OCR (A) Biology GCSE

B6.3 - Monitoring and maintaining health

Flashcards

What is the difference between communicable and non-communicable diseases?

What is the difference between communicable and non-communicable diseases?

Communicable diseases are diseases that can be spread whereas non-communicable diseases cannot be spread

Define health

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A state of complete physical, mental and social well-being (as defined by the World Health Organization, WHO)

What is a pathogen?

What is a pathogen?

A microorganism that causes disease

Why are people with HIV more likely to catch tuberculosis?

Why are people with HIV more likely to catch tuberculosis?

People with HIV have a weaker immune system and so are more susceptible to infection with tuberculosis

What can HPV lead to?

What can HPV lead to?

HPV can lead to certain types of cervical cancer

Give 5 ways diseases can be spread

Give 5 ways diseases can be spread

- Droplet infection
- Eating contaminated food
- Drinking contaminated water
- Direct contact
- Entry through wounds

Give 3 ways the spread of diseases can be reduced

Give 3 ways the spread of diseases can be reduced

- Visual identification of the disease
- DNA identification of the disease
- Screening for antibodies associated with the disease

Describe one bacterial disease that affects humans

Describe one bacterial disease that affects humans

- Salmonella (food poisoning)
- Transmitted by ingesting infected foods
- Symptoms: Fever, sickness and diarrhoea

Describe one bacterial disease that affects plants

Describe one bacterial disease that affects plants

- Crown gall disease (Agrobacterium tumefaciens)
- Transmitted through cuts in the stems of plants
- Symptoms include: tumor type growths

Describe one viral disease that affects humans

Describe one viral disease that affects humans

- Human Immunodeficiency Virus (HIV)
- Transmitted through bodily fluids and is commonly spread through sexual activities
- Symptoms include: a rash and fever like symptoms

Describe one viral disease that affects plants

Describe one viral disease that affects plants

- Tobacco Mosaic Virus (TMV)
- Transmitted through direct contact
- Symptoms include: spots and a yellow coloured mosaic pattern

Describe one fungal disease that affects humans

Describe one fungal disease that affects humans

- Athlete’s foot
- Transmitted through direct contact or contact with skin particles
- Symptoms include: dry and cracking skin between toes

Describe one fungal disease that affects plants

Describe one fungal disease that affects plants

- Erysiphe graminis (barley powdery mildew)
- Transmitted through vectors like aphids in damp and cold environments
- Symptoms include: powdery growth and yellowing on the opposite side of the leaf

Give 2 physical plant defences against disease

Give 2 physical plant defences against disease

- Thick cell wall
- Waxy cuticle

How do plants use chemical defences to prevent disease?

How do plants use chemical defences to prevent disease?

Plants contain antimicrobial chemicals that can slow the spread of or kill bacteria.

Give 3 ways plant diseases can be identified (Higher)

Give 3 ways plant diseases can be identified (Higher)

- Analysing DNA to see whether the plant contains any pathogen DNA
- Antigen detection to find any foreign antigens present in the plant
- Observation of symptoms

What is the function of platelets?

What is the function of platelets?

Platelets are small fragments of cells that are involved in blood clotting

What is the function of white blood cells?

What is the function of white blood cells?

White blood cells are involved in phagocytosis and some white blood cells produce antibodies

Give 5 non specific human defences to disease

Give 5 non specific human defences to disease

- The skin acts as a barrier
- Stomach acid kills ingested pathogens
- Mucus traps pathogens
- Sweat contains antimicrobial chemicals
- Earwax traps pathogens

How are monoclonal antibodies produced? (Higher)

How are monoclonal antibodies produced? (Higher)

- Antigens are injected into a mouse
- The mouse produces lymphocytes
- The lymphocytes are removed and fused with a myeloma to create a hybridoma
- The hybridoma grows rapidly and produces the antibodies

Give 3 uses of monoclonal antibodies (Higher)

Give 3 uses of monoclonal antibodies (Higher)

- Pregnancy tests
- Detection of cancerous tissue
- Drug delivery to cancer cells

What is the difference between antibiotics and antivirals?

What is the difference between antibiotics and antivirals?

Antibiotics kill bacteria whereas antivirals inhibit the reproduction of viruses

What are antiseptics?

What are antiseptics?

Substances applied outside the body to kill pathogens

How do vaccines work?

How do vaccines work?

- Dead or inactive pathogens are injected into the body
- The body produces antibodies against the pathogen
- Memory cells are also created to provide long term immunity

Give 3 important steps to take when culturing microorganisms in the lab

Give 3 important steps to take when culturing microorganisms in the lab

- Clean the surfaces with alcohol
- Keep the culture closed until it is needed
- Use a bunsen burner to sterilise equipment

What are the stages in the development of new medicines?

What are the stages in the development of new medicines?

- Research the drug and test it on lab grown cells
- Test on animals
- Test on healthy volunteers
- Test on people who have the disease

Give 5 non-communicable diseases

Give 5 non-communicable diseases

- Heart disease
- Bronchitis
- Type 2 diabetes
- Cancer
- Liver cirrhosis

What lifestyle changes should a person with cardiovascular disease make?

What lifestyle changes should a person with cardiovascular disease make?

- Monitor their diet to ensure it is healthy and balanced
- Exercise more
- Stop smoking

What treatments are available for cardiovascular disease?

What treatments are available for cardiovascular disease?

- A stent can be surgically implanted to keep arteries open
- Statins can be taken to lower cholesterol levels
- Pacemakers can be inserted to maintain the heart’s rhythm
- Heart transplants or artificial valves can be inserted

What is cancer?

What is cancer?

Cancer is a disease where cells in the body begin to divide uncontrollably

Give 2 benefits of the use of stem cells in medicine

Give 2 benefits of the use of stem cells in medicine

- Stem cells can be used to test new drugs
- Stem cells can be used to grow new organs with no concern about rejection

Give 2 risks associated with the use of stem cells in medicine

Give 2 risks associated with the use of stem cells in medicine

- There are ethical issues with using embryonic stem cells
- There is no guarantee how well stem cell therapies work

Give one benefit and one risk of gene therapy

Give one benefit and one risk of gene therapy

- Benefit - It can replace faulty genes and possibly cure diseases like cystic fibrosis
- Risk - The virus used to deliver the gene could cause the body harm

What is personalised medicine?

What is personalised medicine?

Personalised medicine is preventing and treating diseases tailored specifically to a patient’s genome