

Sterilization and disinfection

ADNAN RAMZAN

**Doctors Institute of Medical & Emerging
Science**

Terminology

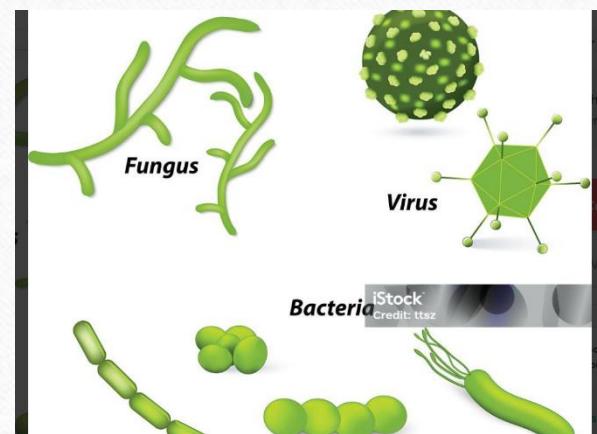
Pathogens:

The word “pathogen” comes from Greek:

- “**pathos**” meaning *suffering* or *disease*
- “**-gen**” meaning *producer*

or *that which generates*

➤ So, *pathogen* literally means “**producer of disease.**”



Asymptomatic infection:

- The term “**Asymptomatic infection**” is built from Greek roots:
- “**a-**” = *without*
- “**symptoma**” = *occurrence, happening, symptom*

➤ *An infection that occurs without producing symptoms.*

Systemic infection:

- **infection that spreads throughout the body via the bloodstream** affecting multiple organs and tissues.
- Unlike **localized infections**, which remain confined to one site, systemic infections can cause **widespread inflammation, fever, sepsis**, if not controlled.

Disease:

- Abnormal condition affecting an organism's structure or function, not immediately caused by external injury, and is marked by specific signs and symptoms.
- if you break a bone in an accident, that's an injury, not a disease. But if your bones weaken over time (like in osteoporosis), that's a disease.

Communicable disease:

- **communicable disease** is an illness that can spread from one person (or animal) to another, either directly or indirectly, through infectious agents such as bacteria, viruses, fungi, or parasites.
 - **Direct transmission:** through physical contact, droplets from coughs/sneezes, sexual contact, etc.
 - **Indirect transmission:** through contaminated food, water, air, objects

Disinfection:

word “**Disinfection**” comes from Latin roots:

- “**dis-**” = *apart, away, reversal*
- “**infectio**” (from *inficere*) = *to taint, to spoil, to corrupt*

literally means “**the act of undoing infection**” or “**removing/neutralizing contamination.**”



Antiseptic:

- chemical substance which inhibits the growth of microorganisms and do not kill the organisms.
- **Antiseptic** → used on **living things** (skin, wounds) to kill germs.
- **Disinfectant** → used on **non-living things** (tables, floors, tools) to kill germs.

Sterilization:

- Process by which an article, surface or medium is free of all microorganisms, either in the vegetative or spore state.
- **Antiseptic** → Apply on skin
- **Disinfectant** → Do it on doors/floors
- **Sterilization** → Super clean, zero germs left

Term	Meaning (easy)	Used on	Example
Antiseptic	Against germs/infection	Living things (skin, wounds)	Dettol, iodine
Disinfectant	Kills germs/contamination	Non-living things (floors, tools, toilets)	Lysol, bleach
Sterilization	Destroys all forms of life (germs + spores)	Both living tools (surgical instruments) & some materials	Autoclave, boiling, UV light

Detergents:

- cleaning agents used **to remove organic matter** such as blood, pus, mucus, and body fluids from surgical instruments, equipment, and surfaces before disinfection or sterilization.
- usually **non-corrosive, water-soluble, and low-foaming**, so they don't damage delicate surgical instruments or leave harmful residues.

ANY
QUESTIONS

