



Infection prevention and control guidelines

ELCT Health Department
Quality Assurance 2003



Infection prevention and control guidelines

- a critical component of quality health services, yet it has received insufficient attention
- prevent the spread of infectious diseases through the air, blood or body fluids and contact, including fecal-oral and food-borne
- WHO 2000, Tanzania reports but actual situation of the burden of the diseases may be much higher (MOH):
 - > 2 milj. HIV- infected
 - estimated 722 490 suffering from AIDS
 - 54 442 TB cases andd 1300 cholera cases
 - bloody diarrhea cases 26. 450

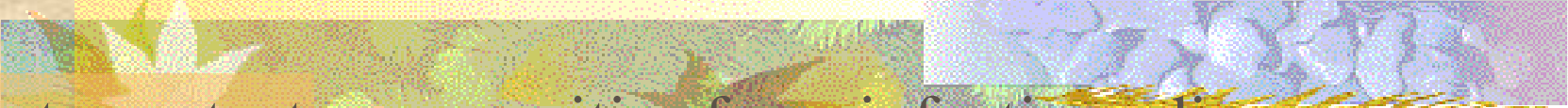


■ **Infection prevention practices are poor because:**

- lack of standards and guidelines for certain procedures
- inadequate knowledge and skills among healthcare service providers
- deficiency of equipment and materials
- inadequate supportive supervision
- lack of renovation and maintenance of infrastructure

■ **Infection Prevention objectives:**

- to protect patients/ clients from nosocomial infections
- to protect health care workers from occupational infections

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- to protect communities from infectious diseases
 - to prevent the environment from pollution
 - **needle-stick injury**: from infected source patient is 0,3 % HIV, 3 % hepatitis C, 6-30 % hepatitis B
 - **hand hygiene** is considered to be the leading cause of nosocomial infections and the spread of multiresistant micro-organisms and has been recognised as a significant contributor to outbreaks of disease (Boyec and Pittet,2002)
 - paper towels or air drying
 - close the tap with the same paper if not elbow controlled
 - alcohol-glyserine handrub: 60 –70 % isopropyl or ethanol alcohol 100 ml and glyserine 2 ml
 - antiseptic agents: povidone-iodine 7,5 %, chlorhexidine 5%


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- hand lotions and creams
 - protective gloves

■ Personal protective equipment:

- examination gloves when inserting intravenous line
- double gloving in certain surgical procedures
- elbow-length gloves in obstetrical procedures
- surgical masks – also cover the nose !!!

■ Antiseptics, Disinfectants and Detergents:

- iodine preparations 1-3 % for the skin if no allergy
- iodophor such as povidone iodine 10 % (free iodine 1 %) or 2 - 4 % chlorhexidine-gluconate e.g. Savlon for the mucous membranes
- 60-70 % alcohol products for the skin prior to iv.
- antiseptics such as Savlon and Dettol are not designed to process instruments and inanimate objects

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- they do not have the killing power as chemical disinfectants e.g. glutaraldehydes, hypochlorite and peroxides and should not be used for this purpose


- **Health-care waste management: occupational and environmental aspects to be considered**


- **Post-exposure prophylaxis guidelines:**

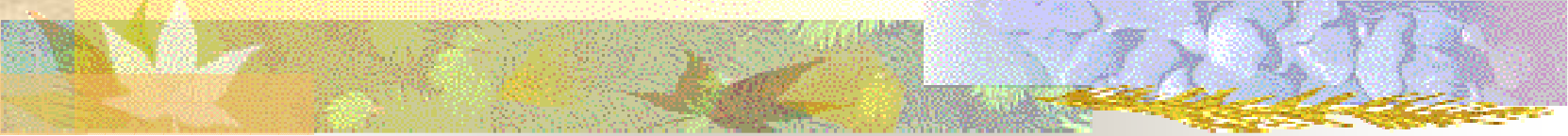
- HIV/AIDS, hepatitis B and C precautions

- **Processing Instruments and other items:**

- **Decontamination => Thorough rinsing with cool water=> Cleaning**
- Ambu bags, face masks – 60-90 % alcohol (page 61)
- exam and operation room tables – 0,5 % chlorine
- thermometers – wipe with disinfectant cleaning solution: chlorine or alcohol, rinse with clean water and dry
- footwear (rubber shoes or boots) – wipe with 0,5 % chlorine solution, rinse with clean water at the end of the day or when visibly soiled, cleaning with soap and water
- surgical linen – decontamination, protect laundry staff

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- **Housekeeping** – cleaning the hospital and high-risk areas such as laboratory, ICU, OR, labour wards, surgical ws
 - e.g. clean floors at least 3 times daily with wet mop, detergent and water, high-risk areas with disinfectant cleaning solution
 - **nosocomial infections are important contributors to morbidity and mortality**
 - maternal and new-born infections (pregnant women up to 12 % HIV sero positive)
 - infections following surgery (cesar.s. 15-60 % infected)
 - infections related to intravascular interventions
 - urinary tract infections
 - pneumonia
 - diarrhea
 - **surgical site infections** SSI remain a major cause of nosocomial infections
 - **preoperative** preparation of the patient and **precautions** to reduce the risk of SSIs.

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- In Tanzania functioning **infection surveillance systems** lack laboratory backup to identify the cause of nosocomial infections and treatment options.
 - the key hospital staff to form **an infection control committee (team)**: representatives from surgery, central services, housekeeping, laboratory, purchasing, administration, maternity wards
 - the committee coordinated by **the infection prevention and control officer dr, infection control nurse and assistant nurse**
 - **the staff training**: the disease transmission cycle, routes of infection and how to break the cycle, teach all **guidelines** and standard precautions e.g. hand hygiene, methods to minimize disease transmission and demonstrations, keep records of hospital acquired infections, **supervision** in the hospital,

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- the organisms causing most nosocomial infections usually come from patient's own body (**endogenous flora**), from contact with staff (**cross-contamination**), from contaminated instruments, needles and the environment (**exogenous flora**)
 - **Nosocomial or hospital acquired infection** is neither present nor incubating at the time the patient came to the health facility.

Preventing hospital infections

- we need systematic **surveillance, monitoring** for hospital infections to determine baseline rates of nosocomial infections such as surgical site infections (SSI)
- adhering to recommended infection prevention practices and standards especially hand hygiene and wearing gloves
- paying attention to well-established processes for **decontamination** and **cleaning** of soiled instruments and other items, followed by either sterilization or high-level disinfection
- improving safety in OR and other high-risk areas
- monitor and supervise good patient care practices
- detect outbreaks and exposures and dangers for the staff



■ Antiseptics:

- Alcohols 60 – 90 % (ethyl, etanol, isopropryl)
- 1 - 3 % iodine for skin in operation theatre
- 7,5 % - 10 % iodophors (Povidone-Iodine) for mucous membranes
- 2 – 4 % chlorhexidine gluconate (Hibitane, Hibiclens)
- at least 2 % chlorhexidine gluconate – cetrimide (Savlon)
- 0,5 – 4 % chloroxylenol (Dettol)

■ Alcohol – based handrub:

- 60 – 70 % alcohol
- add glyserine 1–2 % to alcohol (or propylene glycol or sorpitol)
- 100 ml alcohol and 2 ml glyserine = good handrub
- between patient rooms, procedures, riskpatients
- use about 5 ml (one teaspoonful), continue rubbing the solution until hands are dry 15-20 seconds



■ Disinfectants:

- alcohols 60 – 90 %
- chlorine and chlorine-releasing compounds, 0,5 % solution (WHO)
- formaldehyde 8 %
- glutaraldehyde 2 % (Cidex), neutral or alkaline
- new ones: ortho-phthalaldehyde, peracetic acid, superoxidized water

■ Eusol, Dakin's, 6 % Hydrogen peroxide - not recommended

■ Detergents:

- cleaning solution = soap + water
- disinfectant cleaning solutions = a combination of a detergent (soap) and a chemical disinfectant
- 0,5 % chlorine, 5 % carbolic acid (Lysol, Cresol), 1-2 % phenol

■ Precautions when using Chlorine solutions !!!!!!!!!!!!!

- chlorine + cleaning solutions containing an acid e.g. phosphoric acid, ammonia or ammonium chloride will release chlorine gas and other by-products, toxic fumes – So don't use together !! Use chlorine alone

Methods for processing instruments

1. **Decontamination** in 0,5 % chlorine kills all viruses HBV, HCV, HIV and most bacterias such as tubercule bacillus. Recommended by WHO.

2. After decontamination instruments should be **rinsed immediately** with cool water to remove visible organic material. Leaving instruments in plain water more than 1 hour can also lead to rusting

3. **Cleaning with soap and rinsing** with water will kill or remove up to 80 % of all microorganisms

Dry instruments and other items before the sterilization

4. **Sterilization** kills 100 % of all microorganisms.

High-Level Disinfection is effective up to 95 % but does not inactivate some endospores

Processing instruments is a meticulous procedure to follow all 6 steps. Here window is open without net and insects enter to this packing area



These maddresses should be changed, all dirty is inside. Rusted iv stands should at least be painted in order to be more easily disinfected. In Tz all patients should have mosquitonets.



PPE Personal protective equipment is important. This worker did not have masks. Hospital clothes should be washed at least in 71°C but in many hospitals machines are broken and temperature is not reached



Sluice rooms should also be clean. Many hospitals are lacking these rooms totally. Racks are good to keep bed pans, urine bottles and mugs dry and in order



Bar soaps do not belong to hospitals, also not big dirty towels. Local water taps are ok.



In most of the hospitals staff were entering operation theatres even with their own clothes. This is strictly forbidden!!

