INFECTION CONTROL

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Presentation scientific references

- **National AIDS Control Organisation**
- **Kerala State AIDS Control Society**
- **Engender Health**

Practical Objectives / Contents

- Biohazard concept
- Antiseptics and disinfectants- correct use
- Handwash importance
- PPE kits
- Instrument processing
- Surface management

- **infection prevention practices-→ mostly targeted at mode of transmission which is the easiest point to break**

Standard Precautions

- Very practical recommendations

- to minimize risk of exposure to infectious materials.

Standard precautions should be followed with

every client

B A S I C S

- **Antiseptic:**
  - **Chemicals safely used on skin and mucous membranes**
  - **reduce the number of micro organisms**
  - **Which means they are mild…**
  - ***And therefore not useful for instrument or surface cleaning !!!***

Antiseptic B A S I C S

- **Eg----**

- Chlorhexidine, Cetrimide
- Hexachlorophene
- Povidone Iodine
- Parachloro metaxylenol PCMX
- Alcohol

B A S I C S

- **Disinfectant:**
  - **Chemical used to kill micro organisms**
  - **Basically STRONG !!!---so Should not be used on skin or mucous membranes**

2 types of disinfectants

- **High-level** disinfectants
  - **eg. Cidex, 0.5% bleach solution, etc.**
  - **(Compare cost , use and efficiency of these two?.....)**
- **Low-level** disinfectants
  - ***e.g.*, Phenyl, Lysol etc.**
  - **(Compare cost and efficency with High level disinfectants?...)**

Hand wash

One of the most important measures for preventing the spread of pathogens is effective hand washing."

- IMPORTANCE AND STEPS OF HAND WASH
- TYPES OF HAND WASH

Appropriate Times for Hand washing

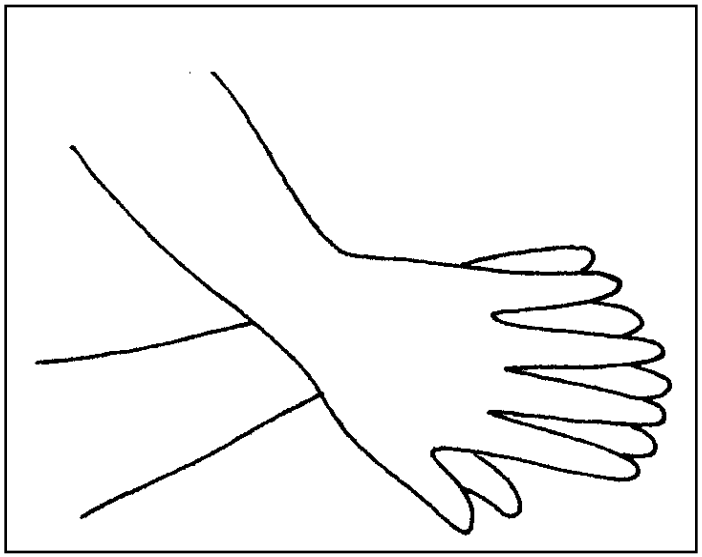
1. Immediately after arriving at work
2. Before examining a client
3. After examining a client
4. Before putting on gloves for clinical procedures.
5. After touching any instrument or object that might be contaminated with blood or other body fluids, or after touching mucous membranes
6. After removing gloves (hands can become contaminated if gloves contain invisible holes or tears)
7. After using the toilet or latrine
8. Before leaving work at the end of the day

Types of Hand Wash

- Hand wash with just water?!... Not enough.....
- Better .....
- **plain soap and running water–**

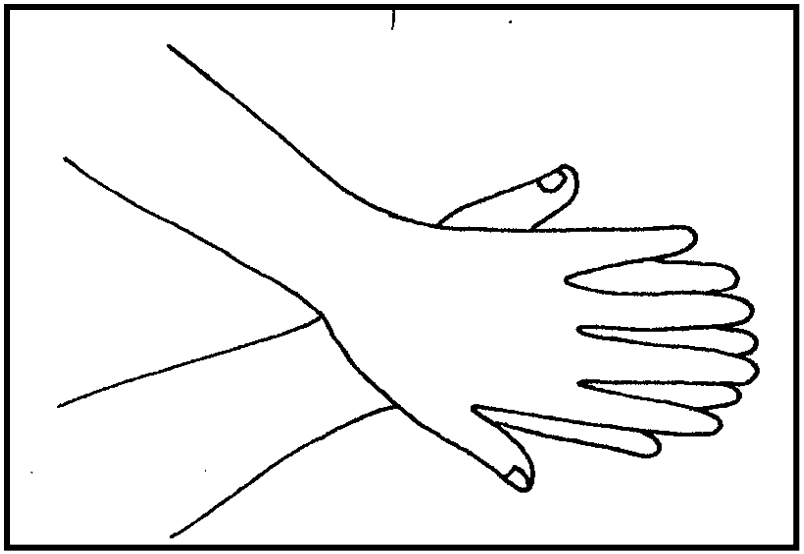
- Even better....→
- **antiseptic soap and running water**
  better choice for medical setting–

Steps of Effective Hand washing



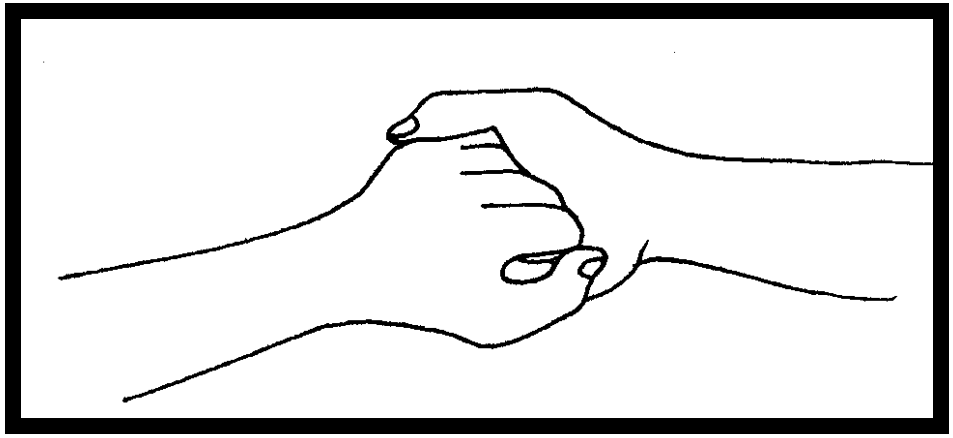
Step 1: Wash palms and fingers

Steps of Effective Hand washing



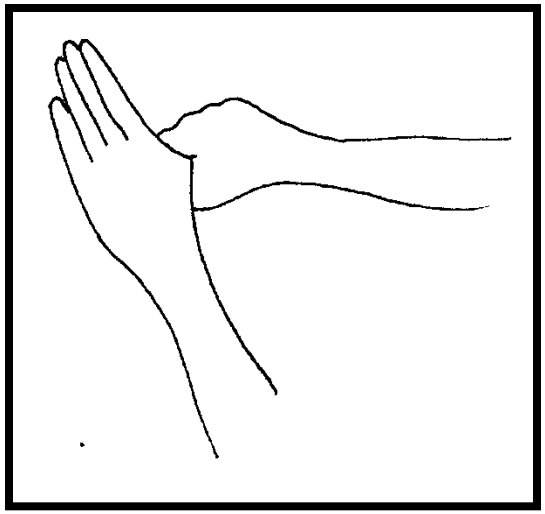
Step 2: Wash back of hands

Steps of Effective Hand washing



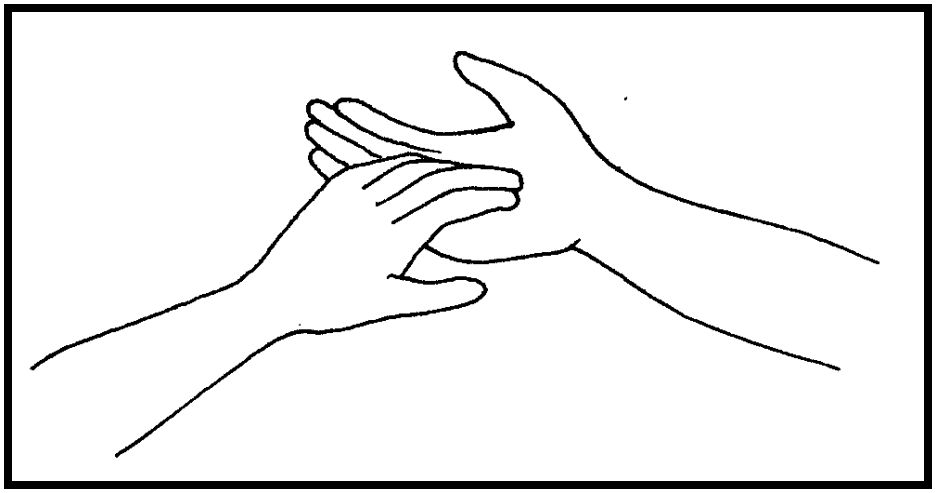
Step 3: Wash fingers and knuckles

Steps of Effective Hand washing



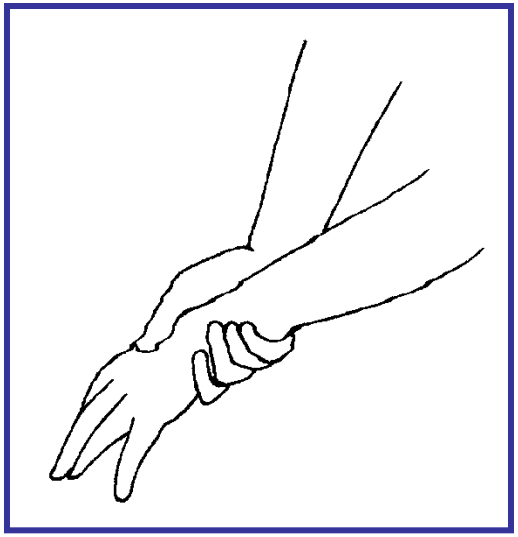
Step 4: Wash thumbs

Steps of Effective Hand washing



Step 5: Wash finger tips

Steps of Effective Hand washing

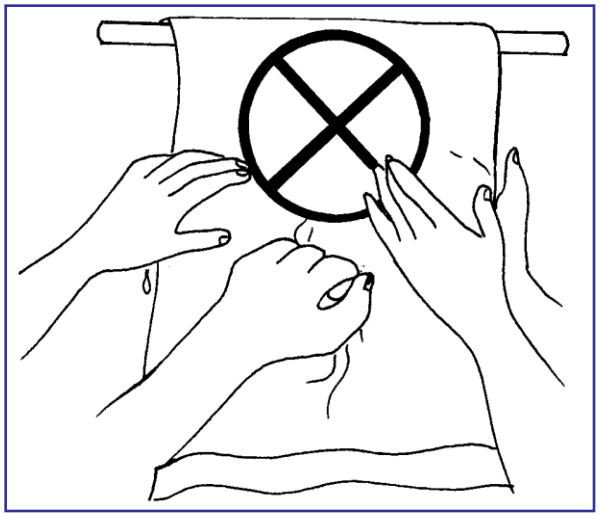


Step 6: Wash wrists

Remember:

- **Keep soap rack or dish, which allows for drainage.**
- **Liquid soap dispenser far better than soap pieces**
- **Avoid dipping or washing hands in a basin containing standing water, even if an antiseptic solution (such as Dettol or Savlon) is added.**
- **If running water is not available, use a bucket with a tap or a bucket and mug, or alcohol hand scrub.**
- **Dry hands with a clean personal towel or air-dry**

Don’t use a common towel to Dry hands



Surgical hand scrub

Steps of Surgical Hand scrub

- **Step 1** Remove all jewellery on your hands and wrists.
- **Step 2** **As per theatre rules in force**

Antiseptic hand rub

- 60-95% Alcohol content
- apply 3-5 ml of alcohol hand scrub
- rub hands until dry
- Upto 70% kill in 30 sec, 99% in 1 min...

PPE- personal protection equipment

personal protection equipment

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- Gloves
- Mask
- Eye cover
- Plastic Aprons & Gowns
- Cap
- Footwear

Types of Gloves

1. **Surgical Gloves:**

2. **Single- use examination gloves**:

3.**Utility or heavy- duty household gloves**:

Follow correct method of wearing, ***and removing***

When removing avoid touching contaminated areas/outer surface

Masks

- 2 layer, 3 layer and N-95
- Standard masks to cover mouth **AND** nose
- The lower strings also to be securely fastened
- The upper rim metal band to be pressed fit over nose
- When removing avoid touching contaminated areas/outer surface

Eye Wear

eye splash risk in theatres, casualty dressing rooms, labor rooms, labs, etc

Close fitting goggles the best option

When removing avoid touching contaminated areas/outer surface

Footwear

- **Dedicated foot wear** not to be worn out of the **designated area**
- **Closed foot wear**, better, than ‘hawai slippers’
- **Decontamination** of used footwear- do as for instruments.
- Provide simple **footwear to patients** being ‘walked in’ to theatres, labor rooms

Processing of used instruments

Decontamination & Cleaning

- By soaking in 0.5% chlorine soln for

10 mts immediately after use.

Also prevents drying of blood / body fluids on the instruments!!!

Chlorine Solution

- - Destroys micro- organisms.
- - It deodorizes.
- - Not poisonous.
- - Leaves no poisonous residue.
- - Colourless , easy to handle & economical

Preparation

- 15 gm (3 teaspoons) good quality bleaching powder per litre of water.

- Take needed amount in a plastic bucket.
- Pour some water & make a paste .
- Then add rest of water slowly along the sides.
- see that there are no particles left.

Remember

- Put used items in 0.5% chlorine solution after use
- Remove after 10 minutes (Y?) and put in a bucket of water for cleaning later
- Discard 0.5% chlorine solution after 8hrs or if it becomes very dirty
- Prepare fresh 0.5% sol ……--no of times daily depending on vol of use

Cleaning

2nd step in processing of instruments

Materials required

-utility gloves, plastic gown, tooth brush basin of water, detergent, goggles/ eye wear

Sterilization

3rd step in processing of Instruments

- Preferred method
- Eliminates at micro organisms including endospores

2 Methods

1. Auto claving
2. Chemical sterilization

Storage

- Wrapped and Dry:…….for 1 week
- Unwrapped : Use immediately

Or

If kept in covered sterile container, then up to 1 week

Chemical Sterilization

- Used when items are heat sensitive or autoclave is not available
- Done by soaking instruments in 2% glutaraldehyde for 8-10hrs
- Remove and rinse with sterile water

High Level Disinfection- ***HLD***

- Acceptable method
- Eliminates all micro-organisms, but not all endospores

Done by

- Boiling for 20mins
- Chemical by immersing in 2% glutaraldehyde or 0.5% Bleaching powder solution for 20mins.
- Rinse with HLD water

“ BOILING

***IS NOT* =**

STERILIZATION ”

SESSION 6

HOUSE KEEPING

Preparing a **Disinfectant Cleaning Solution- DCS**

- Prepare a 0.5% chlorine solution
- Add a small qty ordinary detergent to this and mix
- Add detergent till solution is very **mildly** soapy

Cleaning up spills

Clean up Spills immediately

Always Wear Gloves

If spill is small : Wipe with cloth saturated with 0.5% Cl Soln

If spill is large : cover area with 0.5% Cl soln mop up the soln and clean area with disinfectant solution

Not-so-useful practices

- Fumigation ！
- UV lamps

!!!!!!!!!!

- Do not sweep/ dust ward areas… If needed this can be done after moist mopping with disinfectant !!!!
- regular wet mopping several times more efficient than washing theatres!!!

Useful links/sites

- www.arogyakeralam.gov.in
- Swachhta Guidelines
- 23.03.2015 Quality Assurance in Health Care- Guidelines for the Hospital Infection Control activities in Health Services Department - Government Order
- DISHA 04712552056
- Dr Amar 99461 23995

Thank You...

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