

Causes of disease: 1. Pathogens

A microorganism that causes a disease

What is a pathogen?

three types

BACTERIA

VIRUSES

FUNGI

Why do we feel ill?

damage to cell structure

disruption of cells metabolism

release of toxins

stimulation of the immune system

Initial infection

Overcome body's defences

skin

respiratory tract

digestive system

enzymes

mucous layers

stomach acid

external

internal

After infection

pathogens attach to host cell

by receptor binding protein molecules

pathogens enter host cell by endocytosis

or producing enzymes

they then reproduce over time

and break out of the dying cells to invade more (living) cells

incubation period

is time between infection and symptoms appearing

Transmission

airborne

such as chicken pox , influenza or TB

waterborne

such as cholera or typhoid

Toxins

Exotoxins

secreted or leaked

by bacteria

Endotoxins

complex toxins released

when cell dies

Spreading

Epidemics

widespread outbreak

Pandemics

international outbreak