AQA B3a Infection and response: Communicable diseases Combined Foundation (Page 1 of 2)

Definition
This is the state of physical and mental wellbeing.
Disease is a major cause of ill health but this can also be caused by poor diet, stress and life situations.
A major cause of ill health. Diseases can be both communicable and non-communicable.
A disease that can be passed from one organism to another by direct contact, water or air e.g. measles
A disease that cannot be spread between organisms e.g. asthma, cancer, coronary heart disease.
Surface proteins found on pathogens that are recognised by white blood cells
microorganisms such as viruses and bacteria that cause infectious diseases in animals and plants.
A type of white blood cell that engulfs pathogens and digests them by phagocytosis
They recognise antigens on the surface of pathogens, and produce antibodies or antitoxins

Human defence systems- The human body has several non specific ways of defending itself from pathogens and preventing them from causing diseases

SKIN

Hard to penetrate waterproof barrier. Glands secrete oil which kill microbes

STOMACH ACID Stomach acid (pH2) kills most ingested

pathogens.

TRACHEA AND BRONCHI Lined with mucus to trap dust and pathogens. Cilia move the mucus upwards

to be swallowed.

NOSE

Nasal hairs, sticky mucus and cilia prevent pathogens entering through the nostrils.

Pathogen Disease Symptoms Transmission (how Reducing or they are spread) preventing spread Droplet inhalation from virus Measles Fever, red skin rash, Vaccination as a child can be fatal coughs and sneezes Reproduce rapidly in the body. Viruses live HIV Initially flu like Sexual contact and Anti-retroviral drugs/ use of exchange of bodily fluids symptoms, serious condoms and reproduce damage to immune e.g. blood inside cells. system caused when causing cell HIV develops into AIDS damage Tobacco Mosaic pattern of Spread via gardening Remove infected leaves Mosaic discolouration on tools or workers hands and destroy, clean Virus leaves in plants. gardening equipment, Affects growth of plant don't use infected soil, due to lack of wash hands photosynthesis bacterium Salmonella Fever, cramp, vomiting Food prepared in Improve food hygiene, and diarrhoea unhygienic conditions or was hands, vaccinate (pl. bacteria) being undercooked poultry and cook food Reproduce thoroughly rapidly in the Gonorrhoea Green discharge from Direct sexual contact or Use condoms, treat using body. Bacteria penis or vagina, pain exchange of bodily fluids antibiotics may produce when urinating toxins (poisons) that damage tissues and make us feel II. protist Malaria Recurrent fever, can be By animal vector-Prevent breeding of fatal mosquitoes mosquitoes use of nets to prevent bites Use of insecticides

Different types of disease may interact

fungus

(pl. fungi)

Rose Black

Spot

Defects in the immune system (the system your body uses to fight off infection) mean that an individual is more likely to suffer from infectious diseases.

Spores carried by wind or

water

Remove infected leaves.

spray with fungicides.

Purple/ black spots on

leaves that turn yellow

and drop early. Affects growth of plant due to

lack of photosynthesis

Viruses living in cells can be the trigger for cancers e.g. HPV (human papilloma virus) which can cause cervical cancer in women.

Immune reactions initially caused by a pathogen can trigger allergies such as skin rashes and asthma.

Severe physical ill health can lead to depression and other mental illness, particularly when they impact on a person's ability to carry out everyday activities.

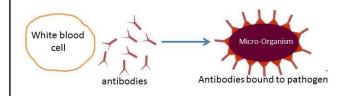
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White blood cells can help to defend against pathogens in 3 ways

Phagocytosis White blood cells can ingest pathogens White blood cell pathogen

antibody production

White blood cells can produce antibodies which bind to pathogens



antitoxin production.

White blood cells can produce antitoxins which bind to toxins produced by the pathogen, making them harmless

