

**SECTION 1: Infection prevention (IMEESC 2.1 and WHO pregnancy C-17)****General issues**

- minimize the risk of transmitting hepatitis, HIV-AIDS and other serious infections to the patients and to all staff
- every person (patient or staff) must be considered potentially infectious
- wear gloves before touching anything wet—broken skin, mucous membranes, blood or other body fluids (secretions or excretions)
- use barriers (protective goggles, face masks or aprons) if splashes and spills of any body fluids (secretions or excretions) are anticipated
- use safe work practices such as not recapping or bending needles, proper instrument processing and proper disposal of medical waste.

**Hand washing**

For staff, visitors and patients this is the most important factor in preventing cross-infection

- supplies of clean water, soap or disinfectant, individual towels for drying (paper or cloth) are needed
- all jewellery (except wedding rings) should be removed

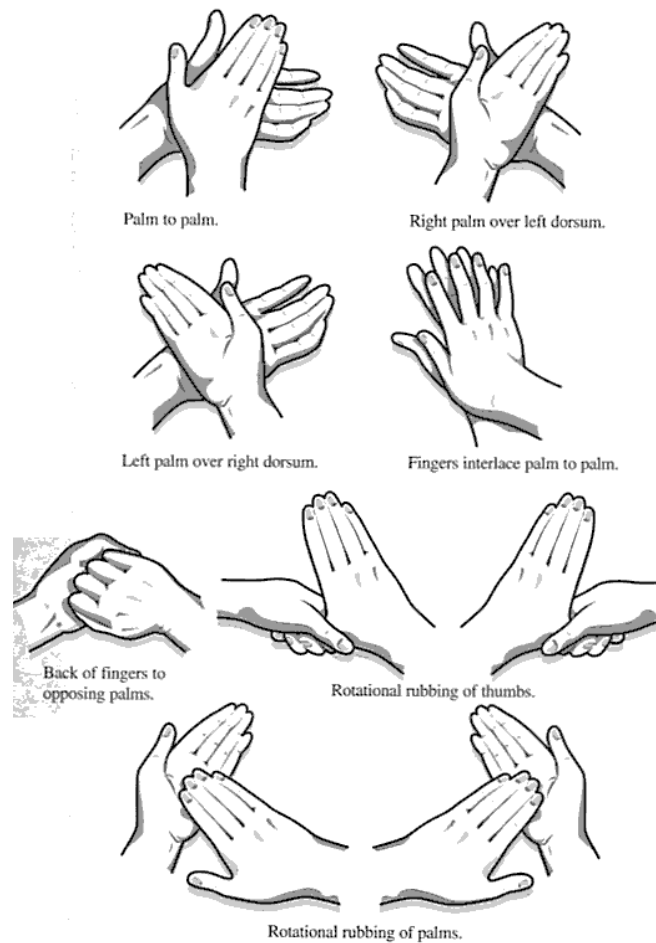
*For all methods – technique is as in Figure below*

**Methods of hand washing**

- Social Hand washing
  - Use plain soap and water
  - Wash all surfaces of hands vigorously for at least 10 seconds
- Hygienic hand washing
  - Use disinfectant and water eg. 4% chlorhexidine/detergent solution or alcohol solution eg. 70% alcohol with emollient
  - If using disinfectant and water – wash hands for 10-15 seconds
  - If using alcohol solution – apply at least 3mls and rub until dry
  - Alcohol is effective when no water and/or towels available
- Surgical hand washing
  - As for hygienic hand washing
  - Time of scrub – 2-3 minutes
  - Area – include wrist and forearms
  - Volume – 2 applications of 5mls each rubbed until dry
  - Sterile nail brushes (if available) – to clean fingernails only and only for first scrub of the day
  - Sterile towels to dry hands

### Handwashing Technique

Repeat each movement five times



## Gloves

### NOT A SUBSTITUTE FOR HAND WASHING

A glove does not provide complete protection against the spread of infection. During surgery, for example, 20-30% of gloves are punctured. However, the use of gloves is essential to reduce the spread of microorganisms, and protect patients and staff from infection.

There are various types of sterile packages. For some sterility of the outer surface of the sterile content is lost the moment pack is opened. Such articles are suitable for use in the ward (e. g., disposable syringes packed in plastic sleeves, feeding tubes, Foley's catheter) but these are not suitable for handing over to someone working the operation field.

### Cautions

- Do not use the same gloves – between patients  
between dirty and clean procedures in the same patient
- Wash hands after removing gloves and before wearing sterile gloves

The type of gloves used for different procedures is shown in Table 1 below

**Table 1: Glove and gown requirements for common procedures**

<b>PROCEDURES</b>	<b>Preferred Gloves</b>	<b>Gown</b>
Blood drawing, starting IV infusion, airway procedures	Exam *	None
Pelvic examination	Exam	None
Manual vacuum aspiration, colpotomy, repair of cervical or perineal tears	High-level disinfected surgical **	None
Laparotomy, major surgery e.g. CS, manual removal of placenta, childbirth, dilatation and curettage, invasive procedures such as central venous line insertion, repair of ruptured uterus, salpingectomy, bimanual compression of uterus, manual removal of placenta, correcting uterine inversion, instrumental delivery	Sterile surgical**	Clean, high-level disinfected or sterile
Handling and cleaning instruments	Utility ***	None
Handling contaminated waste	Utility	None
Cleaning blood or body fluid spills	Utility	None

Gloves and gowns are not required to be worn to check blood pressure or temperature, or to give injections.

\* Exam gloves are single-use disposable latex gloves. If gloves are reusable, they should be decontaminated, cleaned and either sterilized or high-level disinfected before use.

\*\* Surgical gloves are latex gloves that are sized to fit the hand.

\*\*\* Utility gloves are thick household gloves.

When putting on sterile gloves, it is essential that the external surface of the gloves is not touched by the operator's hands.

### **Barriers – protective gowns, aprons, goggles, face masks**

#### **Gowns**

- Use clean gown for all major procedures (see table above)
- Gloves should be put over gown so gloves are not contaminated
- Keep gloved hands above waist level and do not touch gown with gloves

#### **Aprons**

- Minimises cross-infection and protects uniforms
- Wear clean apron during childbirth

#### **Goggles**

Wear eye-shield or glasses when operating or helping at operations or in childbirth

## Sharps

- Use sharps "bin" with container made from tin or strong plastic which needles cannot penetrate to scratch someone. Only fill to  $\frac{3}{4}$  full, then tape over lid for security
- Never put plastic cover back on used needle
- Never bend or break needles before disposal
- Burn used needles so they cannot be re-used
- Make sure contaminated disposable syringes are disposed of safely and **not** on a rubbish tip
- For surgical needles – use needle-holders wherever possible
- Put all sharp instruments into a receiver – **Do not pass hand to hand**
- Tell other workers before passing sharps

## Decontamination of equipment and the environment



**Clean bucket containing clean squares of cloth and below it dirty bucket to receive cloths after hand washing**

Decontamination removes or destroys microorganisms to make an object safe. It includes cleaning, disinfection and sterilisation.

### Cleaning

Cleaning removes foreign material (eg. soil, organic matter, micro-organisms) from an object. Cleaning does not remove these things completely: rather only the load is reduced.

### Disinfection

Disinfection reduces the number of microorganisms (but not bacterial spores from objects or skin) to a level which is not harmful to health.

### High level disinfection

This is used to kill mycobacterium tuberculosis and enteroviruses as well as bacteria, fungi and some other viruses.

### Sterilisation

This destroys all microorganisms including bacterial spores. The level of decontamination should be such that there is no risk of infection when using equipment.

### To prevent infection during obstetric procedures

Wash hands with soap and water.

Put gloves on. The type will depend on the procedure (see table 1 "**Glove and gown requirements for common procedures**").

Wash area with soap and water (for vaginal/cervical procedures wash lower abdomen and perineum).

#### For vaginal and cervical procedures

Use high-level disinfected or sterile instruments.

Apply antiseptic solution 3 times to vagina and cervix, using ring forceps and cotton or gauze swabs.

#### For lower abdominal procedures eg. symphysiotomy

Use high-level disinfected or sterile ring forceps and cotton or gauze swabs.

Apply antiseptic solution 3 times to the area – begin at centre and work outward in circular motion. **NEVER** go back to the middle of a prepared area with the same swab.

### Prevention of post-operative wound infections

#### Surgical categories

Prophylactic antibiotics are required for

- Dirty operations eg those involving the bowel
- Clean operations with a high risk of infection eg any caesarean section, especially if there is prolonged rupture of the membranes

For these situations a relevant antibiotic should be given at the beginning of the procedure, followed by no more than two doses afterwards.

Recent evidence promotes a single dose of first generation cephalosporin or ampicillin to reduce the 8% risk of endometritis, or urinary or wound infection after Caesarian Section.

#### Skin Care

Remove hair with clippers if needed. Shaving is only safe if it does not leave cuts in the skin.

To disinfect the skin use alcohol solutions with disinfectants eg. chlorhexidine or iodine and apply with friction over a wide area for 3-4 minutes. Allow area to dry before starting the procedure.

### **Section 1**

#### **Self Assess (1)**

1. *Hand-washing is not necessary between the examination of different patients* True/False
2. *It is not necessary to wash your hands if you wear gloves?* True/False
3. *For standard pelvic examinations the following gloves should be used:*
  - (a) Sterile surgical
  - (b) Utility
  - (c) High level disinfected surgical
  - (d) Examination - single use disposable
4. *After using a syringe and needle put the plastic cover back on the needle before disposal.* True/False

#### **ANSWERS:**

1. **False**
2. **False**
3. **(d)**
4. **False**