



# Intrahospitalne infekcije

## Healthcare-Associated Infections

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### Apstrakt

**Uvod:** Još odavno je uočeno da su intrahospitalne infekcije povezane sa raznim medicinskim manipulacijama, tj. dijagnostičko-terapijskim procedurama i radnjama. Napor da se suzbije rizik od infekcije prilikom invazivnih medicinskih procedura, stari su koliko i same procedure.

Istorija razvoja bolničke službe obiluje primerima kućnih zaraza, iz grupe klasičnih infektivnih bolesti, koje su pratile čovečanstvo kroz vekove. Pegavi trbušni tifus, dizenterija i sepsa izazivali su prave bolničke epidemije. Morbili, šarlah, difterija, varičele, bronhopneumonije i druge bolesti dečijih bolnica, a i zaraznih odeljenja, širile su infekcijom na svoju okolinu. Koristeći u praksi otkrića o načinu širenja i suzbijanja infekcija, bolnice se postepeno oslobođaju intrahospitalnih infekcija, a samo grubi prekršaji osnovnih preventivnih pravila dovode do bolničkih infekcija. Međutim, nova grupa mikroorganizama širi se i ugrožava život bolesnika (virus infektivnog hepatitisa, stafilocokus piogens aureus, salmonela tif murijum, klebsiela, proteus i virusne infekcije respiratornih puteva: grip i hemofilus influenza).

Infekcija je biološki proces koji nastaje ulaskom patogenih i virulentnih mikroorganizama u makroorganizam. Pri tome dolazi do oštećenja tkiva, zbog delovanja mikroorganizama i do reakcije makroorganizma u vidu upale, odnosno „opšte reakcije organizma”, te i do pojave humorarnog i celularnog imuniteta.

Intrahospitalne infekcije su infekcije koje nastaju u hospitalizovanih bolesnika 2–3 dana po prijemu u bolnicu, u toku hospitalizacije i 2–3 dana po otpustu iz bolnice. Prema nekim istraživanjima u našoj zemlji, najmanje 5–10% bolesnika tokom boravka u bolnici dobije neku intrahospitalnu infekciju.

Uzročnici intrahospitalnih infekcija mogu biti:

- bakterije: ešerihija koli, klebsiela, enterobakter, stafilocokus aureus, pseudomonas aeruginosa, proteus, streptokokus pionensi dr.
- virusi influence, hepatitis B virus, hepatitis C virus, herpes virusi i dr.
- gljivice: candida albicans.

Posebnu značajnu ulogu u intrahospitalnim infekcijama imaju tzv. bolnički sojevi bakterija koji su otporni na većinu antibiotika.

**Epidemiologija:** Bolničke infekcije prepoznate su kao značajni javno-zdravstveni problem, kako u industrijski razvijenim, tako i u zemljama u razvoju, sa nizom posledica kao što su: medicinske, pravne, etičke, ekonomiske. Početkom sedamdesetih godina prošlog veka, u svetu se prihvata novi pristup u sprečavanju i suzbijanju bolničkih infekcija, a kojičini uvođenje epidemiološkog nadzora nad intrahospitalnim infekcijama. Epidemiološki nadzor se definiše kao organizovano

### Abstract

**Introduction:** A long time ago it was noticed that healthcare-associated infections are related to various medical manipulations, i.e. diagnostic and therapeutic procedures and actions. Efforts to reduce the risk of infection during invasive medical procedures are as old as the procedures themselves.

The history of the development of the hospital service abounds with examples of household infections, from the group of classic infectious diseases, which have accompanied humanity throughout the centuries. Spotted typhoid, dysentery, and sepsis caused real hospital epidemics. Measles, scarlet fever, diphtheria, varicella, bronchopneumonia, and other diseases in children's hospitals and infectious wards spread infections to their surroundings. Using in practice the discoveries about the way to spread and suppress infections, hospitals are gradually getting rid of healthcare-associated infections, and only gross violations of the basic preventive rules lead to hospital infections. However, a new group of wet organisms is spreading and endangering the patient's life (infectious hepatitis virus, staphylococcus pyogenes aureus, salmonella typhimurium, klebsiella, proteus and viral infections of the respiratory tract: influenza and hemophilus influenza).

Infection is a biological process that occurs when pathogenic and virulent microorganisms enter a macroorganism. In doing so, tissue damage occurs due to the action of microorganisms and the reaction of macroorganisms in the form of inflammation, that is, "general reactions of the organism", and the appearance of humoral and cellular immunity.

Healthcare-associated infections are infections that occur in hospitalized patients 2-3 days after admission to the hospital, during hospitalization, and 2-3 days after discharge from the hospital. According to some research in our country, at least 5-10% of patients get the infection during their stay in the hospital.

Causes of healthcare-associated infections can be:

- bacteria: escherichia coli, klebsiella, enterobacter, staphylococcus aureus, pseudomonas aeruginosa, proteus, streptococcus pyogenes, etc.
- influenza viruses, hepatitis B virus, hepatitis C virus, herpes viruses, etc.
- fungi: candida albicans.

A particularly significant role in healthcare-associated infections is played by the so-called hospital strains of bacteria that are resistant to most antibiotics.

**Epidemiology:** Hospital infections are recognized as a significant public health problem, both in industrially developed and developing countries, with several consequences such as: medical, legal, ethical, and economic. At the beginning of the seventies of the last century, a new approach to the prevention and suppression of hospital infections was accepted in

prikupljanje, obrada i tumačenje podataka o učestalosti bolestičkih infekcija, od strane posebno osposobljene službe, a u cilju njihovog sprečavanja i suzbijanja. Nadzor se smatra osnovnom karikom u programu za sprečavanje i suzbijanje intrahospitalnih infekcija. Epidemiološki nadzor nad intrahospitalnim infekcijama u našim zakonskim propisima je usvojen kao neophodna komponenta u sprečavanju i suzbijanju infekcija u zdravstvenim ustanovima i on je postao zakonska obaveza svih zdravstvenih ustanova i epidemiologa. Ova zakonska obaveza realizovana je u svim našim zdravstvenim ustanovama formiranjem i radom Komisije za sprečavanje bolestičkih infekcija.

the world, which was the introduction of epidemiological surveillance of healthcare-associated infections. Epidemiological surveillance is defined as the organized collection, processing, and interpretation of data on the frequency of hospital infections, by a specially trained service, to prevent and suppress them. Surveillance is considered a fundamental link in the program for the prevention and control of healthcare-associated infections. Epidemiological surveillance of healthcare-associated infections in our legislation was adopted as a necessary component in the prevention and control of infections in health institutions and it became a legal obligation of all health institutions and epidemiologists. This legal obligation was implemented in all our health institutions by the formation and work of the Commission for the Prevention of Hospital Infections.