

# An Overview of Infection Prevention and Control

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## Introduction

Infection prevention and control is a practical rather than academic sub-discipline of epidemiology focused with preventing healthcare-associated infections. In Northern Europe, infection prevention and control has been broadened from healthcare to include "infection protection" as a component of public health (smittevern, smittskydd, Infektionsschutz in the local languages). It's an important aspect of the health-care infrastructure. Infection control and hospital epidemiology are similar to public health practises, but they are carried out inside the limits of a specific health-care delivery system rather than aimed at the general population. Infection control is concerned with factors that contribute to the spread of infections in the healthcare system, whether among patients, patients to staff, staff to patients, or staff to staff. Hand washing, cleaning, disinfecting, sterilising, and vaccination are examples of preventive practises. Surveillance, monitoring, and investigating and controlling potential infection outbreaks in a hospital setting are some of the other components.

Preventing the spread of antimicrobial-resistant organisms like MRSA is a side effect of infection management. This is linked to antimicrobial stewardship, which involves limiting the use of antimicrobials to necessary circumstances, as growing use eventually leads to the selection and spread of resistance organisms. Antibiotics, antibacterials, antifungals, antivirals, and antiprotazoals are examples of antimicrobial drugs (also known as antimicrobials or anti-infective agents). Hand hygiene is one of the most fundamental, but crucial, aspects in IPC (Infection Prevention and Control). Hand hygiene cuts the risk of HAI (Healthcare Associated Infections) in half at a fraction of the expense. Hand hygiene can be accomplished with either a water-based hand wash or hand massages (alcohol based). Hand washing is a solid 7-step process, while hand rubs are a 5-step process, according to WHO guidelines.

## Description

The American Nurses Association (ANA) and the American Association of Nurse Anesthesiology (AANA) have established specific hand-washing checkpoints for nurses, including before patient contact, before putting on protective equipment, before performing procedures, after contact with the patient's skin and surroundings, after contamination of foreign substances, after contact with bodily fluids and wounds, after taking off protective equipment, and after using the restroom. Precautions such as hand sanitizer dispensers filled with sodium hypochlorite, alcohol, or hydrogen peroxide, which are three approved disinfectants that kill bacteria, are placed in certain points to ensure all before and after checkpoints for hand washing are completed, and nurses carrying mini hand sanitizer dispensers help increase sanitation in the work field. Nurses and doctors are expected to wash their hands or apply alcohol sanitizer before returning to the container to use the same equipment in

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circumstances where equipment is placed in a container or bin and picked up again.

Independent studies conducted in 1846 in Vienna and 1843 in Boston by Ignaz Semmelweis and Oliver Wendell Holmes, Sr. established a link between the hands of health care workers and the spread of hospital-acquired disease. According to the Centers for Disease Control and Prevention (CDC), "it is well recognised that effective handwashing is the most critical measure for preventing the spread of infections. "Hand washing is needed in most health-care settings in the developed world, as well as by a variety of authorities. Nurses and doctors are expected to wash their hands or apply alcohol sanitizer before returning to the container to use the same equipment in circumstances where equipment is placed in a container or bin and picked up again.

Independent studies conducted in 1846 in Vienna and 1843 in Boston by Ignaz Semmelweis and Oliver Wendell Holmes, Sr. established a link between the hands of health care workers and the spread of hospital-acquired disease. "It is widely recognised that the most critical step for preventing the transmission of germs is effective handwashing," according to the US Centers for Disease Control and Prevention (CDC). Hand washing is needed in most health-care settings in the developed world, as well as by a variety of authorities. Employers must provide readily accessible hand washing facilities in the United States, and employees must wash hands and any other skin with soap and water or flush mucous membranes with water as soon as possible after contact with blood or other potentially infectious materials, according to OSHA standards (OPIM).

The 'Ayliffe Technique,' based on the 6-step process created by Graham Ayliffe, JR Babb, and AH Quoraishi, has been embraced by healthcare practitioners in the United Kingdom. Hand drying is an important step in the hand hygiene procedure. The University of Westminster, London, presented a non-peer-reviewed study to the European Tissue Symposium in November 2008, comparing the bacteria levels present after using paper towels, warm air hand dryers, and current jet-air hand dryers. Only paper towels reduced the overall quantity of bacteria on hands, with "through-air dried" towels being the most effective of the three techniques. [1-5]

The presenters also conducted tests to see whether each type of drying procedure had the potential to cross-contaminate other restroom users and the washroom environment. Infection prevention is a hierarchy of methods for removing bacteria from surfaces such as medical equipment and tools. Cleaning is the most basic level, and it achieves significant elimination.

## Conclusion

All pathogens except bacterial spores must be removed during disinfection. All germs, including bacterial spores, must be removed or destroyed during sterilisation. The first and most basic step in preventing the spread of infection via surfaces and fomites is to clean. Chemical deadsorption of organisms (loosening bioburden/organisms from surfaces via cleaning chemicals), simple mechanical removal (rinsing, wiping), and disinfection all help to minimise microbial burden (killing of organisms by cleaning chemicals).

## References

1. Yoon, My Young, Keehoon Lee and Sang Sun Yoon. "Protective role of gut commensal microbes against intestinal infections." *J Microbiol* 52(2014):983-989.
2. Pettigrew, Melinda M., J. Kristie Johnson and Anthony D. Harris. "The human microbiota: novel targets for hospital-acquired infections and antibiotic resistance." *Ann Epidemiol* 26 (2016):342-347.

3. Marme, Gigil Daniel. "Barriers and facilitators to effective tuberculosis infection control practices in Madang Province, PNG - A qualitative study." *Rural Remote Health* 18 (2018): 143-154.
4. Abir, Mahshid, Jason Goldstick, Rosalie Malsberger and Claude M. Setodji, et al. "The Association of Inpatient Occupancy with hospital-acquired *Clostridium difficile* infection." *J Hosp Med* 13 (2018):698–701.
5. Gilmartin-Thomas, Julia FM, Danny Liew, and Ingrid Hopper. "Observational studies and their utility for practice." *Aust Prescr* 41 (2018):82–85.

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