



DOW UNIVERSITY OF HEALTH SCIENCES

INFECTION CONTROL BASICS

Department of Infection Control

8:30 am to 04 :30 pm

Monday to Saturday

Telephone : Ext:

Standard precautions



Hand Hygiene



Needle stick prevention



Personal Protective equipment



Waste disposal



Environmental Cleaning



Cough etiquette



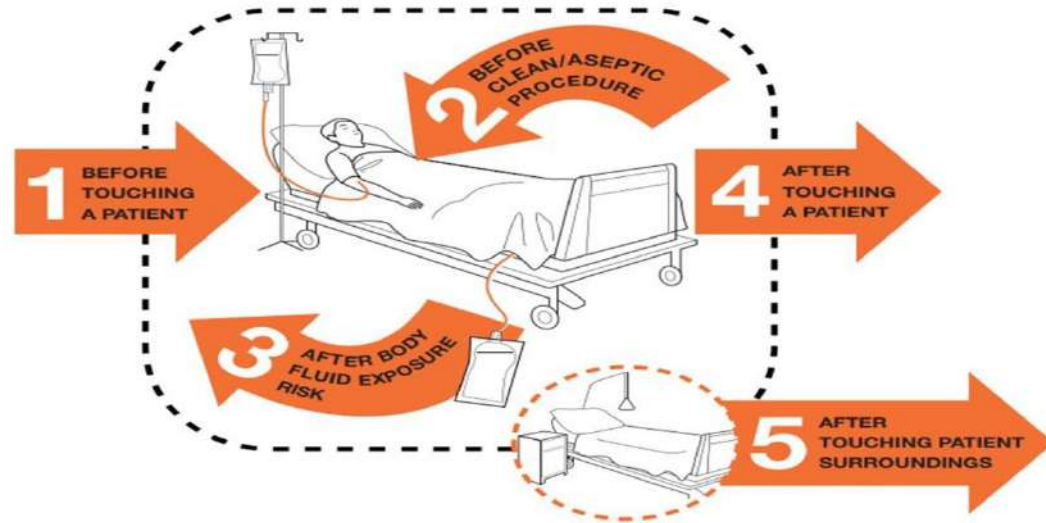
DO NOT RECAP NEEDLE

Safe injection

practices:

- Follow proper infection control practices and maintain aseptic technique during the preparation and administration of injected medications (e.g., perform hand hygiene, disinfect the rubber septum with alcohol before piercing).
- Never administer medications from the same syringe to more than one patient, even if the needle is changed.
- Never enter a vial with a used syringe or needle.
- Do not use medications packaged as single-dose or single-use for more than one patient.
- Do not use bags of intravenous solution as a common source of supply for more than one patient.
- Limit the use of multi-dose vials and dedicate them to a single patient whenever possible.
- When using multidose vials, label with the date of opening, and discard within 28 days unless manufacturer advises a longer/shorter duration. (This is different from the date of expiry).
- Always use facemasks when injecting material or inserting a catheter into the epidural or subdural space.

Your 5 Moments for Hand Hygiene



How to Handrub?



1. Hand hygiene must be performed exactly at the point-of-care).
2. Wash your hands with soap and water, when visibly soiled and after caring for a person with known or suspected infectious diarrhea. Rub hands vigorously for at least 40-60 seconds.
3. Use alcohol-based hand rub if hands are not visibly soiled. Cover all surfaces until hands feel dry. This should take around 30 seconds.

does not replace the need for hand hygiene, so hand hygiene must be performed before wearing gloves.

5. Fingernails must be clean, short and trimmed with no artificial nails, nail paint, hand jewelry, wristwatch, mehndi etc.



4. The use of gloves

Management to needle stick/sharp injury or exposure to blood and body fluids

"WIN"

Allow wound to bleed freely

Wash area thoroughly with soap and water

Do not press/squeeze the wound

Identify the source of exposure

Notify exposure to incharge and inform infection control department

Flush well if fluid contacted mucous membranes

Remove clothing if contaminated

Waste & linen management

Infectious waste/Used, infectious or soiled linen

Red bags



Non-infectious waste/Used, non-infectious or unsoiled linen

Green /black bags



Sharp waste

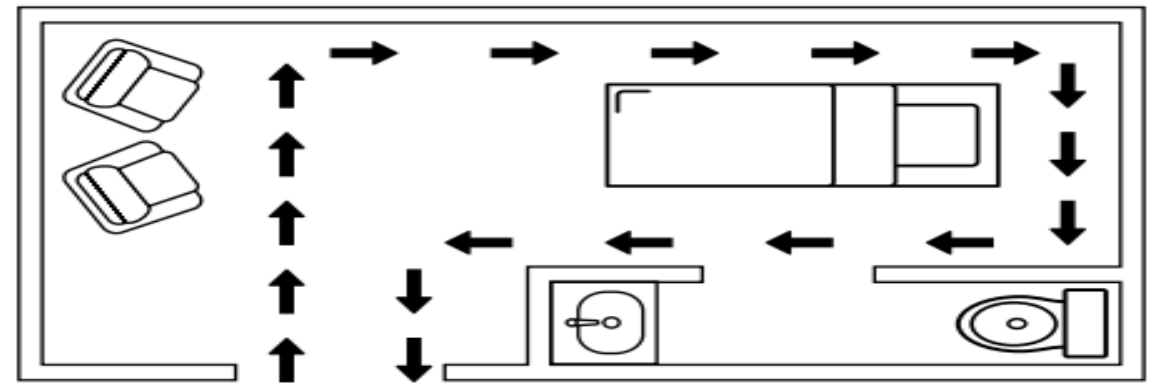
Puncture-proof container



Environmental cleaning:

- Proceed in a methodical, systematic manner
- Proceed from cleaner to dirtier
- First clean with soap and water and then disinfect with hypochlorite
- During terminal cleaning, clean low-touch surfaces before high-touch surfaces
- Clean patients' areas before patients' toilets

- Proceed from high to low (top to bottom)
- Clean and disinfect non-critical surfaces with hypochlorite solution in patient care areas especially frequently touched surfaces e.g., bedrails, bedside tables, commodes, doorknobs, sinks, horizontal surfaces and equipment near the patient



| Indication | Hypochlorite (bleach) concentration Contact time: 1 minute | Preparation Bleach + water |
|--|---|---------------------------------------|
| Blood and body fluid spills & terminal cleaning for patient infected with MDROs | 10,000 ppm [1%] | 1 +4 [200ml+800ml] |
| General environmental disinfection | 1000 ppm [0.1%] | 1 + 49 [20ml+980ml] |
| Clean instrument disinfection | 500 ppm [0.05%] | 1 + 99 [10ml+990ml] |
| Linen (final rinse) | 150 ppm [0.015%] | 1+333 [3ml + 1000ml] |
| Food preparation areas and catering equipment | 50 ppm [0.005%] | 1+1000 [1ml+1000ml] |

SPILL MANAGEMENT

1. As soon as a spill has occurred, make a loud call notifying surrounding individuals.
2. Inform your nearest fellow (spill buddy) to wait at a safe distance and provide help if required.
3. Take instruction sheet from spill kit, hand it to the spill buddy and ask him to read instructions to you as you manage the spill.
4. Wait for aerosols generated during the spill to settle, at least 3 minutes.
5. Wear personal protective equipment in spill kit i.e., thick rubber gloves, gown, mask, plastic apron.
6. Confine the liquid with boundary of absorbent paper and put its layers over the spill.
7. Saturate the area with sodium hypochlorite (bleach) (10,000 ppm available chlorine). Solution should be made daily.
8. Wait for a few minutes, preferably 15 minutes after pouring chlorine solution especially for larger spills (>10 mL) for the bleach to act.
9. Open a red bag and spread near the spill.
10. Use tongs/forceps to pick up broken glass. Do not pick up pieces with your hands.
11. Discard the broken glass in a sharp's container. If this is not possible due to the size of the broken glass, wrap the glass or container in several layers of paper and discard it carefully in a separate container. Do not place it in the regular waste container. Later label it as "SHARP".
12. Sweep remaining material with brush and pan and discard in the red bag.
13. After disinfection with bleach, clean the area with soap and water.
14. Towels and used gloves should be disposed off in a RED clinical waste bag properly labeled with date and time of spill.
15. Wear new gloves while handling and tying knot of red bag.

| TRANSMISSION BASED PRECAUTIONS | EXAMPLES |
|---|---|
| <p>AIRBORNE PRECAUTIONS:</p> <ul style="list-style-type: none"> ➤ Single room , closed door, negative pressure ➤ N95 mask with perfect fit, gloves, gown | <p>COVID 19 with aerosol generating procedure (AGP) Tuberculosis Chickenpox Measles</p> |
| <p>DROPLET PRECAUTIONS</p> <ul style="list-style-type: none"> ➤ Single room ➤ Surgical mask (N95 with AGP), gloves, gown | <p>COVID-19(without AGP) Mumps Influenza</p> |
| <p>CONTACT PRECAUTIONS:</p> <ul style="list-style-type: none"> ➤ Single room ➤ Gloves, gown | <p>Chickenpox Infectious diarrhea, skin infections, lice/scabies Multidrug resistant organism (MDRO) infection: <ul style="list-style-type: none"> • CRE (Carbapenem Resistant Enterobacterale) • VRE (Vancomycin Resistant <i>Enterococcus</i>) • MRSA (Methicillin Resistant <i>Staphylococcus aureus</i>) • MDR (<i>Pseudomonas aeruginosa, Acinetobacter spp.</i>) </p> |

Healthcare Associated Infection (HAI): An infection occurring in a patient during the process of care in a hospital or other health care facility which was not present or incubating at the time of admission.

Central Line Associated Blood Stream Infection

(CLABSI): A primary bloodstream infection (BSI) in a patient who had a central line ≥ 48 hours before the development of the BSI and is not related to an infection at another site.

Catheter Associated Urinary Tract Infection (CAUTI):

UTI where an indwelling urinary catheter was in place ≥ 48 hours before it's development.

Surgical Site Infection (SSI):

A surgical site infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place. (For most surgeries, surveillance period is 30 days).

Ventilator Associated Pneumonia (VAP): Pneumonia in a patient who had a ventilator in place ≥ 48 hours before the development of pneumonia .

PERSONAL PROTECTIVE EQUIPMENT-DONNING

GOWN -> MASK -> GOGGLE/FACESHIELD -> GLOVE

PERSONAL PROTECTIVE EQUIPMENT-DOFFING

GLOVE -> GOGGLE/FACESHIELD -> GOWN -> MASK



| Spaulding's classification of equipment decontamination | Level of Processing/Reprocessing | Examples |
|---|--|---|
| High (critical) Medical devices that are involved with a break in the skin or mucous membrane or entering a sterile body cavity or blood stream. | Cleaning followed by sterilization. Sterilization (usually heat if heat stable or chemical if heat sensitive). Heat-sensitive items may be treated with low-temperature steam and formaldehyde, ethylene oxide, hydrogen peroxide (vapor or plasma) or by irradiation. | Surgical instruments, implants, delivery sets, dental instruments, rigid heat stable bronchoscopes, laparoscopes, cystoscopes, biopsy instruments, implants and ultrasound probes used in sterile body cavities. Note: Needles and syringes, IV, urinary catheters, cardiac catheters are single-use disposal devices. |

| Spaulding's classification of equipment decontamination | Level of Processing/Reprocessing | Examples |
|--|---|--|
| <p>Intermediate (semi-critical) Medical devices in contact with mucous membranes or non-intact skin.</p> | <p>Cleaning followed by high-level disinfection as a minimum (2% glutaraldehyde, 6% hydrogen peroxide, 0.2% peracetic acid, Orthophthalaldehyde (OPA) (0.55%)etc.) Sterilization is preferred.</p> <p>Store in a clean, dry place to prevent environmental contamination.</p> | <p>Respiratory therapy and anesthetic equipment, some endoscopes, vaginal speculate, laryngoscope blades, anorectal manometry catheters, diaphragm fitting rings, tonometer, reusable bedpans and urinals. Probes including trans esophageal echocardiogram, transrectal ultrasound and transvaginal probes .</p> |
| <p>Low (non-critical) Items in contact with only intact skin and not mucous membranes or does not directly touch the patient.</p> | <p>Cleaning followed by low- level disinfection (alcohols 60-95%, chlorines, 3% hydrogen peroxide etc.)</p> <p>Store in a clean, dry place to prevent environmental contamination.</p> | <p>Stethoscopes, sphygmomanometers, blood pressure cuffs, mercury thermometers, non-invasive ultrasound probes, ECG machines, oximeters, etc.</p> |