

Week 6 Assignment

1. River blindness

Pathogen name: *Onchocerca volvulus*

Type of pathogen (bacterial, viral, fungal, protozoan, helminth or prion): **Helminth**

Body system affected: **Skin and eyes**

Signs and symptoms: **Severe itching and skin rashes, skin thickening or discoloration, nodules under the skin, eye damage that can lead to partial or complete blindness over time**

Epidemiology: **Most common in sub-Saharan Africa, transmitted by the bite of infected blackflies that breed near fast-flowing rivers. It's a leading cause of preventable blindness in tropical regions**

Disease treatment and prevention: **Treatment: Ivermectin - kills the larvae but not the adult worms, so it needs to be taken regularly; doxycycline may also be used to kill bacteria the worms rely on. Prevention: Avoiding blackfly bites with insect repellent or protective clothing, and MDA programs in affected areas to control spread.**

2. Ocular trachoma

Pathogen name: *Chlamydia trachomatis*

Type of pathogen (bacterial, viral, fungal, protozoan, helminth or prion): **Bacterial**

Body system affected: **Eyes**

One virulence factor: **Intracellular lifestyle – it hides and multiplies inside host cells, making it harder for the immune system to fight it off.**

Signs and symptoms: **Eye irritation, redness, and discharge, swollen eyelids, repeated infections can cause scarring inside the eyelid. In severe cases, eyelashes turn inward and scratch the cornea, leading to blindness.**

Epidemiology: **Leading cause of infectious blindness worldwide. Mostly found in developing countries, especially in parts of Africa, the Middle East, Asia, and Latin America. Spreads through direct contact with eye/nose secretions or indirectly through flies and contaminated towels.**

Disease treatment and prevention: **Treatment: Antibiotics like azithromycin or tetracycline eye ointment. Prevention: Improved hygiene and sanitation (regular face washing). Controlling fly populations. Public health programs following the SAFE strategy: Surgery for advanced cases, Antibiotics, Facial cleanliness, and Environmental improvements**

3. Creutzfeldt-Jakob disease

Pathogen name: **Prion**