INFECTION PREVENTION

OVERVIEW

BY

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INFECTION PREVENTION: objectives

- Prevent major post operative infections following surgical procedures.
- Minimize the risk of transmitting serious diseases like hepatitis B and AIDS, not only to clients but also to medical personnel and the cleaning staff.

INFECTION PREVENTION: principles

- Every person (client or personnel) must be considered to be potentially infectious.
- Hand washing is the most practical procedure to prevent cross-over contamination.
- Putting on gloves before touching anything soaked-wounded skin, mucosa, blood or other organic liquids (secretions or excretions).

INFECTION PREVENTION: principles (continued)

- Use barriers (protective glasses, mask or apron) if one anticipates splashes or flow of any organic liquid (secretion or excretion).
- Good working practice, e.g.: do not recap or fold needles, the correct treatment of instruments and the evacuation of medical waste according to the recommended practices.

RISKS OF DISEASE TRANSMISSION

Source of exposure	HBV (%)	HIV (%)
Punctured skin	27 - 37	0.3 - 0.4
Cutaneo-mucous	------	< 0.1

ACCIDENTAL EXPOSURE TO BLOOD INFECTED BY THE HBV

- As little as 10^{-8} ml (0.00000001 ml) of blood infected with the HBV can transmit the virus to a susceptible host.

IP: PRACTICE TO REDUCE THE RISK OF TRANSMITTING HBV AND AIDS

Between client and personnel:

- Hand washing
- Wearing gloves (care-giver and cleaner)

IP: Practice to reduce the risk of transmitting HBV and AIDS

By contaminated objects:

- Treat instruments and other objects:
  - Decontamination (to protect personnel)
  - Cleaning (to protect clients and personnel)
  - Sterilisation (to protect clients and personnel)
  - High level disinfection (to protect clients and personnel)
- Eliminate wastes according to protocol (personnel and community)

INFECTION PREVENTION
Hand Washing

- Wash hands before and after examining a client (direct contact).
- Wash hands after removing gloves, as some may have holes.
- Wash hands after every exposure to blood or organic liquids (secretions or excretions), even if one was putting on gloves.

IP: PRACTICE OF HAND WASH

- Steps:
  - Use ordinary soap or antiseptic
  - Vigorously rub the savonated hands together for 15 to 30 seconds.
  - Rinse with clean flowing water from a tap or a bucket.
  - Dry the hands with a clean dry cloth or dry them in the air.

PROTECTIVE BARRIERS: GLOVES

- Put on gloves:
  - To carry out a procedure in the clinic, ward or in the theatre
  - To manipulate instruments, gloves and other contaminated objects
  - To evacuate contaminated wastes (cotton, gauze or dressings)

PROTECTIVE BARRIERS: PROTECTIVE GLASSES,MASKS AND APRONS

- Put on glasses, a mask and an apron if there is a risk of splashes or throwing over of organic liquids.

IP: EFFICIENCY OF METHODS FOR TREATING INSTRUMENTS.

	Efficiency (removes or inactivates microbes)	Up to what moment
Decontamination	Kills HBV and HIV	Maintain soaked for 10 minutes
Cleaning water alone	Up to 50%	Until visibly clean
Cleaning with soap and water	Up to 80%	Until visibly clean
Sterilisation	100%	Depends on the method
HLD	95% (does not inactivate certain endospores)	Depends on the method

TREAT INSTRUMENTS AND OTHER CONTAMINATED OBJECTS

- Cleaning:
  - Wash with water and detergent
  - Scrub the instruments until they are visibly clean
  - Rinse carefully with clean water

IP: INSTRUCTIONS TO PREPARE DILUTE CHLORINATED SOLUTIONS

- Total parts (PT)(H2O)=[%conc/%diluted]-1
- To prepare a chloride solution of 0.5% from a 5% concentration:
  - 1 part of Javel for 9 parts of water

*In degrees: value in degrees divided by 2

i.e. 12 degree to obtain 0.5% = 12/2 = 6

i.e. 6 volumes of water for 1 volume of Javel

IP: INSTRUCTIONS TO PREPARE A CHLORINATED SOLUTION FROM POWDER

- Grams/Liters = [%diluted/ %concentrated] x 1000

To prepare a 0.5% chlorinated solution from a mixture of 35% chlorinated powder

- 14.2 grams of powder for 1 liter of water

PI: Efficiency of methods for treating instruments.

DECONTAMINATION

Soak for 10 minutes in a 0,5 hypochlorite (javel solution]

Wash and rinse carefully

Put on gloves and other protective barriers

Prefered method

STERILISATION

Acceptable method

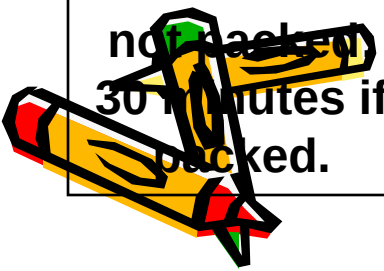
HIGH LEVEL DISINFECTION

Autoclave 106kla pressure (151 bs/m2) 121° (250°) 20 minutes if not packed) 30 minutes if packed.

Dry heat 170°c 60 minutes; 120°c for 120 minutes

By boiling with a cover lid for 20 minutes from the moment boiling starts

Chemical :soak for 20 minutes



ALLOW TO COOL DOWN
USE IMMEDIATELY OR PACK PROPERLY

IP: Treat instruments and other contaminated objects

- High level disinfection:
  - Boil instruments and other objects for 20 minutes (enough time up to an altitude of 5500 meters)
  - Treat instruments, gloves and other objects in vapor for 20 minutes
  - Alternative HLD method- chemical disinfection. Soak for 20 minutes

IP: Boiling instructions

- Always boil for 20 minutes in a container that has a lid
- Start timing when the water starts boiling
- Nothing is added to the recipient when timing has started
- Allow to dry in the air before use or before packing

IP: Treat instruments and other contaminated objects

- Elimination of wastes
  - Before removing gloves, put contaminated articles (gauze or cotton, etc) in a tight recipient (with a lid) or in a plastic bag
  - Incinerate or bury the wastes

THANKS FOR YOUR ATTENTION