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Infection Prevention & Control

Objectives:

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Color index:

Slides

Important

Doctors notes

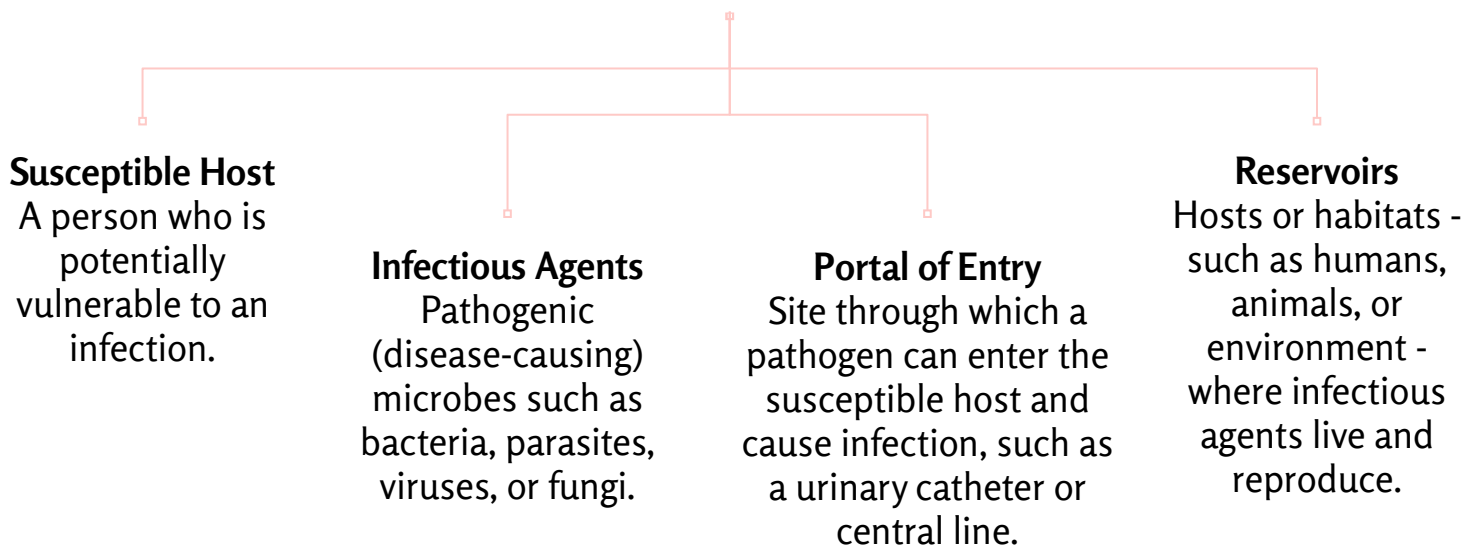
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Infection Control

is the prevention of the spread of clinically significant microorganisms that cause infection or the potential to cause disease.

“Understanding The Chain of Infection”

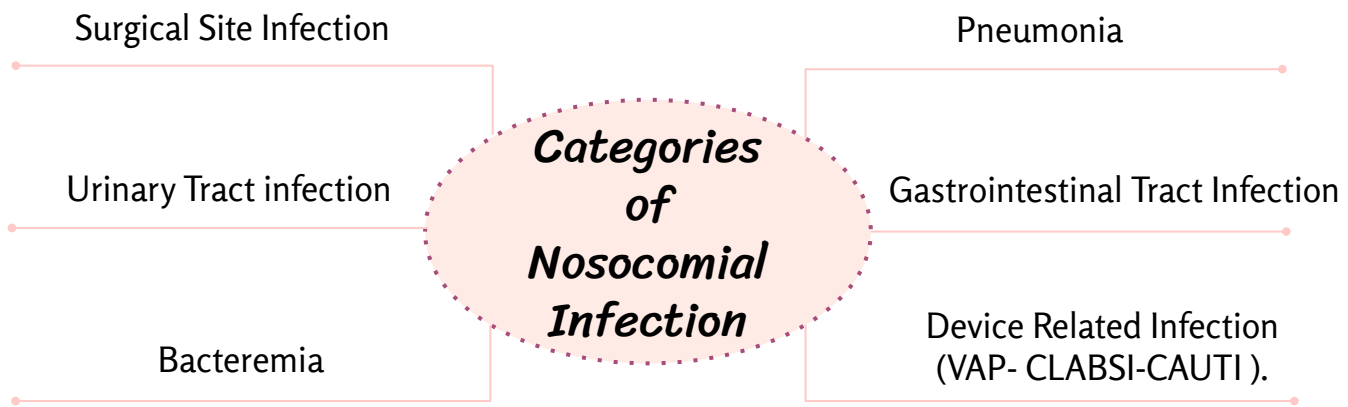


Presented on Admission (Community Acquired)

infection that presented or incubating at the time of admission to the hospital at the first 2 calendar days from admission and according to each disease case definition.

Health Care-Associated (Hospital Acquired “Nosocomial”)

It is presented after 2 calendar days of admission or within a defined period after hospital discharge according to the disease incubation period.



	Clinical Definition
Surgical Site Infection	An infection that occurs after surgery in the part of the body where the surgery took place, can sometimes be superficial (involving the skin only). Other surgical site infections are more serious and can involve tissues under the skin, organs, or implanted material.
Pneumonia	An infection in one or both lungs (causes inflammation in the air sacs), can be caused by bacteria (most common type in adults), viruses, or fungi.
Urinary Tract Infection	An infection in any part of urinary tract , most infections involve the lower urinary tract (bladder and urethra).
Bacteremia	The presence of Bacteria in the bloodstream.
Device Related Infection	Any of the hospital acquired infections in which the use of a medical device is a risk factor. <ul style="list-style-type: none"> ★ VAP (Ventilator-associated pneumonia): a lung infection that develops in a person who is on a mechanical ventilator. ★ CLABSI (Central line - associated bloodstream infections): primary laboratory confirmed bloodstream infection in a patient with a central line. ★ CAUTI (catheter- associated urinary tract infections): is a hospital acquired UTI where an indwelling urinary catheter was in place for more than two days.
Gastrointestinal Tract Infections	are viral, bacterial or parasitic infections that cause gastroenteritis.

Patients at Risk to be infected by Nosocomial Infections

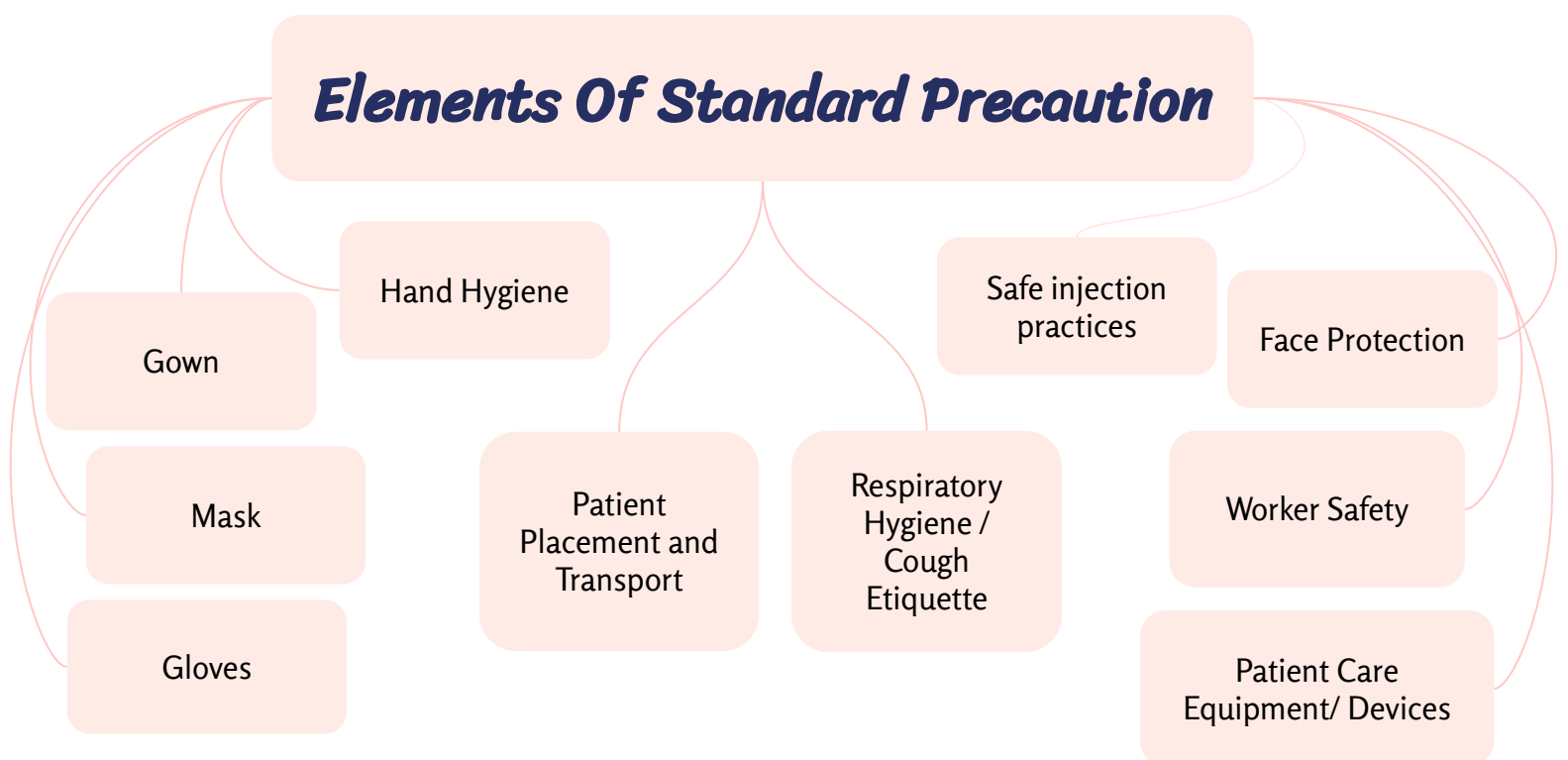
1. Immunocompromised patients (oncology, dialysis, diabetic).
 2. Prolonged Hospital Stay (Long stay patients).
 3. Use of invasive devices (ICU).
 4. Post procedure (Surgical).

Standard Precaution

A group of practices of infection prevention and control based on a principle that all blood, body fluids secretions, excretions (except sweat), non intact skin and mucous membranes may contain transmissible infectious agents regardless of their diagnosis.

(Applied to all patients regardless of the patient diagnoses).

Elements Of Standard Precaution



Hand Hygiene

- ★ Healthcare-associated pathogens are most often transmitted from patient to patient through the hands of healthcare workers.
- ★ Hand Hygiene is the single most important measure for preventing the spread of microorganisms in healthcare settings.
- ★ Hand hygiene is the single most effective measure to reduce health care associated infections.

WHO "My five (KEY) Moments for Hand Hygiene"

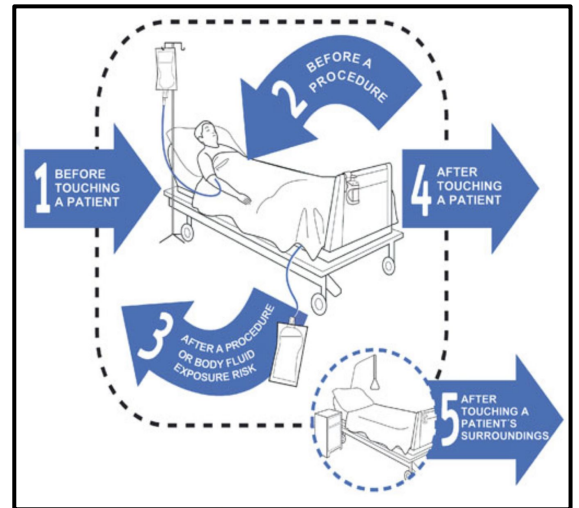
Before touching a patient

Before clean/aseptic procedure

After body fluid exposure risk

After touching a patient

After touching patient surroundings



Types of Hand Hygiene

Hand Washing

40-60 seconds

- ★ For visibly soiled hands & after using alcohol gel several times.
- ★ When handling patients colonized/infected with spore-forming organisms.

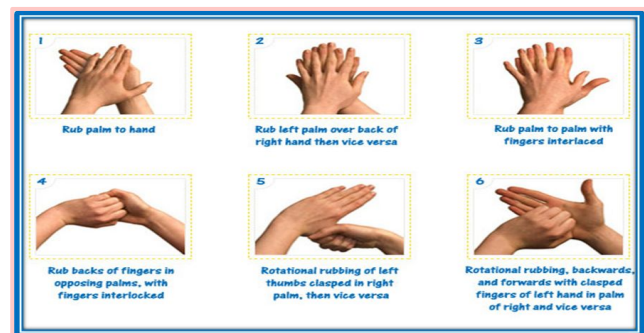
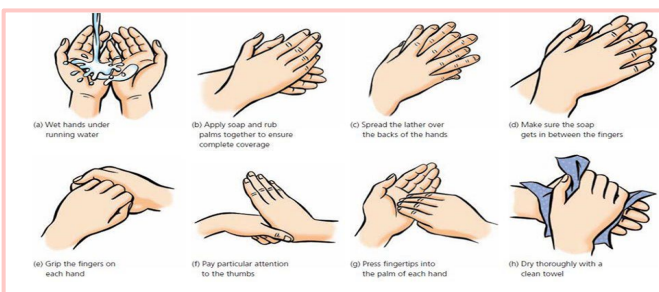
Use of Alcohol Rubs/Gels

20-30 seconds

- ★ For hands that are not visibly soiled.

Surgical Hand Scrub

- ★ Brush and nail file.
- ★ 5 minutes (first wash of the day) & 2-3 minutes (in between operations).



Personal Protective Equipment

A variety of barriers to protect both the patient and HCW's (Health Care Workers) from the potential risks of cross infection whenever blood/body fluid splashes are expected to come in contact with mucous membranes, airways, skin and clothing.



Safe Injection Practices

1

Do not recap, bend, break, or hand-manipulate used needles.

2

If recapping is required, use a one-handed scoop technique

3

Place used sharps in puncture-resistant container.

One Hand Scoop Technique & Finishing The Procedure

- Discard The Needle in Sharp Container.
- NEVER REUSE!!!!
- NEVER RECAP!!!!
- Remove Gloves & Wash Your Hands.

Patient Care Equipment

Handle

Used patient care equipment soiled with blood, body fluids in a manner that prevents transfer of microorganisms to one's self, other patients and environments.

Single Use, Disposable Items

Must be disposed properly.

Reusable Items

Have to be cleaned and reprocessed appropriately, prior to use on another patient based on the manufacture recommendation and the intended use (Spaulding criteria).

Respiratory Hygiene (Cough Etiquette)

Turn your head away from others.

Use a tissue to cover your nose and mouth.

Drop your tissue into a waste bin.

No tissue?

Use your sleeve.

Clean your hands after discarding tissue using soap and water or alcohol gel for at least 15 secs.

Transmission-Based Precautions

Airborne Precautions

Droplet Precautions

Contact Precautions

Airborne Precautions:

- Causative agents of diseases under airborne precaution are **less than 5 µm**, thus can be carried away by air currents.
- Diseases under airborne precautions:
 - Measles.
 - Tuberculosis (Pulmonary / Laryngeal).
 - Varicella.

1

Patient Placement

- Single room with negative air pressure.
- 12 air changes per hour.
- Room door closed.

2

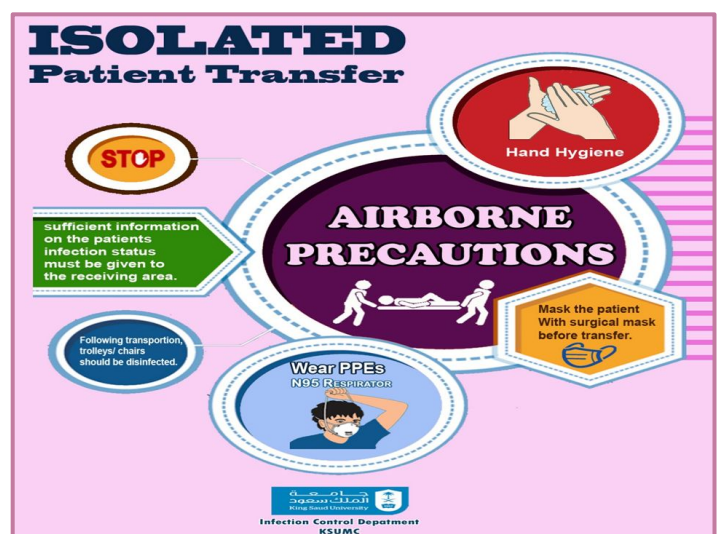
Protection for Health Care Workers (HCWs)

- Standard precautions.
- N95 respirator.

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Patient Transport

- Limit movement.
- Mask the patient with surgical masks.



Transmission-Based Precautions

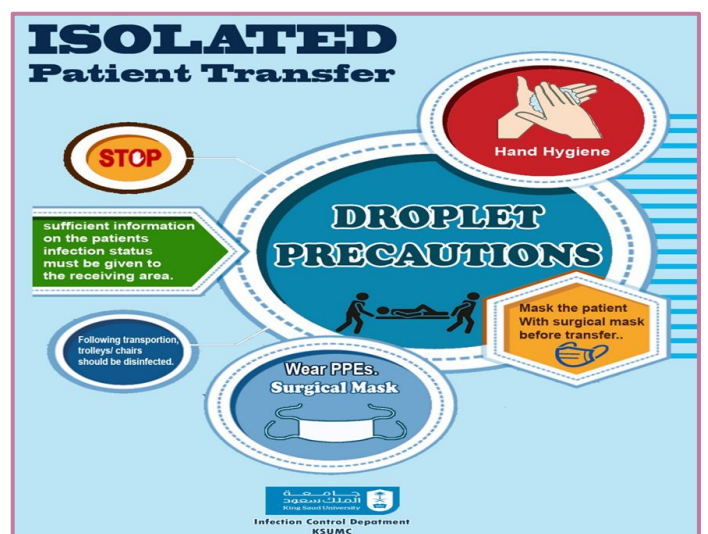
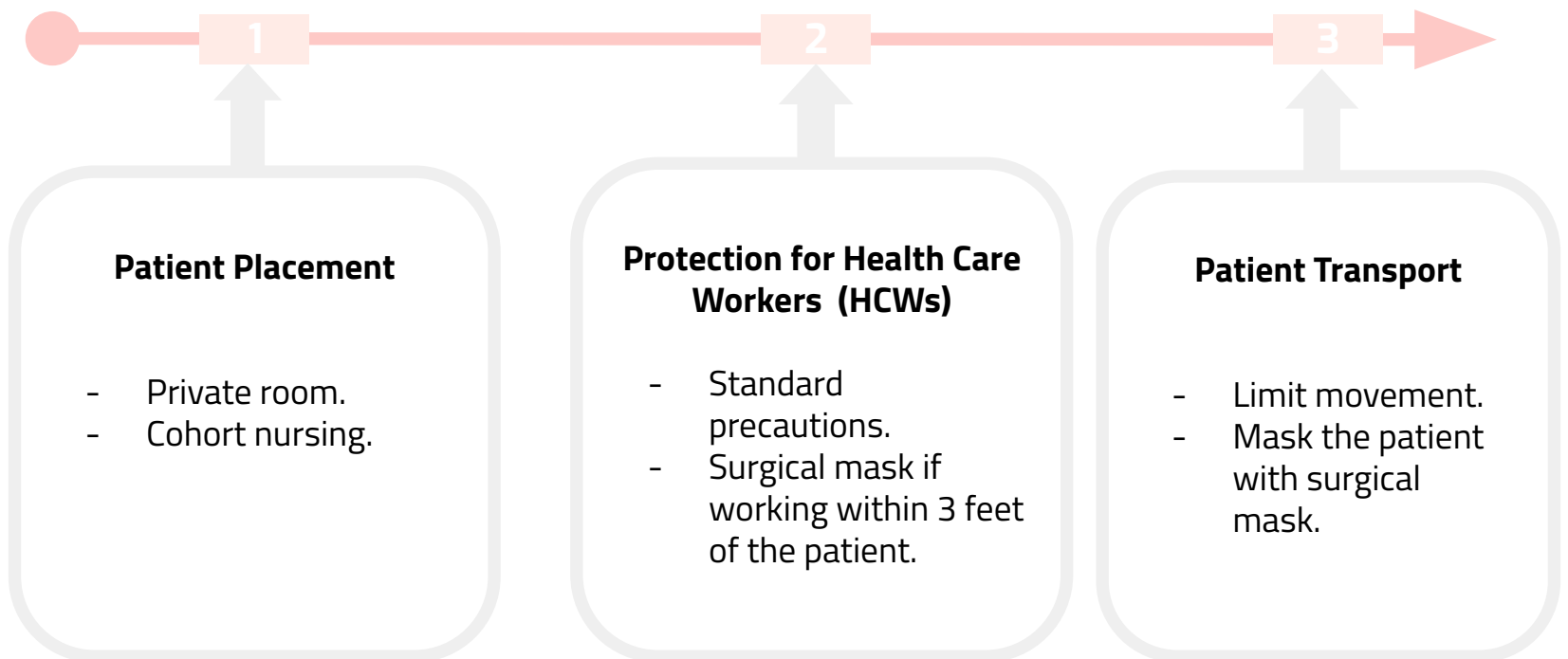
Airborne Precautions

Droplet Precautions

Contact Precautions

Droplet Precautions:

- Causative agents of diseases under droplet precaution are **greater than 5 µm**.
- They can travel up to 3 feet (1mtr).
- Diseases under droplet precautions:
 - Haemophilus influenzae type B disease, including meningitis, pneumonia, sepsis
 - Streptococcal (group A), scarlet fever in infants and young children
 - Influenza, Mumps.



Transmission-Based Precautions

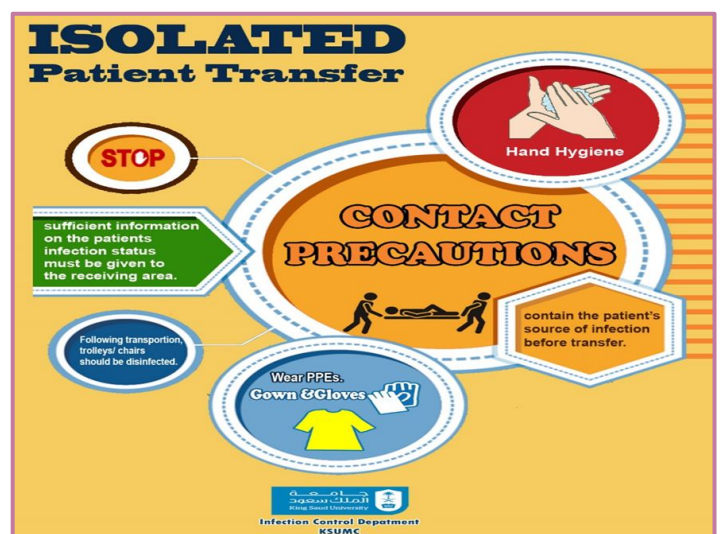
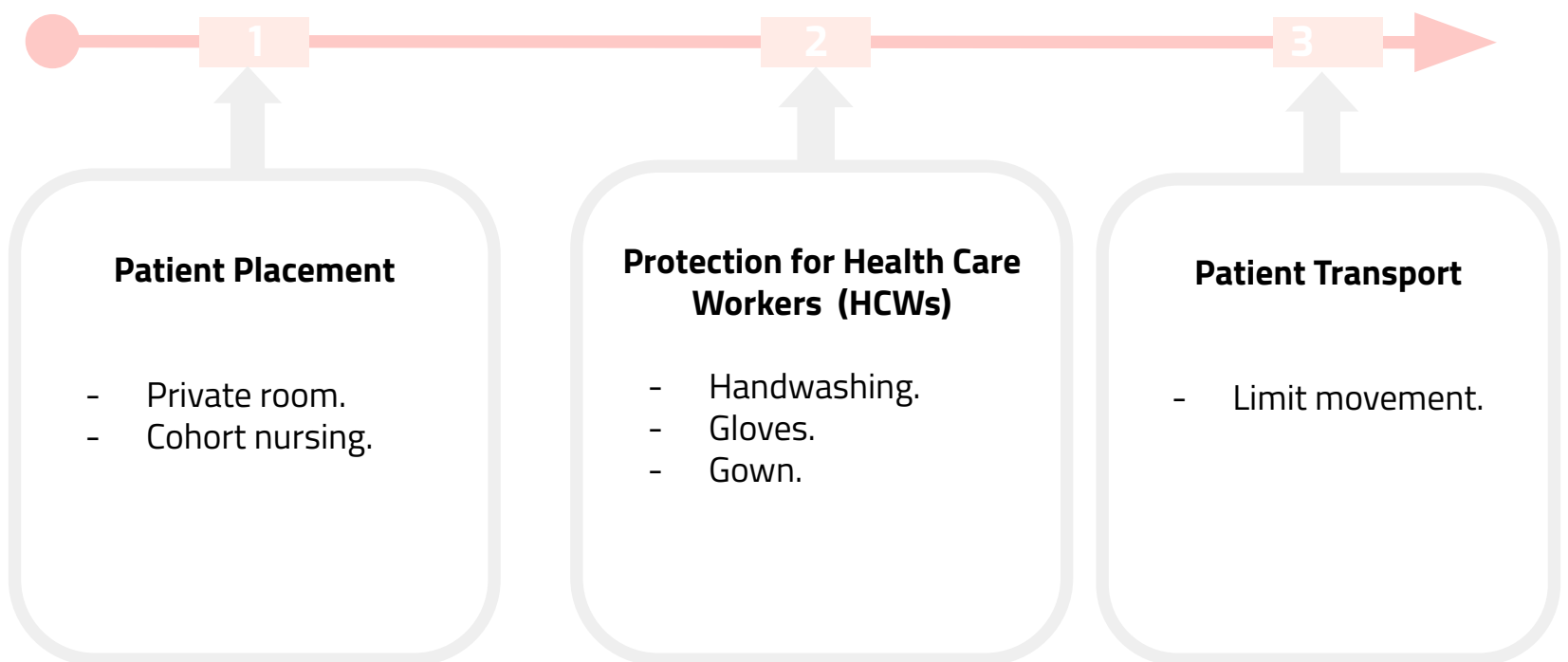
Airborne Precautions

Droplet Precautions

Contact Precautions

Contact Precautions:

- Use In addition to standard precaution, for patients known or suspected to have serious illness transmitted through contact.
- Diseases under contact precautions:
 - Multi-drug resistant microorganisms (MDRO's), VRE, MRSA, ESBL, B.cepacia.
 - RSV infection in infants, young children and immunocompromised patients.
 - Clostridium difficile enterocolitis.



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