

HYGIENE AND HEALTHCARE ASSOCIATED INFECTIONS

| INTRODUCTION

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HAI

Definition

- Healthcare associated infection means diseases or pathologies related to the presence of infectious agents or its products in association with exposure to healthcare facilities or healthcare procedures or treatments.

(definition for the purpose of Recommendations of the Council of the European Union, 2009)



in hospital

in outpatient medical facilities

in long-term care facilities

in day- care centres

in assisted living facilities etc.

Healthcare associated infections

HAI

WHAT
EXACTLY
are they?

- Occur in a patient during the process of care in a hospital or other health care facility.
- Are not present and incubating at the time of admission.
- Can also appear after discharge.
- Represent the most frequent adverse event during care delivery.



"The patient in the next bed is highly infectious. Thank God for these curtains."

HAI definition from:

1) EU law

<http://eur-lex.europa.eu>

2) National Healthcare Safety Network (NHSN)

A nosocomial infection associated to the current hospital stay is defined as infection that matches one of **the case definitions**

AND

- the onset of symptoms was on Day 3 or later (day of admission = Day 1) of the current hospital admission

OR

- the patient underwent surgery on day 1 or day 2 and develops symptoms of a Surgical Site Infection before day 3

OR

- an invasive device was placed on day 1 or day 2 resulting in an HAI before day 3.

HAI

Frequency

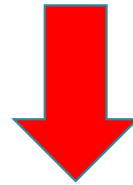


- **Frequency of HAIs from WHO data:**
 - In developed countries in average at least **7%** of hospitalized patients.
 - In developing countries in average **15.5%** of hospitalized patients.
- **ECDC** - Point prevalence survey of healthcare associated infections and antimicrobial use in European acute care hospitals 2016–2017:
 - Prevalence of HAI in acute care hospitals in the PPS sample was **5.9%** (country range: 2.9–10.0%).
 - HAI prevalence was highest in patients admitted to ICU, where **19.2%** patients had at least one HAI.

HAI

Consequences

- Prolonged hospital stay
- Long-term disability
- Unnecessary death
- Increased additional cost for care
- High cost for patient and his family
- Increased antibiotic resistance of germ
- Occupational hazards for healthcare workers



Prevention of HAIs is worth of a great attention across the world!



HAI

Epidemiological distribution

NON- SPECIFIC

- Common community-acquired infections brought by patient or other person.
- Primary pathogens
- e.g. respiratory or gastrointestinal infection

SPECIFIC

- Infection associated with specific procedures in health care facilities.
- Often caused by resistant microorganisms (**superbugs**) or opportunistic pathogens.
- e.g. urinary tract infection, blood-stream infection, ventilator-associated pneumonia,...

CHAIN OF INFECTION



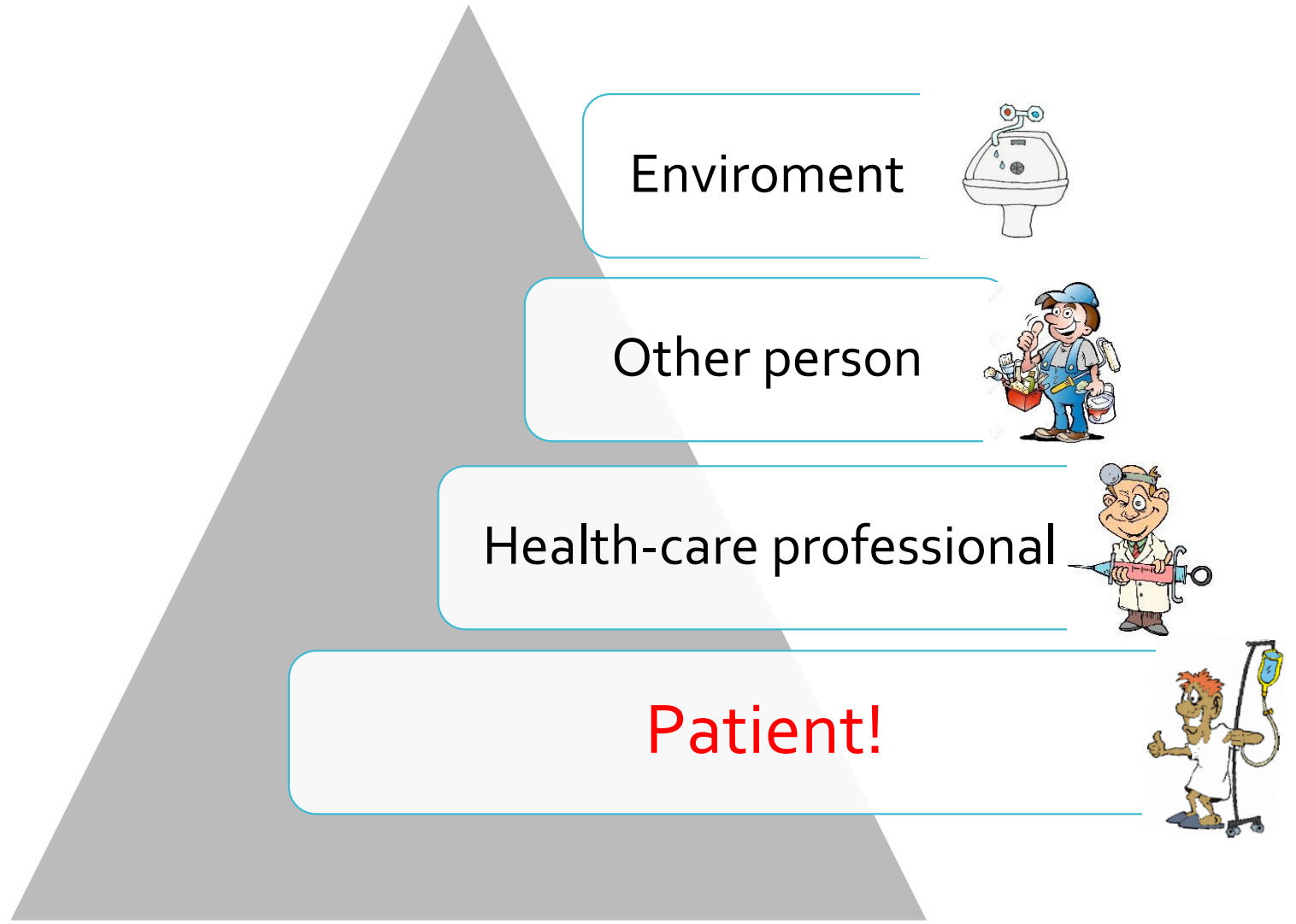
SOURCE

TRANSMISSION

SUSCEPTIBLE
PERSON

HAI

Source
in healthcare



PATIENT as a source

- **WHEN:**
 - misdiagnosed
 - in incubation period
 - abortive or latent form of infection
 - carrier of resistant agent (MRSA),
TBC, VHB, VHC,...



*You are certainly not healthy,
because medicine is so advanced
today that a healthy person
basically does not exist!*

EACH PATIENT CAN BE INFECTIOUS!!!

TRANSMISSION in healthcare facilities

- The most frequent route is **a contact, mostly indirect way** of transmission.

- **Most transmissions of pathogens happen via healthcare workers hands!**
(WHO Guidelines on Hand Hygiene in Health Care)



PATIENT as a susceptible person

IMMUNOCOMPROMISED INDIVIDUAL:

- HIV patients,
- oncology patients,
- smokers,
- diabetics,
- alcoholics,
- patients that have autoimmune or other chronic disorders.



INFECTION
PREVENTION
PRECAUTIONS



Safer care for patients.



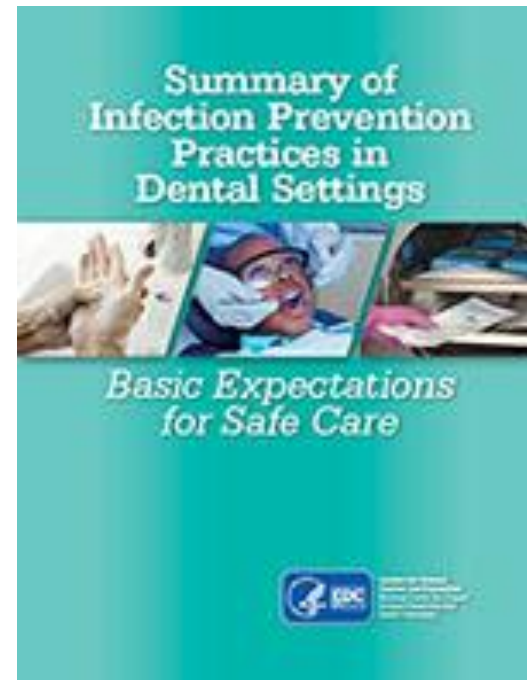
Protection for healthcare professionals.

CDC
(Centre of
disease control
and
prevention)

„Summary of Infection Prevention Practices in Dental Settings“

2016

www.cdc.gov/oralhealth/infectioncontrol/guidelines/index.htm



Possibilities of prevention

Standard precautions

the basic level of infection control precautions

to be used, as a minimum, in the care of all patients.

prevent transmission from both recognized and unrecognized sources

Isolation precautions

In specific situation

mostly aimed on recognized pathogen

differ from the way of transmission