

Keyword	Definition
Communicable disease	A disease caused by a pathogen that can be passed from an infected individual to others. Also called an infectious disease.
Non-communicable disease	A disease that cannot be passed from individuals to those around them. Examples include inherited diseases and some diseases caused by lifestyle.
Cardiovascular disease	A disease in which the heart or circulatory system does not function properly.
Malnutrition	Health problems caused by a diet that contains too little or too much of one or more nutrients.
Secondary Infection	An infection due to the immune system being weakened previously by a different pathogen weakened previously by a different pathogen.
Antibody	A protein produced by lymphocytes. It attaches to a specific antigen on a microorganism and helps to destroy it.
Antigen	A protein on the surface of a cell. White blood cells are able to recognise pathogens because of their antigens.
Antibiotics	A substance that, when inside the body, either kills bacteria or stops them growing.

**Preclinical Testing**

Potential new drug is tested on cells in a laboratory.

**Animal Testing**

Drug is tested on live animals to test whether the drug works and whether it may be toxic or harmful.

**Small Clinical Trail**

Drug is tested open a small group of healthy volunteers to test for any potential side effects.

**Large Clinical Trial**

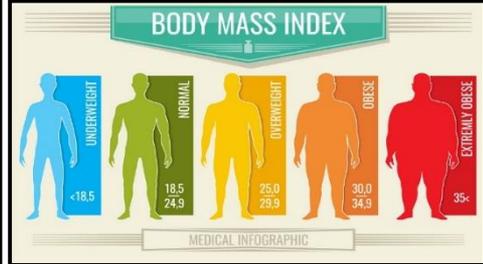
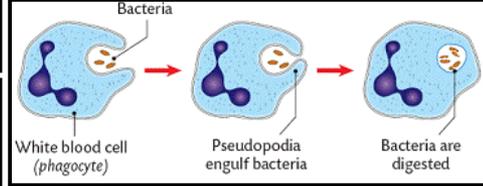
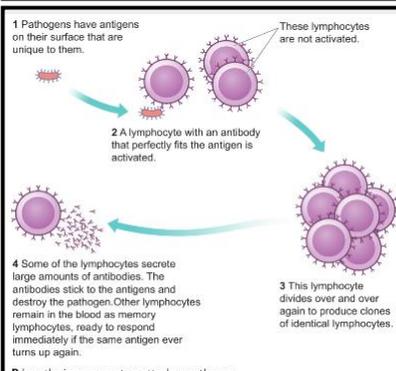
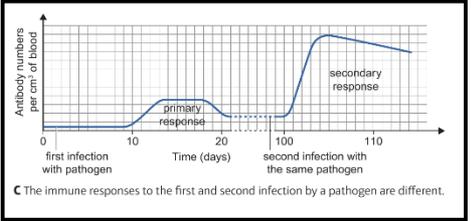
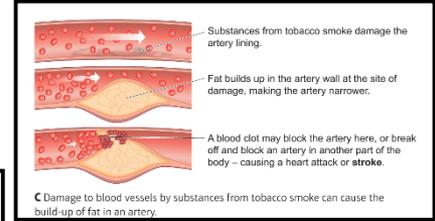
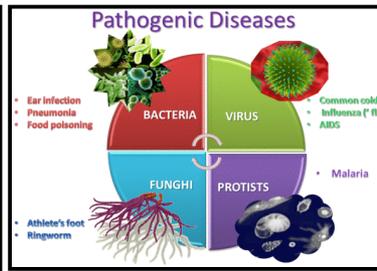
Drug is tested on a larger group of volunteers including those that have the target illness to test for the correct dosage with the least side effects.



Pathogen	Disease	Symptoms	Method of transmission	Control of spread
Bacteria	cholera	Causes diarrhoea.	Contaminated water	Vaccination, water treatment to remove bacteria.
Bacteria	tuberculosis	Causes lung damage.	Air borne water droplets from coughing.	Isolation of infected person, vaccination.
Fungi	Chalara ash dieback	Leaf loss and bark lesions.	Spores in the air.	Remove/destroy infected trees.
Protists	Malaria	Recurrent fever. Damage to blood and liver.	By an animal vector (mosquitoes).	Prevent breeding of mosquitoes. Use of nets to prevent bites.
Bacteria	Stomach ulcers (Bio only)	Pain in abdomen, damage to stomach lining.	Oral transmission.	60% already carry the bacteria.
Virus	Ebola (Bio only)	Internal bleeding and fever.	Contact with bodily fluids of an infected person.	Isolation of infected person. Vaccination.
Virus	HIV	Initially flu like systems, serious damage to immune system.	Sexual contact and exchange of body fluids.	Anti-retroviral drugs and use of condoms.
Bacteria	Chlamydia	Unusual discharge from genitals or anus, pain when urinating.	Unprotected sex.	Using condoms during sex.

The human body has several chemical and physical ways of providing protection from pathogens

	<b>Nose</b>	Nasal hairs, sticky mucus and cilia prevent pathogens entering through the nostrils.
	<b>Trachea and bronchus (respiratory system)</b>	Lined with mucus to trap dust and pathogens. Cilia move the mucus upwards to be swallowed.
	<b>Stomach acid</b>	Stomach acid (pH1) kills most ingested pathogens.
	<b>Skin</b>	Hard to penetrate waterproof barrier. Glands secrete oil which kill microbes.
	<b>Lysozymes in tears</b>	Breaks down the cell wall of some bacteria.



There are two methods that can be used to measure obesity – BMI and waist:hip ratio. For the waist:hip ratio if a person has a value greater than 1 it means they are more at risk of becoming obese.

**BMI = Mass (kg) / Height (m)<sup>2</sup>**

**Waist:Hip Ratio = Waist Circumference / Hip Circumference**

**Key Facts**

Risk factors can increase the chances of a person developing a non-communicable disease. An unbalanced diet, drinking too much alcohol, smoking, lack of exercise, obesity and air pollution are all risk factors.

STI's are caused by pathogens transmitted by the exchange of bodily fluids as a result of unprotected sexual intercourse.

**Commonly misspelt words**

1. Communicable
2. Disease
3. Vaccination
4. Immunisation
5. Lymphocyte
6. Phagocyte
7. Cardiovascular
8. Cilia
9. Hydrochloric
10. Hygiene
11. Tuberculosis
12. Chlamydia

Prior learning recap:

Quick fire questions (Answers can be found on knowlegde organiser):

1. Which pathogen cause malaria?
2. How can HIV be transmitted from one person to another?
3. Put these stages of drug testing in the correct order
  - a) Large clinical trial
  - b) Animal testing
  - c) Small clinical trial
  - d) Pre-clinical trail
4. What are the risks of an artery being fully blocked by a build up of fat?
5. Identify the physical barrier the body has to protect itself from pathogens.
6. Identify the chemical barriers that body has to protect itself from pathogens.
7. What classification would be given to a person with a BMI of 32?

At home (parents/ carers may be able to help with this):

1. BMI Calculation - using a pair of weighing scales weigh yourself (or a person in your household) in kilograms (Kg).
2. Next measure your height (or the height of a person in your household) in centimetres (cm)
3. Finally take your data and use the BMI calculation on the previous page to calculate the BMI.
4. Find out which group the BMI falls into.
5. Is the BMI accurate? How could a person's BMI change as they are growing?

Useful links

Communicable disease  
<https://www.bbc.co.uk/bitesize/guides/zts9y4j/revision/1>  
 Non-communicable disease  
<https://www.bbc.co.uk/bitesize/guides/z8pcsr/revision/1>  
 Medicine Testing  
<https://www.bbc.co.uk/bitesize/guides/zx3wgd/revision/1>  
 Disease Prevention  
<https://www.bbc.co.uk/bitesize/guides/zwtgpbk/revision/1>

Wider Uses