pathogens by attaching to their surface antigens.  Vaccinations	Defence mechanisms against	
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Vaccinations		
	Va	ccinations

	Contain small
	amounts of
Vaccine	weakened or dead
	pathogen, or
	instructions on how
	body cells can
	construct surface
	antigen of the
	pathogen
	When the body can
	rapidly make
	antibodies against a
	specific pathogen it
Immunity	has encountered
	before, destroying it
	before it makes you
	feel ill.
Destroy	ring pathogens
	Chemicals that kill or
Antiseptic	neutralise all types
	of pathogen, but do
	not damage human
	tissue.
Antiviral	Drugs that destroy
	viruses.
A 4: b. ! - 4.! -	
Antibiotic	Drugs that destroy
Antibiotic	Drugs that destroy bacteria.
Antibiotic	
Antibiotic	bacteria.
Antibiotic  Aseptic	bacteria. Technique used to
	bacteria. Technique used to ensure that no
Aseptic	bacteria. Technique used to ensure that no foreign
Aseptic	bacteria. Technique used to ensure that no foreign microorganisms are
Aseptic technique	bacteria. Technique used to ensure that no foreign microorganisms are introduced into a sample being tested.
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