

Nosocomial infections

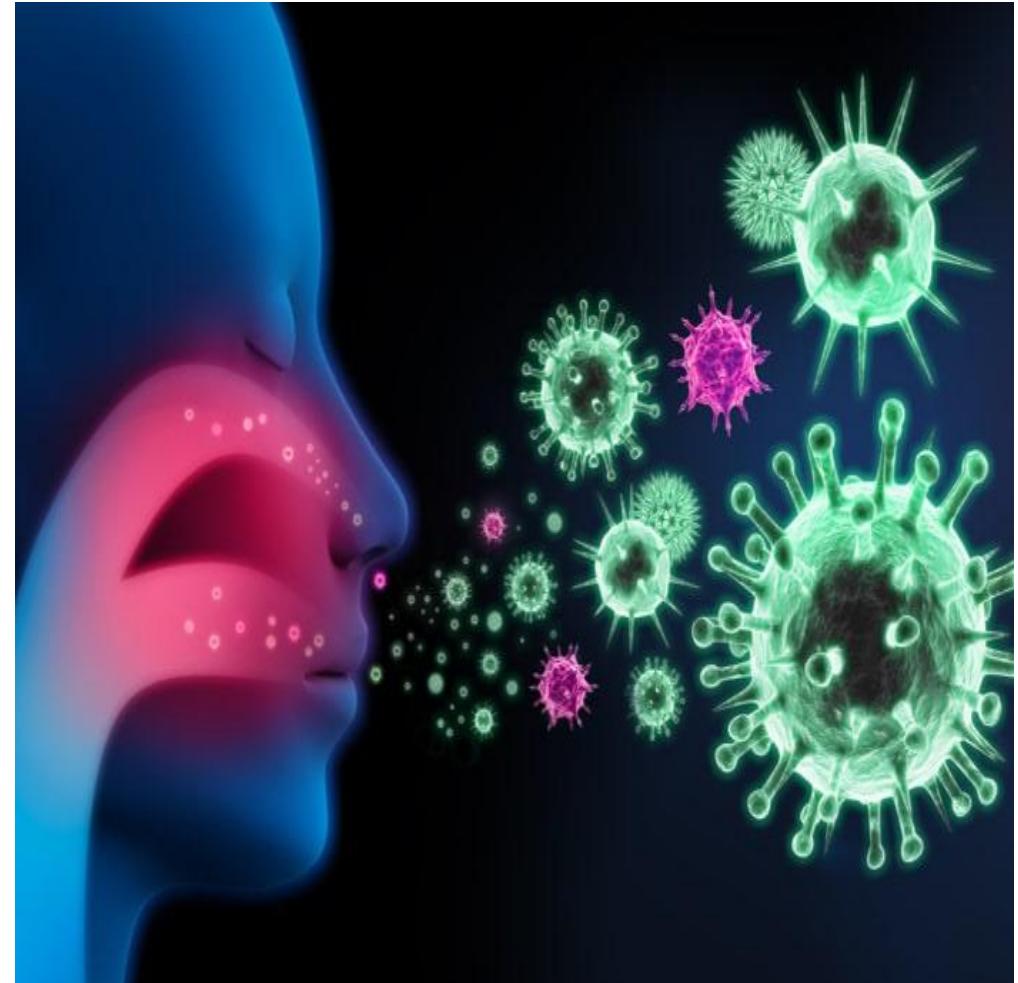
lek. Joanna Plata-Muża

Organizational issues

- 7 lectures
- Work card at the end of every lecture
- No exam at the end
- Pass a subject: completed work cards + presence of lectures
- Topic suggestions

What is an infection?

INFECTION = entry and development in a living organism of a biological pathogenic agent = presence and multiplication of a microorganism (germ) in the tissues of the host.



Nosocomial infection - definition

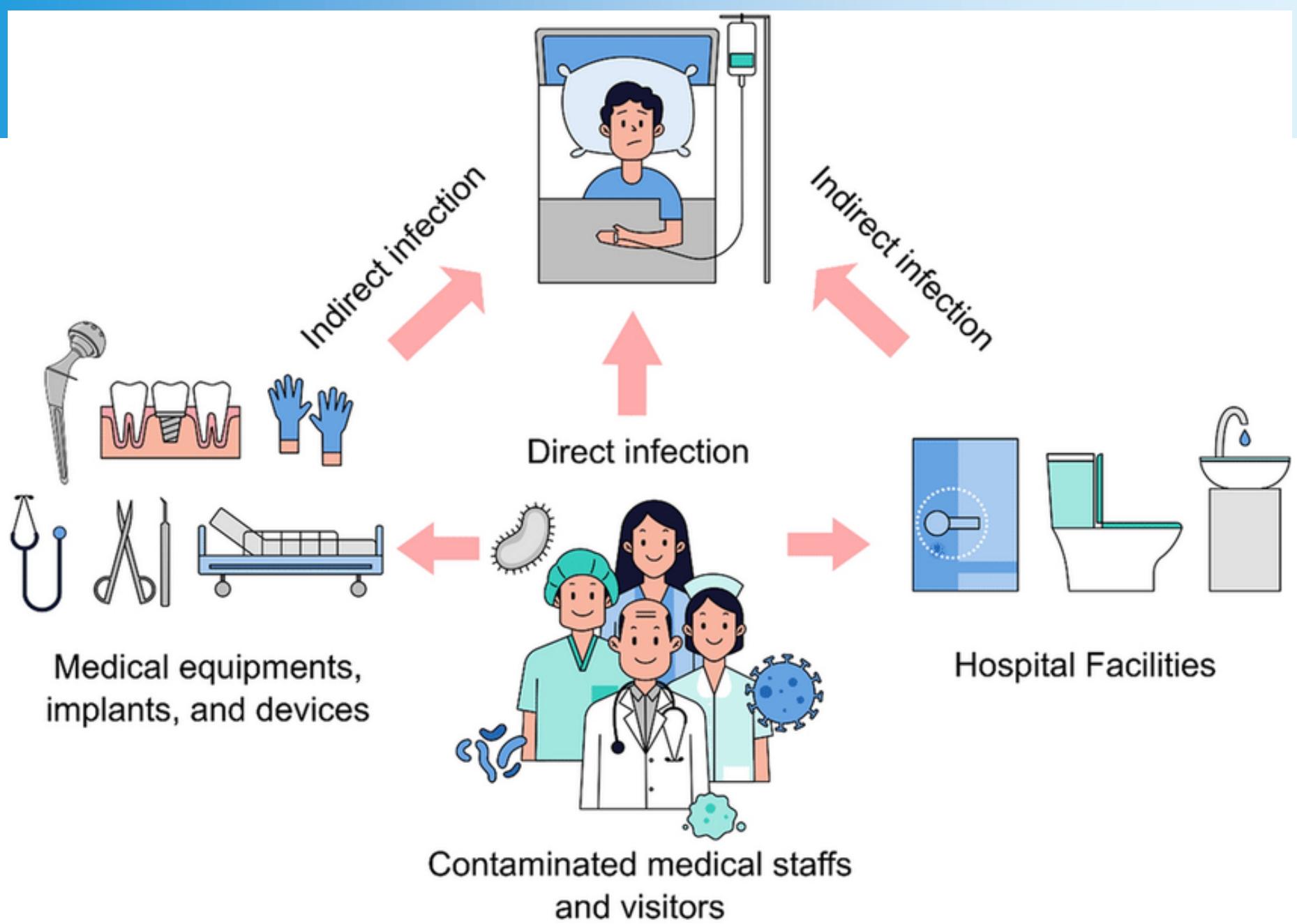


An infection that occurred as a result of treatment in the hospital or in connection with the hospital stay, secondary to the condition of the patient prior to hospitalization

From the practical side...

nosocomial infection is when it occurs during hospitalization or within 48 - 72 hours of providing a health service. But there are some exceptions WZW B, C, tuberculosis, because these infections have longer incubation period.

→ Nosocomial infection can affect both the patient and staff. It can occur both in a hospital and in another healthcare facility.



comial infections are a phenomenon that can not be controlled in hospital practice, while all activities that may limit the negative infections on patients` health should be taken.

Pathogens

The word pathogen comes from two Greek words: pathos meaning suffering and -genes, meaning "producer of something." A pathogen is an agent responsible for causing disease.

- Bacteria G(+) and G(-)
- Viruses
- Fungi
- Parasites



Pathogens

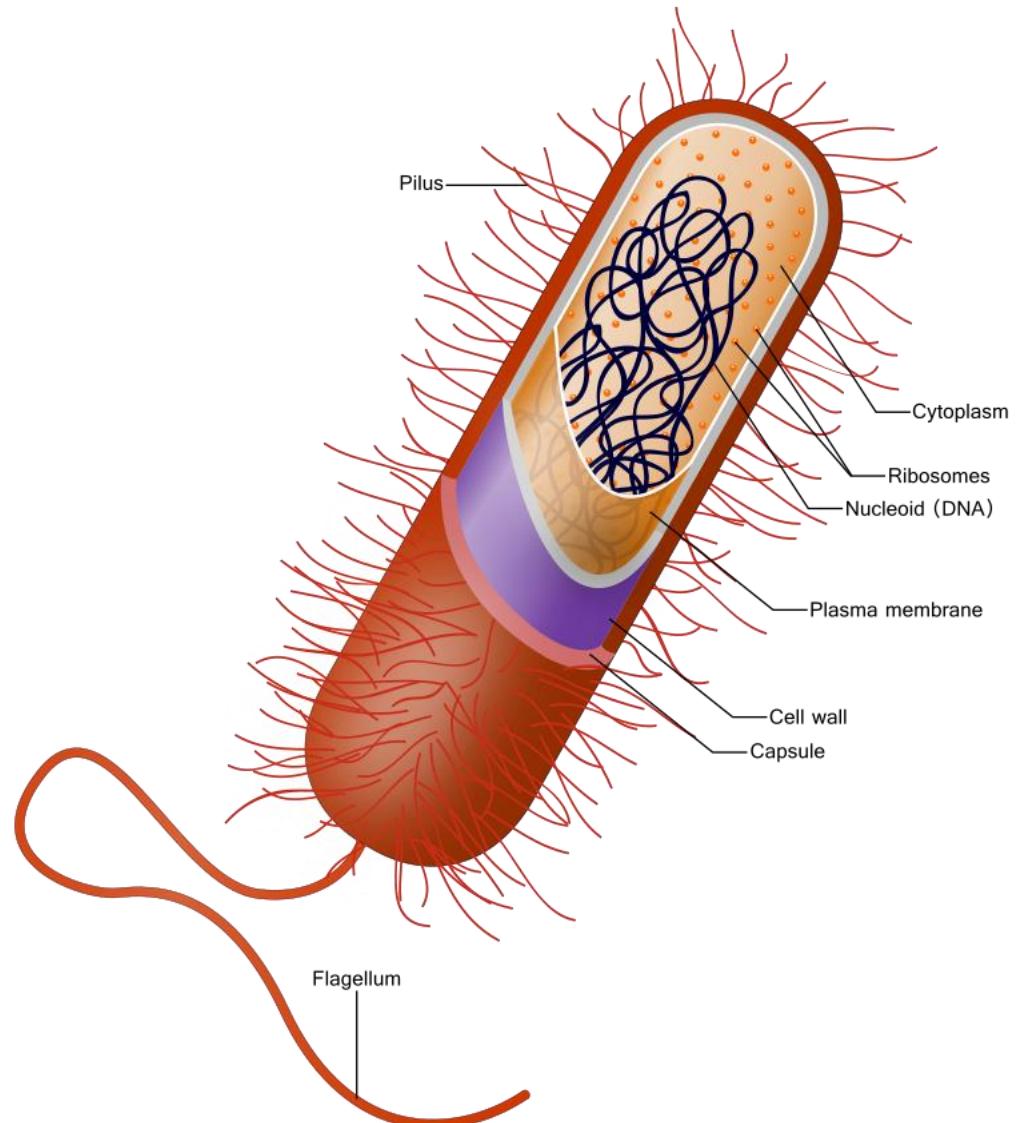
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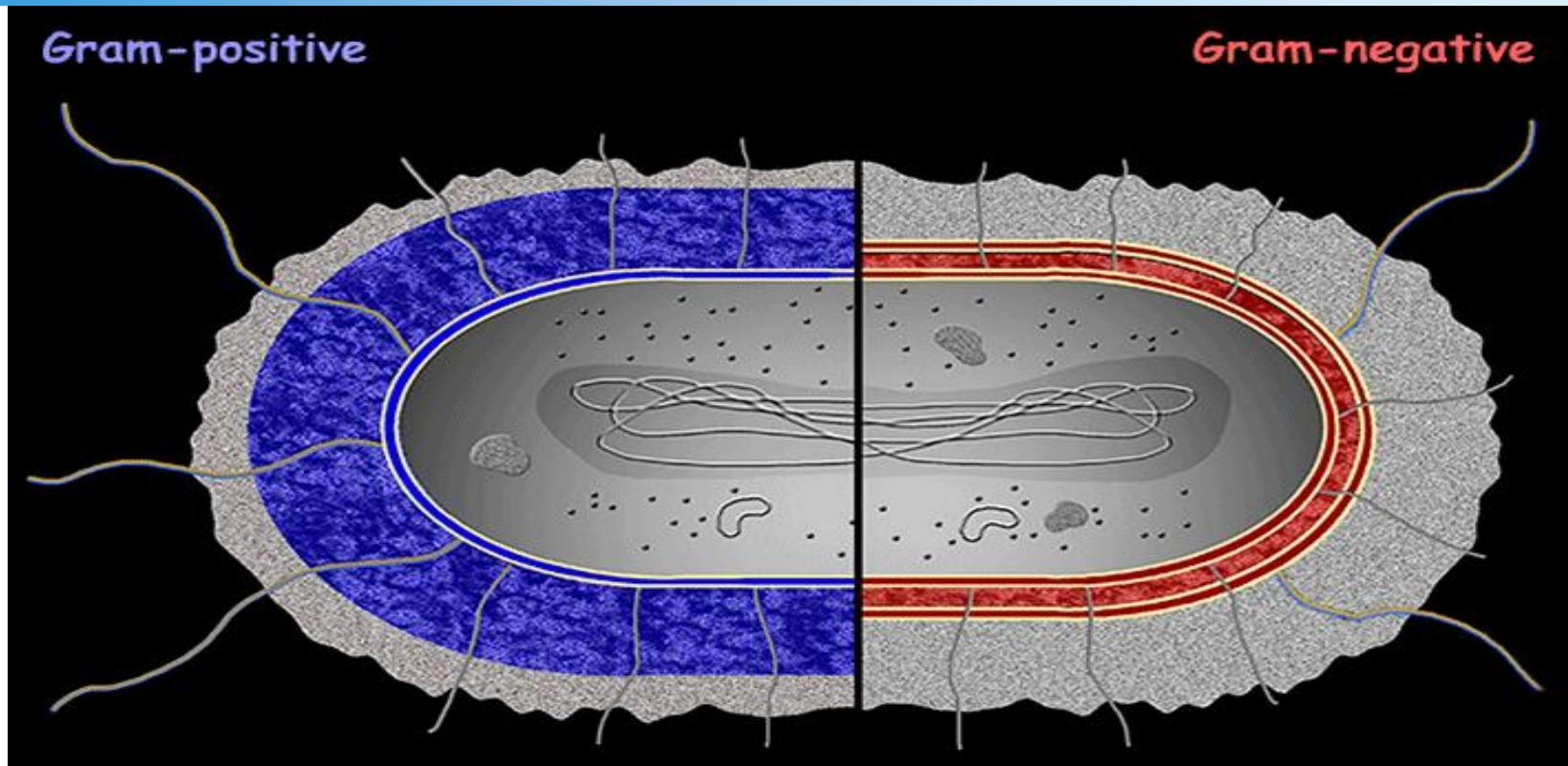


Bacteria

Bacteria - the simplest, prokaryotic unicellular organisms, found in all environments, even those in which other organisms cannot survive



Bacteria G+ and G-

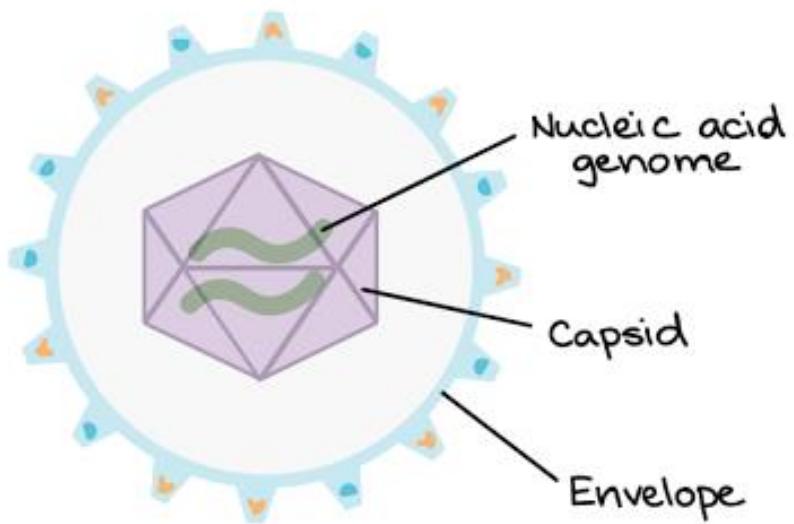


- *Staphylococcus*
- *Streptococcus*
- *Clostridium tetani*
- *Clostridium perfringens*

- *Salmonella*
- *Shigella*
- *Klebsiella*
- *Escherichia coli*

Viruses

A virus is a submicroscopic infectious agent that replicates only inside the living cells of an organism. Viruses infect all life forms, from animals and plants to microorganisms, including bacteria and archaea



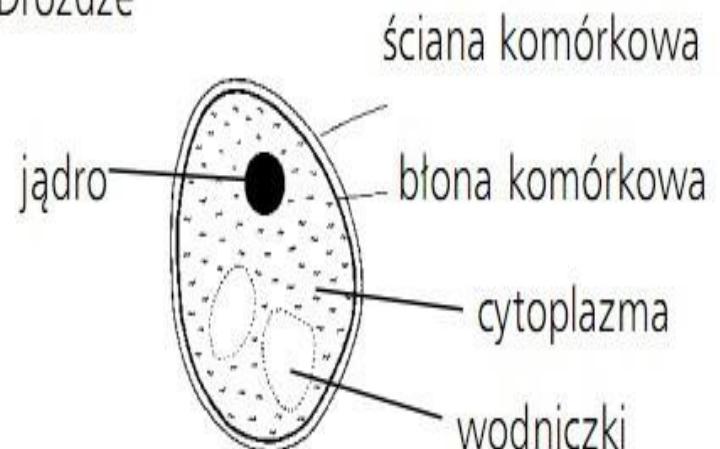
- Influenza virus
- Coronavirus
- Hepatovirus
- Chickenpox virus

Fungi

Fungi are eukaryotic organisms that can function as pathogens.

There are approximately 300 known fungi that are pathogenic to humans including *Candida albicans*, which is the most common cause of thrush, and *Cryptococcus neoformans*, which can cause a severe form of meningitis.

Grzyby jednokomórkowe.
Drożdże



<https://www.google.pl/url?sa=i&url=https%3A%2F%2Fopracowania.pl%2Fopracowania%2Fbiologia%2F>

Parasites

protozoans are single-celled eukaryotes that feed on microorganisms and organic tissues. Considered as "one-celled animal" as they have animal like behaviors such as motility, predation, and a lack of a cell wall. Many protozoan pathogens are considered human parasites as they cause a variety of diseases such as: **malaria, amoebiasis, giardiasis, toxoplasmosis**



Infections – division by origion

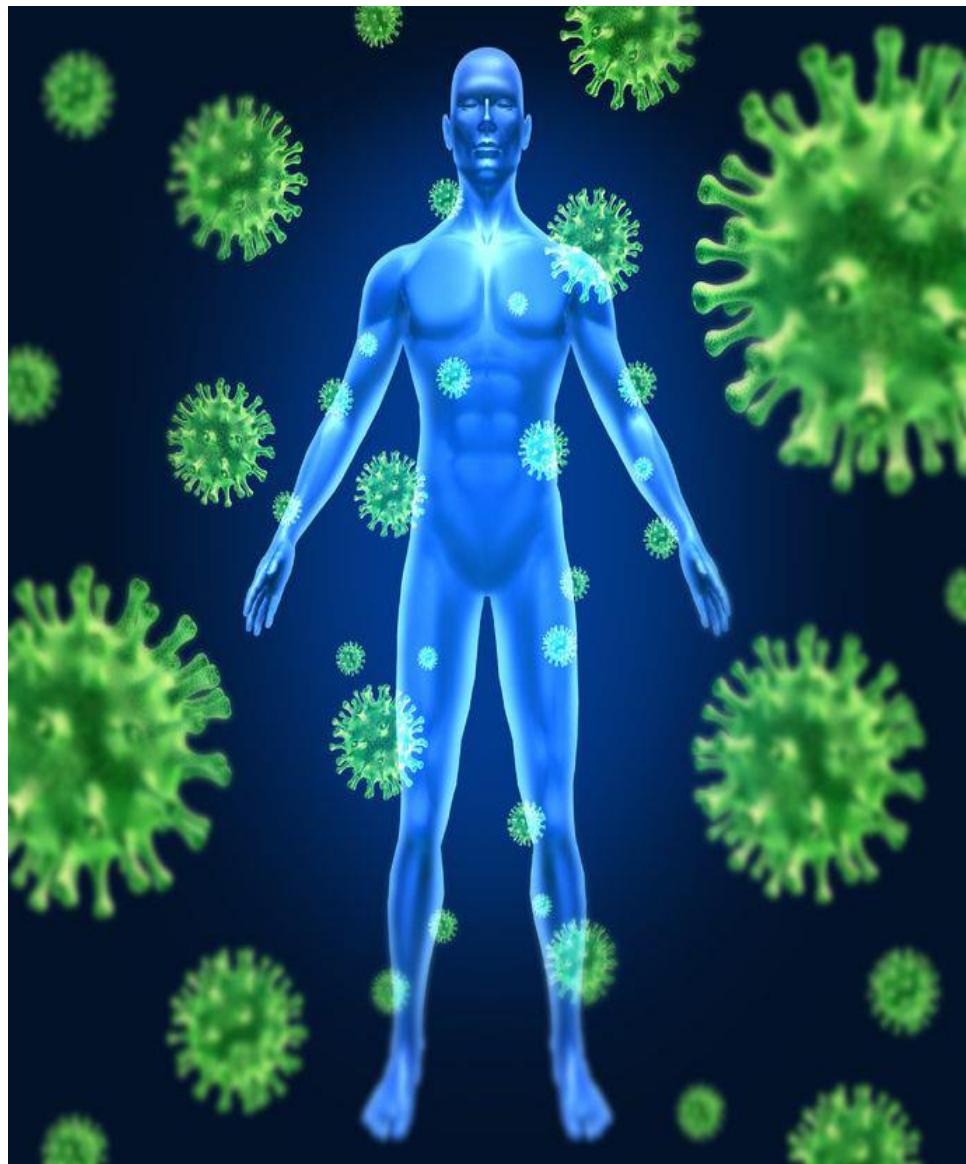
- Exogenous – caused by microorganisms dominant in the hospital environment
- Endogenous - caused by the patient's own natural flora, e.g. due to reduced immunity

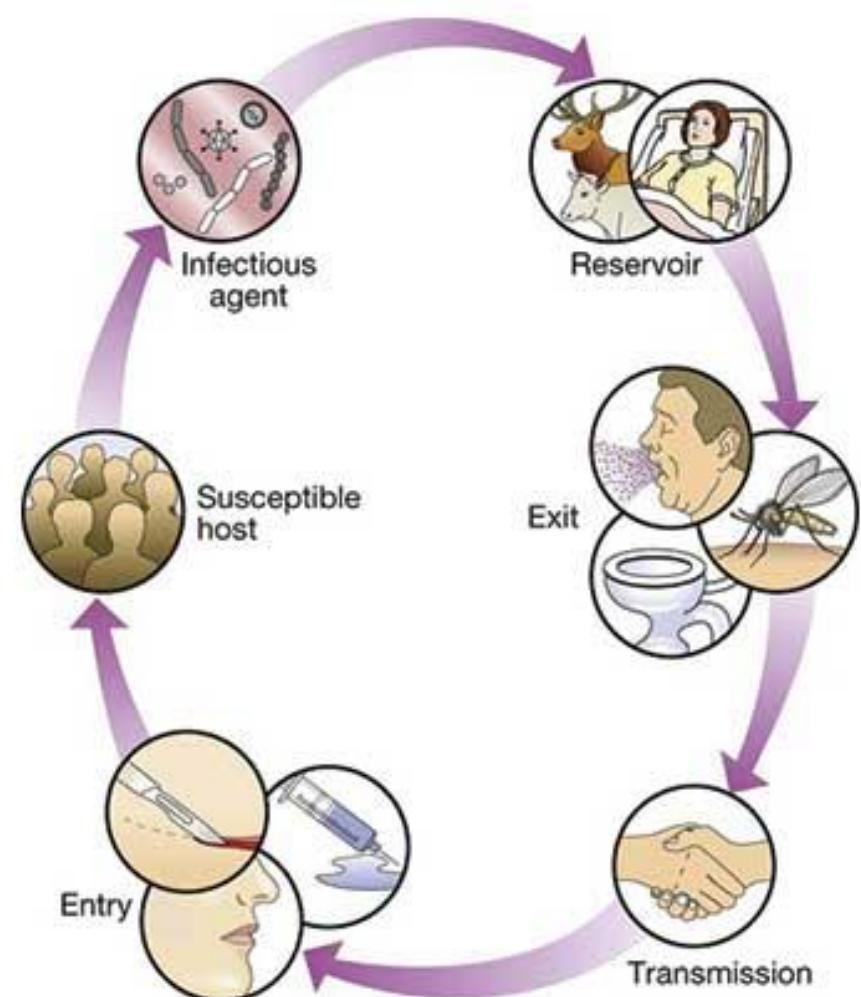
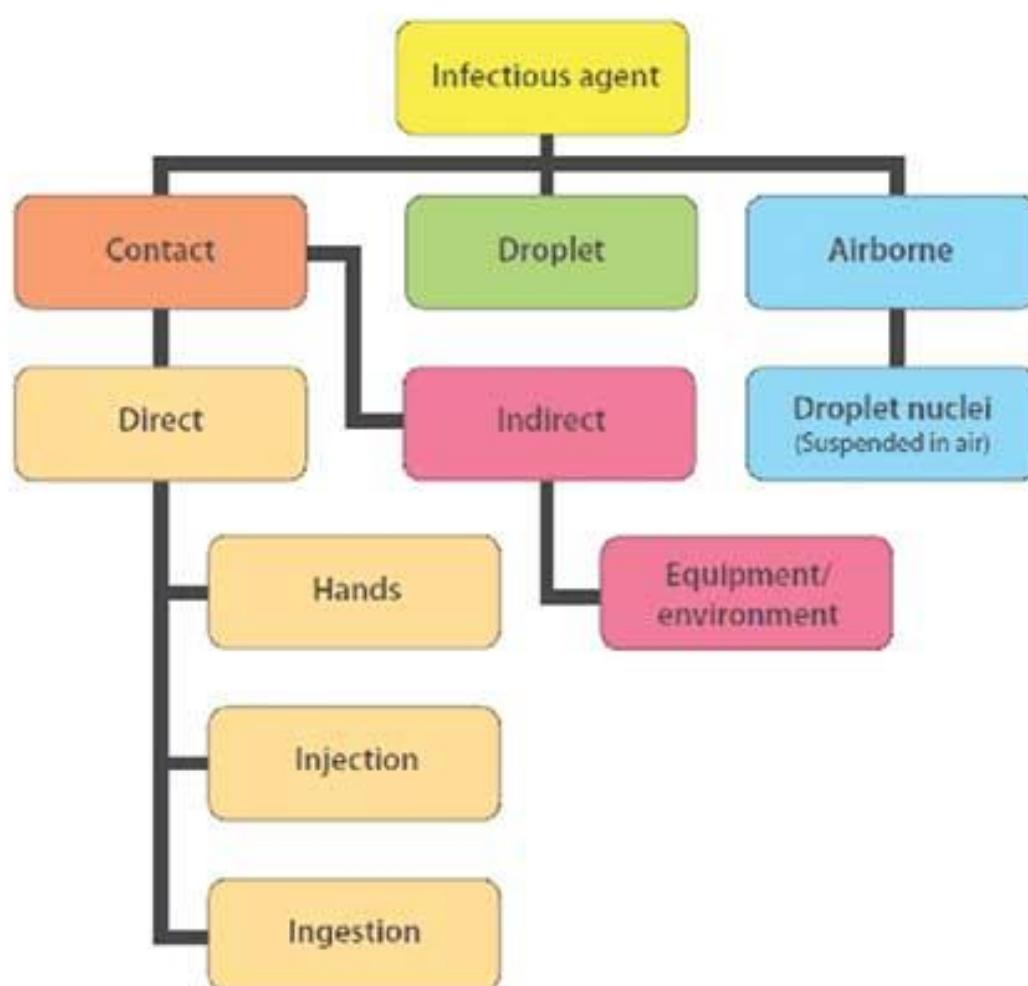
Division due to location

- Local infections - infection occurs near the site of infection, there is usually swelling, redness, soreness, local increase in temperature, e.g.: abscess, furuncle, boil. operated site
- Systemic infections - infections involving several systems or organs, most commonly fungal infections
- Generalized infections - when the infection is accompanied by symptoms of a systemic inflammatory reaction: sepsis/sepsis, septic shock.

Infection gate - the place through which pathogens enter the body

- Digestive system
- Respiratory system
- Genitourinary system
- Damaged skin





TYPES

MOST COMMON:

STAPHYLOCOCCUS AUREUS



OTHER COMMON PATHOGENS:

ESCHERICHIA COLI

ENTEROCOCCI

CANDIDA



PREVENTION



FREQUENT
HAND HYGIENE



PROPER
PPE USE



APPROPRIATE
ANTIMICROBIAL USE



ROUTINE
DISINFECTION



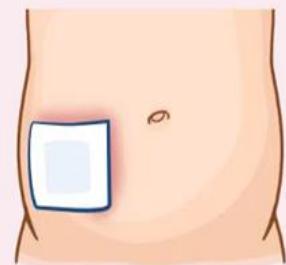
REMOVE
INDWELLING
DEVICES ASAP

CAUSES



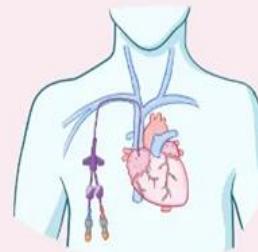
URINARY CATHETERS

↳ URINARY TRACT INFECTIONS



SURGICAL PROCEDURES

↳ SURGICAL SITE INFECTIONS



CENTRAL VENOUS CATHETERS

↳ BLOODSTREAM INFECTIONS



MECHANICAL VENTILATION

↳ PNEUMONIA

WORK CARD

- 1) Describe the definition of nosocomial infections?
- 2) What are bacteria and give same examples?
- 3) List infections gate?
- 4) Explain what is the local infection.



