



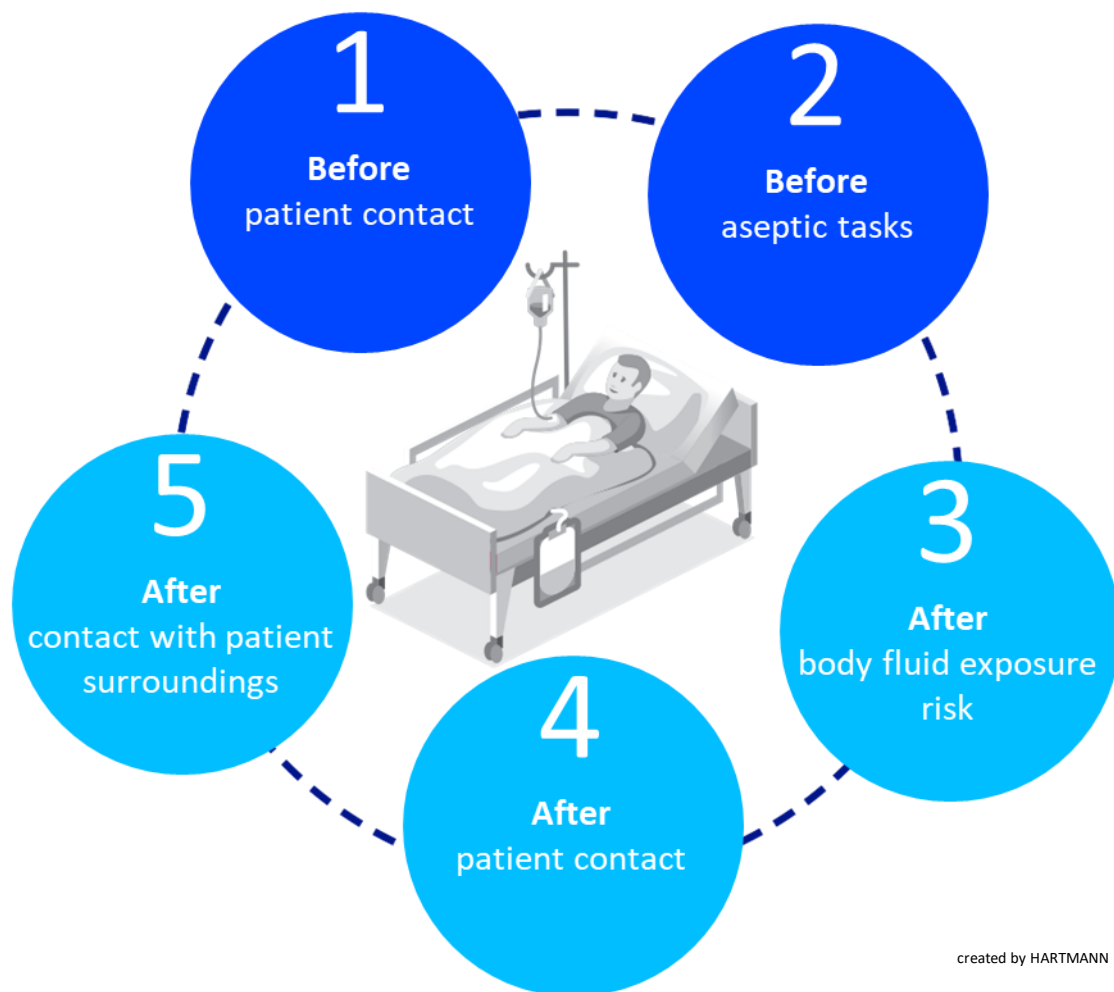
Relevance of hand hygiene for patient-to-patient transmission of pathogens via medical staff

Review of evidence: Indications for Hand Hygiene (now: WHO 5 Moments for Hand Hygiene)

REVIEW

STUDY RESULTS

Indications for hand hygiene according to expert recommendations



5 indications for hand hygiene to reduce transmission of pathogens
(Later: 5 moments for hand hygiene)





BACKGROUND

Low hand hygiene compliance is a present problem in healthcare setting despite the fact, that hand hygiene is known to be the most effective measure in preventing healthcare-associated infections.

In order to develop successful training strategies, a detailed understanding of the course of pathogen transmission via hands of healthcare staff is necessary.

GOAL

The aim of the study was to review evidence of pathogen transmission via hands in patient care in order to develop a model to optimise hand hygiene behaviour.

DESIGN AND METHODS

5 sequential steps in the cross-transmission of pathogens were defined and the literature was searched for respective evidence:

1. Organisms are present on the patient's skin or on inanimate objects in the immediate patient surroundings.
2. Organisms are transferred to the hands of healthcare workers.
3. Organisms can survive on the healthcare workers' hands for several minutes.
4. Inadequate or missing hand hygiene (washing or disinfection) by the healthcare worker or use of inappropriate agent for hand hygiene.
5. Direct contact of healthcare workers' contaminated hands with another patient or indirect contact via an inanimate object that is contaminated by hands of healthcare workers.

In addition, evidence for the following points was reviewed in order to point out areas where further research is needed:

- Experimental and mathematical models of hand transmission
- Relationship between hand hygiene and acquisition of healthcare-associated pathogens
- Implications for hand hygiene practices
- Impact of improved hand hygiene

RESULTS

The five sequential steps for cross-transmission of microbial pathogens are confirmed and underlined by literature. As the transmission of healthcare associated pathogens is linked to efficient hand hygiene, the 5 sequential steps result in defined indications for hand hygiene (now: 5 Moments for Hand Hygiene). Eventually, improved hand hygiene can lead to a reduction of infection rates in the healthcare setting. Experimental and mathematical models of hand transmission represent a useful tool to predict effects of infection control measures.

Summary of hand transmission and indications for hand hygiene during patient care:

1. Cleanse hands
 - immediately before having direct contact with patient
 - after direct contact with patient
 - after contact with inanimate object(s) in the immediate vicinity of the patient
2. Cleanse hands
 - before handling an invasive device for patient care (regardless whether gloves are used or not)
 - after removing gloves
 - after contact with body fluids or excretions, mucous membranes, non-intact skin, or wound dressing
3. Cleanse hands
 - if moving from a contaminated body site to a clean body site during patient care
4. Cleanse hands
 - after direct contact with patient and/or immediately before direct contact with the next patient

CONCLUSION

The main factor to reduce healthcare-associated infections and transmission of pathogens from patient-to-patient by medical staff is hand hygiene. Hand hygiene might be optimized by educating healthcare workers primarily according to indications for hand hygiene and the right technique.

