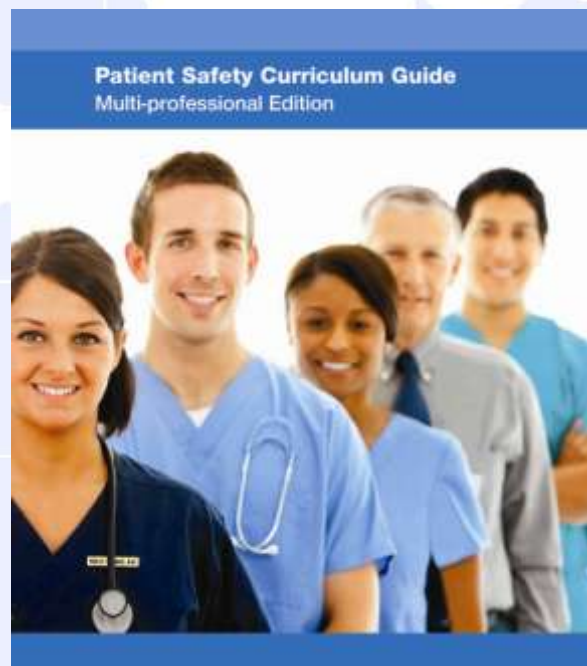


# Topic 9

## Infection prevention and control



# Learning objectives

- Demonstrate the devastating effects of inadequate infection prevention & control in health-care settings
- Show students how they as individual members of the health-care team can help minimize the risks of contamination & infection to improve patient safety

# Knowledge requirements

- The extent of the problem
- The main causes and types of HCAI
- The modes of infection transmission in health-care settings
- The main principles and methods for HCAI prevention and control

# Performance requirements (1)

- Apply standard precautions
- Adhere to other infection prevention and control measures as required
- Apply principles of asepsis
- Be immunized against hepatitis B
- Use and dispose of protective clothing and equipment appropriately
- Know what to do if exposed to blood or other bodily fluids
- Use and dispose of sharps properly
- Act as a role model for other health-care staff

# Performance requirements (2)

- Educate community members as to how they can help to prevent infections
- Encourage others to use standard precautions to prevent and control HCAI
- Understand the potential social, economic and emotional burden of HCAI on patients, and act accordingly
- Be able to discuss HCAI with patients and relatives with sensitivity and clarity

# What is the urgency?

- Can no longer rely on antibiotics
- Increased rates of nosocomial infections
- Infected patients:
  - Stay longer in hospital
  - Die
  - Are treated with more toxic and less effective drugs
  - Are prone to surgical site infections

# Global response: campaigns to decrease infection rates

- WHO “SAVE LIVES: Clean Your Hands” campaign
- Centers for Disease Control and Prevention campaign to prevent antimicrobial resistance in health-care settings
- Institute for Healthcare Improvement “5 million lives” campaign

# Main causes of infection

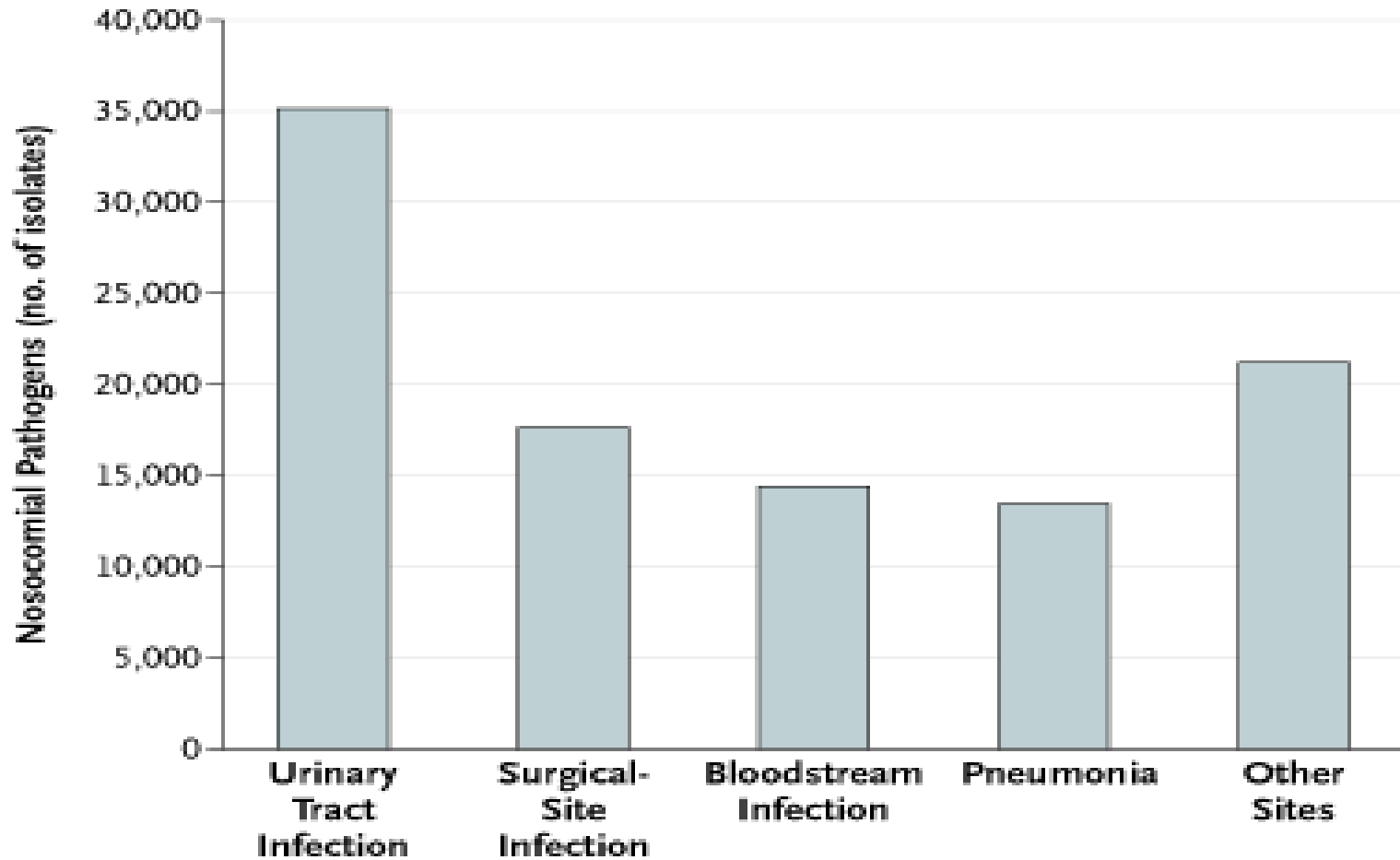
- Person-to-person via hands of health-care providers, patients and visitors
- Personal equipment (e.g. stethoscopes, personal digital assistants) and clothing
- Airborne transmission
- Rare common-source outbreaks
  
- Environmental contamination
- Device contamination ( e.g. catheters)
- Hospital staff carriers



# Main types of infections

- Urinary tract infections usually associated with catheters
- Surgical infections
- Blood stream infections associated with the use of an intravascular device
- Pneumonia associated with ventilators
- Other sites

# Main types of infections



Source: Burke J Infection control-a problem for patient safety New Eng Journal of Medicine

# Environmental cleanliness

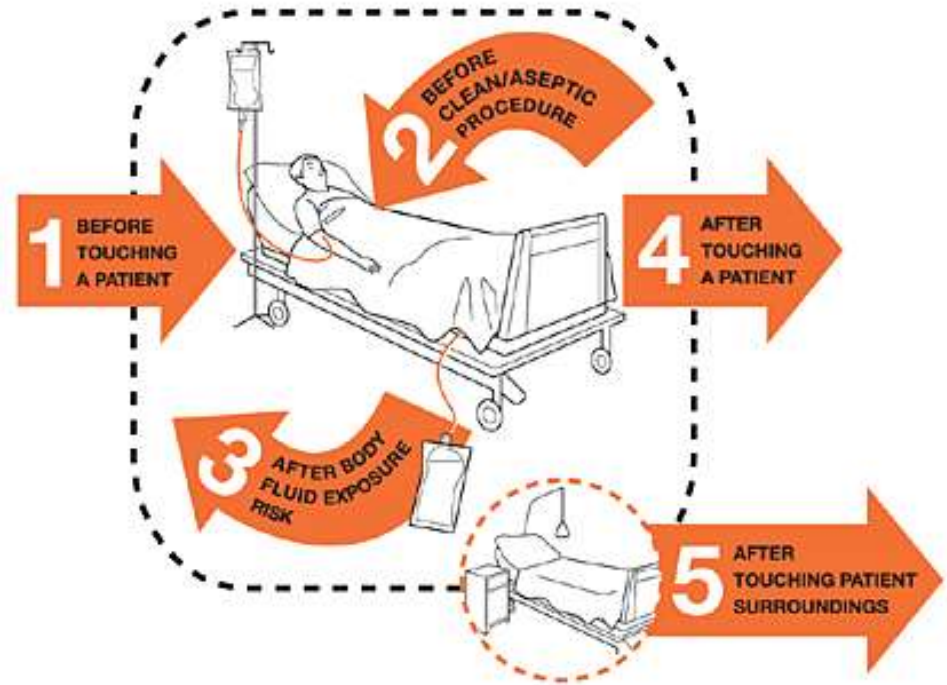
The environment:

- Visibly clean
- Increased cleaning during outbreaks
- Use hypochlorite and detergents during outbreaks

# Hand hygiene to minimize spread of infection

WHO 's ' My 5 Moments for Hand Hygiene':

1. Before Touching a Patient
2. Before Clean/Aseptic Procedure
3. After Body Fluid Exposure Risk
4. After Touching a Patient
5. After Touching Patient Surroundings



Source: <http://www.who.int/gpsc/5may/background/5moments/en/index.html>

# Personal protective equipment

- Gloves
- Gowns
- Face masks

# Safe disposal of sharps

- Keep handling to a minimum
- Do not recap, bend or break needles after use
- Discard each needle into a sharps' container at the point of use
- Do not overload a bin if it is full
- Do not leave a sharps' bin in the reach of children

# What students need to do

- Apply standard precautions
- Be immunized against Hepatitis B
- Use personal protection methods
- Know what to do if exposed
- Encourage others to use standard precautions

# Encourage others to participate in infection control

Students may routinely observe staff who:

- Fail to comply with hand hygiene practices
- Fail to practice infection prevention and control recommendations



# Summary

- Know the main guidelines in each of the clinical environments in which you are working
- Accept responsibility for minimizing opportunities for infection transmission
- Let staff know if supplies are inadequate or depleted
- Educate patients and families/visitors about clean hands and infection transmission
- Ensure patients on precautions have same standard of care as others:
  - Frequency of entering the room
  - Monitoring vital signs