CIE Biology GCSE

10 - Diseases and Immunity

Flashcards

What is a pathogen?

What is a pathogen?

A microorganism that causes disease

What is a transmissible disease?

What is a transmissible disease?

A disease which can be passed between hosts

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

State 2 chemical defences the body uses to prevent infection

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- Strong stomach acid kills pathogens
- Mucus contains antimicrobial chemicals

State 2 mechanical defences the body uses to prevent infection

State 2 mechanical defences the body uses to prevent infection

- Nasal hairs used to trap and waft dirt and microbes to prevent entry into the airway
- The skin acts as a barrier to pathogens

Give 2 ways that white blood cells protect the body from infection

Give 2 ways that white blood cells protect the body from infection

- Phagocytosis (engulfing pathogens)
- Producing antibodies which attach onto pathogens

How do antibodies work?
(Higher/Supplement)

How do antibodies work? (Higher/Supplement)

- Specific antibodies bind to antigens on the pathogen
- The antibodies can either destroy the pathogen or make the pathogen easier for white blood cells to engulf

Why can only certain antibodies bind to certain pathogens? (Higher/Supplement)

Why can only certain antibodies bind to certain pathogens? (Higher/Supplement)

Antibodies have specific shapes and can only bind to specific and complementary antigens on pathogens

What is active immunity? (Higher/Supplement)

What is active immunity? (Higher/Supplement)

Active immunity is a type of immunity where white blood cells produce specific antibodies against a pathogen

State 2 ways that active immunity can be obtained
(Higher/Supplement)

State 2 ways that active immunity can be obtained (Higher/Supplement)

- Vaccination
- Infection with the pathogen

How do vaccines work?
(Higher/Supplement)

How do vaccines work? (Higher/Supplement)

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

Give 4 methods of controlling the spread of disease

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- Hygienic food preparation (storing food in appropriate conditions, washing equipment)
- Good personal hygiene (using tissues, washing hands and cleaning regularly)
- Waste disposal
- Sewage removal and taking precautions to ensure it does not contaminate drinking water

What is herd immunity?
(Higher/Supplement)

What is herd immunity? (Higher/Supplement)

Where the vast majority of a population are vaccinated which prevents the disease from spreading as there are fewer unvaccinated individuals for the disease to spread between

What is passive immunity? (Higher/Supplement)

What is passive immunity? (Higher/Supplement)

Where an individual is provided with short term immunity by receiving antibodies from another individual (typically a mother to an infant)

Why is passive immunity only short term?

(Higher/Supplement)

Why is passive immunity only short term? (Higher/Supplement)

No memory cells are produced

Why is passive immunity important to breastfed infants? (Higher/Supplement)

Why is passive immunity important to breastfed infants? (Higher/Supplement)

The infants have not yet had time to develop their own antibodies as they have not been exposed to as many pathogens

What is an autoimmune disease? (Higher/Supplement)

What is an autoimmune disease? (Higher/Supplement)

A disease where the immune system attacks the body cells

Give an example of an autoimmune disease

(Higher/Supplement)

Give an example of an autoimmune disease (Higher/Supplement)

Type 1 diabetes