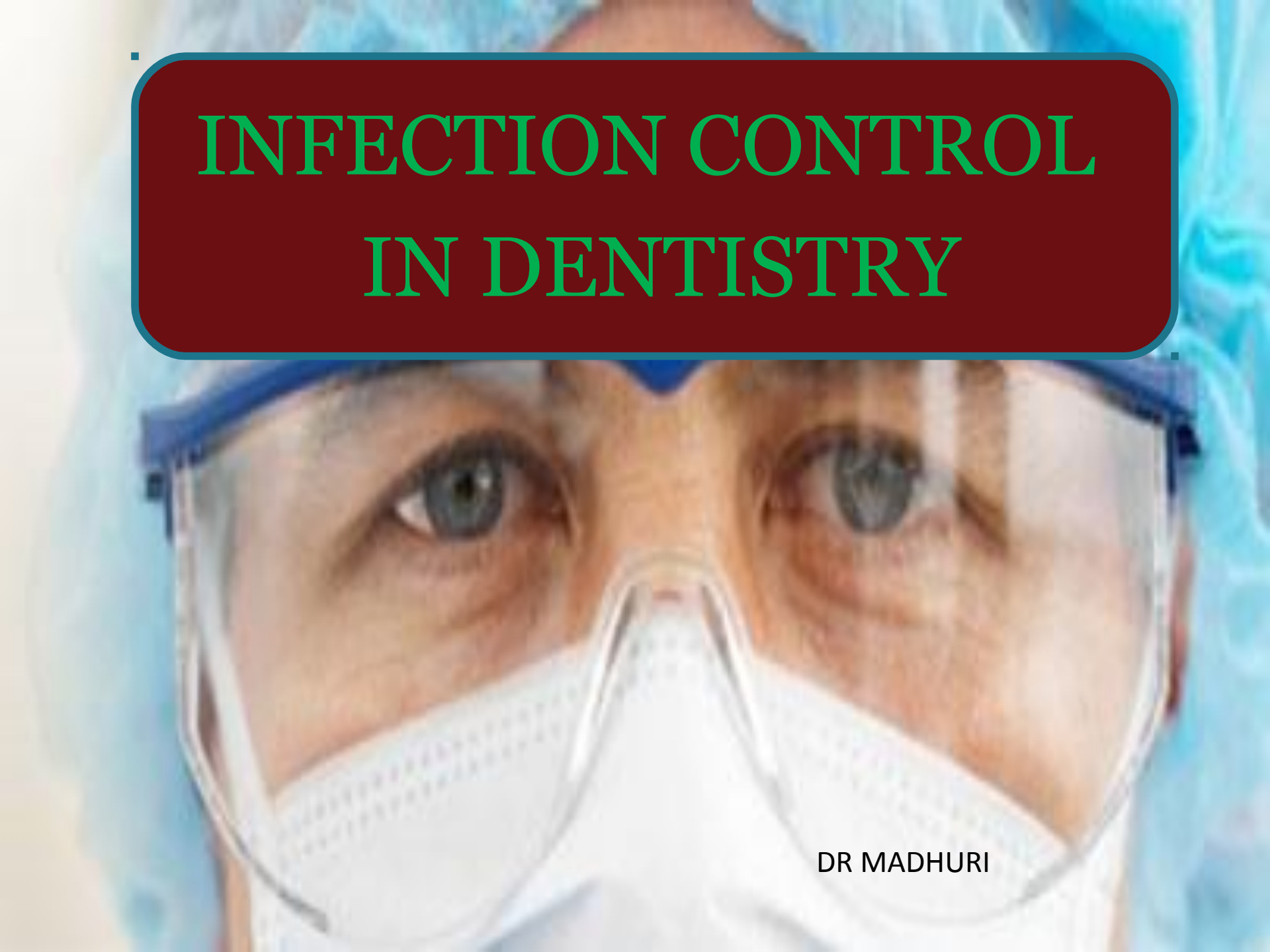
INFECTION CONTROL IN DENTISTRY



DR MADHURI

STRUCTURE OF MY PRESENTATION

STRUCTURE OF MY PRESENTATION

- Introduction and history
- Personal protection
- Sterilization disinfection and asepsis
- Universal precautions
- Osha guidelines for dentistry
- Categories of clinical environmental surfaces
- Waterline bio-films management
- Sterilisation in operating room
- Exposure prevention strategies
- Post-exposure management
- Pre-exposure management
- Diseases we must be aware of….
- Infection control in dental radiology
- Dental laboratories
- Considerations for biopsy specimens
- Waste disposal
- Reference s

SCIENTISTS:

- ***Louis Pasteur*** *(France) 1822- 1895 - microbiology emerged as a scientific discipline during his course.*

  - developed steam sterilizer, autoclave and hot air oven.

leewenhoek

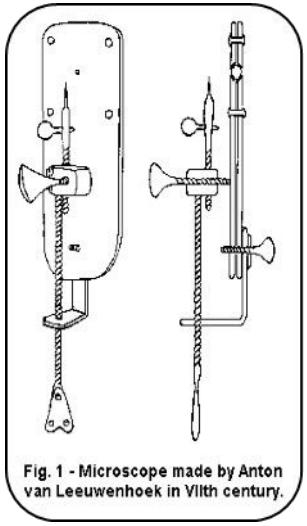


Fig. 1 - Microscope made by Anton van Leeuwenhoek in VIIth century.

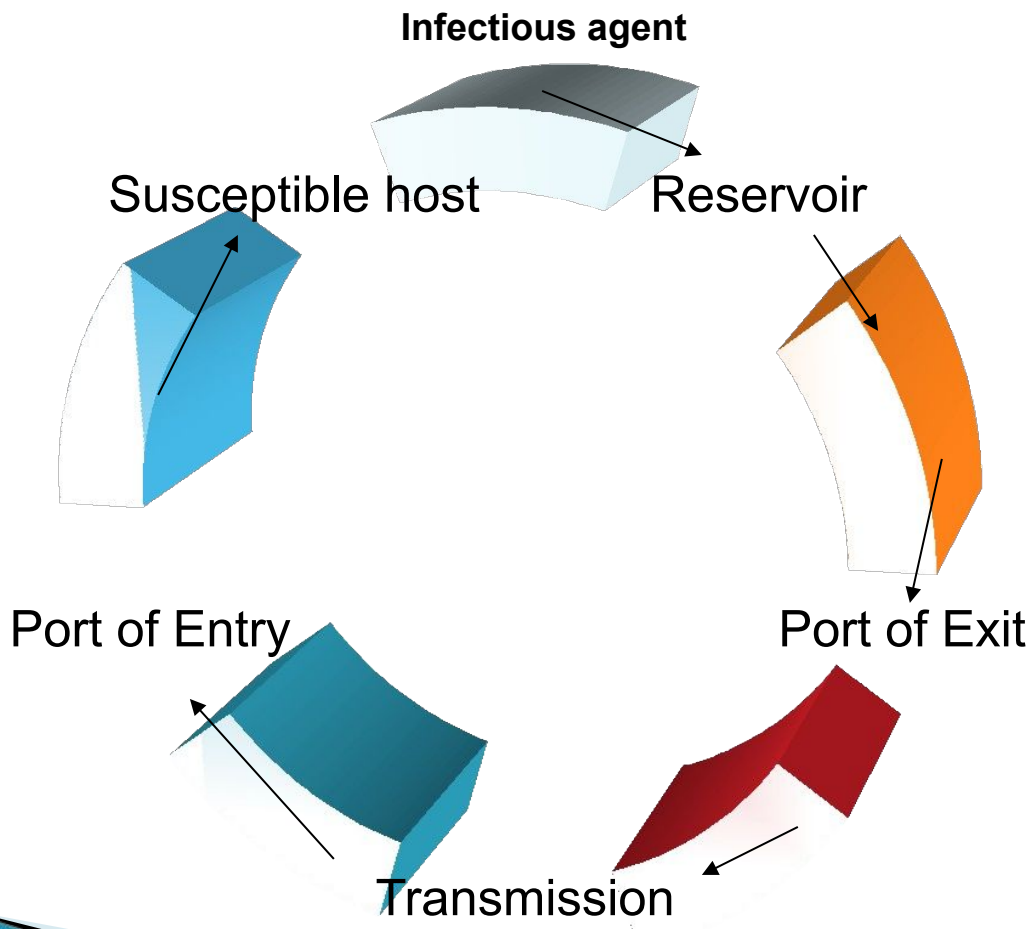
Defnition

- **Policies and procedure used to prevent or reduce the potential for disease transmission**

Cottone's practical infection control in dentistry

Why Is Infection Control Important in Dentistry?

The Infectious Process"Chain of Infection"



PATHWAYS OF INFECTION TRANSMISSION IN A DENTAL OFFICE

- PATIENT TO DENTAL TEAM
- DENTAL TEAM TO PATIENT
- PATIENT TO PATIENT
- DENTAL OFFICE TO COMMUNITY, INCLUDING THE DENTAL TEAMS FAMILIES
- FROM COMMUNITY TO PATIENT

ATIENT TO DENTAL TEAM

SOURCE OF MICROORGANISM

MOUTH

MODE OF DISEASE SPREAD

DIRECT CONTACT

DROPLET INFECTION

INDIRECT CONTACT

PATIENTS SKIN

LESIONS

ECHANISM OR SITE OF ENTRY INTO BODY

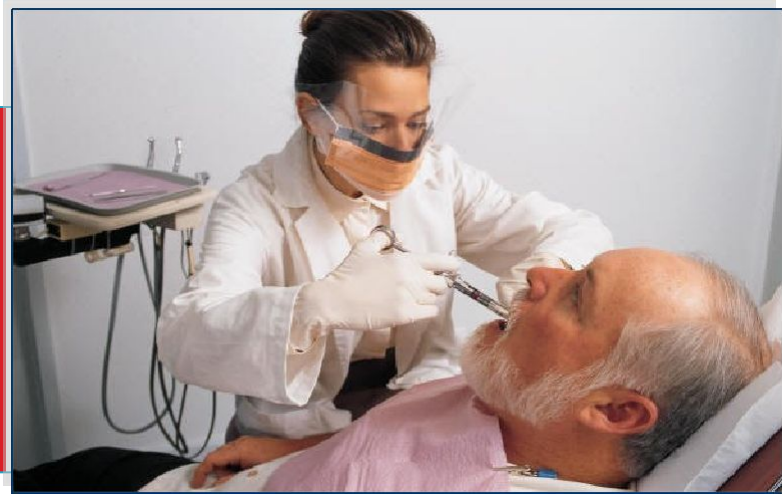
THROUGH BREAKS IN

SKIN INHALATION

THROUGH MUCOSAL

SURFACES THROUGH CUTS

AND PICKS



DENTAL TEAM TO PATIENT

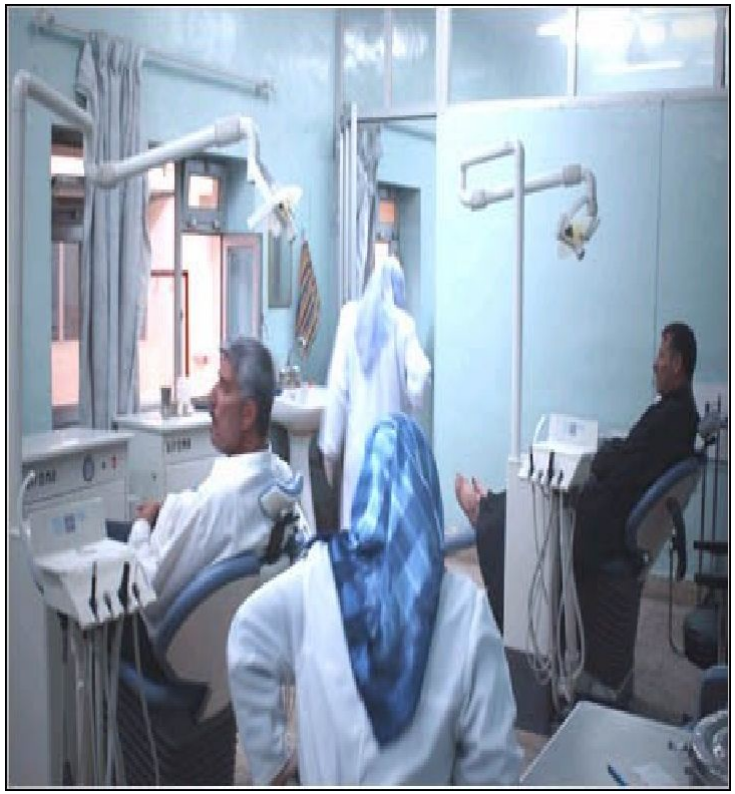
SOURCE OF MICRO ORGANISM

DENTAL TEAM HANDS, SKIN LESIONS DENTAL TEAM MOUTH

MODE OF DISEASE SPREAD *DIRECT CONTACT INDIRECT CONTACT DROPLET INFECTION*

MECHANISM OR SITE OF ENTRY INTO BODY *THROUGH MUCOSAL SURFACES OF PATIENTS BLOOD CONTAMINATION OF INSTRUMENTS INHALATION BY PATIENT*

PATIENT TO PATIENT



SOURCE OF MICROORGANISMS

PATIENTS MOUTH

MODE OF DISEASE SPREAD

INDIRECT CONTACT THROUGH INSTRUMENT SURFACES,

ECHANISM OR SITE OF ENTRY INTO BODY

HROUGH ORAL MUCOSAL SURFACES OF PATIENT

DENTAL OFFICE TO COMMUNITY

SOURCE OF MICROORGANISMS

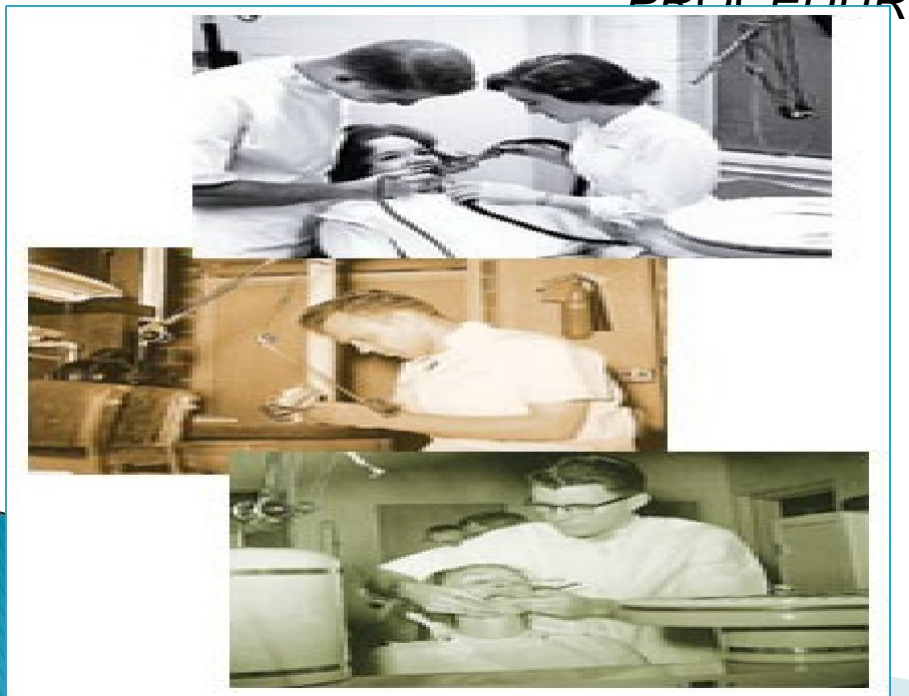
PATIENTS MOUTH

MODE OF DISEASE SPREAD

INDIRECT CONTACT

MECHANISM OR SITE OF ENTRY INTO BODY

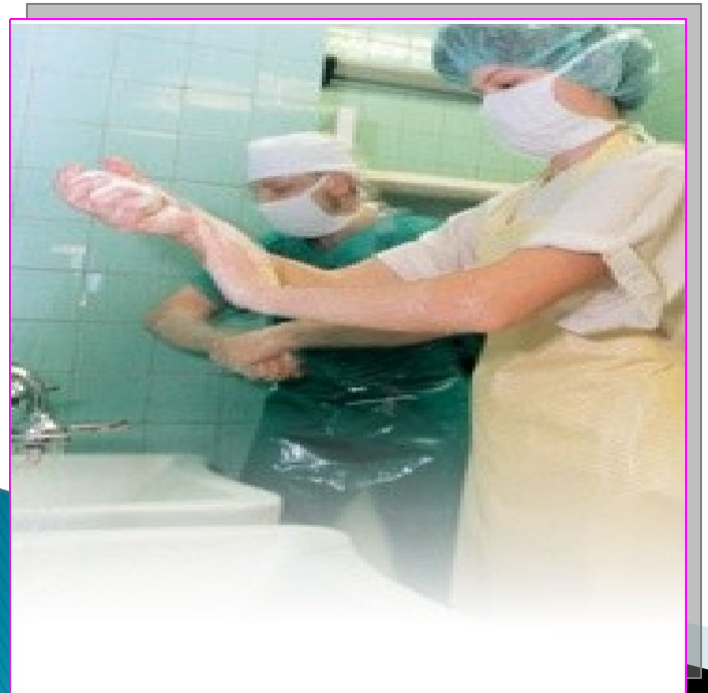
CUTS, PUNCTURES, BREAKS IN SKIN, WASTES, LAB PROCEDURES



PATIENT SCREENIN
step in

Screening of all patients is the first minimizing and reducing the risk of infectious disease transmission From patients to the dental team members and to other patients. Effective screening requires a thorough medical history of the patient and this medical history to be updated every visit.

EMPLOYEE TRAINING



All dental health care workers involved in the direct provision of patient care must undergo routine training in infection control, safety issues, and hazard communication. Training must encompass OSHAS pertinent regulations including blood borne pathogens standard. All new hires must receive training for at least 2 weeks before patient

Personal protection

1. **Immunization**
2. **Hygiene**
3. **Personal protective equipment(PPE)/ Barrier technique**

Immunization

- **HBV incidence in general population 1-2%**
  in healthcare providers 10-30%
- ADA policy: **all dentists and their staffs having patient contact should be vaccinated against HBV**
- OSHA: **employers should make HB vaccine available to occupationally exposed employees, at the employer's expense within 10 working days of assignment of tasks that result in exposure**

Immunization schedule for dentist

Vaccine	Dose schedule	Indications
Influenza vaccine	Annual single-dose vaccination	DHCP contact with patient at risk or work in chronic care.
Measles, mumps, rubella	o.5ml dose S C. second dose after 4weeks	DHCP, non immunized women of children,
Varicella-zooster vaccine	0.5 ml doses SC and after 4weeks	DHCP - prolonged exposure to infectious co-worker or patient
BCG vaccine	Percutaneous dose of 0.3ml	DCHP in multiple areas where multiple drug resistant TB, infection control precautions have failed

Chris miller, palenik. Infection control and management of hazardous material for the dental team, 3rd edition

Hygiene

- **Followed hygienic measures greatly reduce the number of live pathogens**

Personalhygiene

- **Refrain from touching anything, not required for the procedure**
- **Keep hands away from eyes, nose, mouth & hair**
- **Special attention for cuts, pimples, scratches etc.**
- **Hair away from face- head caps**
- **Jewellery**
- **Uniforms**

GOAL OF INFECTION CONTROL

GOAL OF INFECTION CONTROL

1.To reduce the dose of microorganisms 2.minimize spraying or spattering of oral fluids
3.Hand washing and surface precleaning and disinfection 4.mouth masks, gloves, protective eye wear and clothing
5.Instrument precleaning and sterilization

SURGICAL SCRUB

Surgical hand washing destroys transient organisms and reduces resident flora before surgical or invasive procedures .At the start of a session, an aqueous antiseptic detergent solution is applied to moistened hands and forearms for approximately 2 minutes.. The disinfection process must be thorough and systematic, covering all aspects of the hands and forearms. The procedure should take 3 to 5 minutes. **Preparations currently available are 4% chlorhexidine and 7.5% povidone-iodine solution. The hands must be thoroughly [illegible] towel prior to donning sterile gloves.**

SURGICAL SCRUBS

Fingernails and Artificial Nails

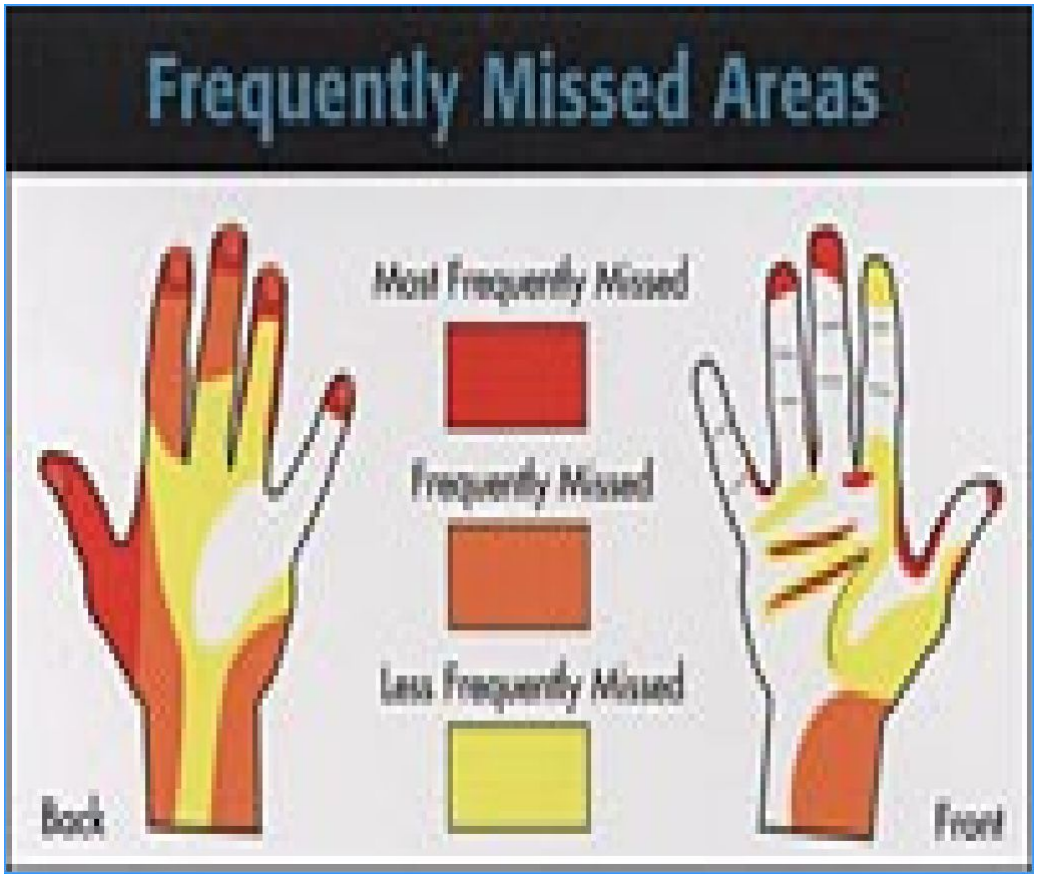
Keeping nails short is considered key because the majority of flora on the hands are found under and around the fingernails
Fingernails should be short enough to allow DHCP to thoroughly clean underneath them and prevent glove tears. Not more than 1/4inch long.
Sharp nail edges or broken nails are also likely to increase glove failure.
Long artificial or natural nails can make donning gloves more difficult and can cause gloves to tear more readily.
Hand carriage of gramnegative organisms has been determined to be greater among wearers of artificial nails.

Jewelry

- Studies have demonstrated that skin underneath rings is more heavily colonized than comparable areas of skin on fingers without rings
- Rings and decorative nail jewelry can make donning gloves more difficult and cause gloves to tear more readily .
- Thus, jewelry should not interfere with glove use (e.g., impair ability to wear the correct-sized glove or alter glove integrity).

STEPS IN PERFORMING SURGICAL SCRUB

HAND WASHING AND CARE OF HANDS



AN EFFECTIVE HAND WASHING TECHNIQUE INVOLVES THREE STAGES:

1. Preparation
2. Washing and Rinsing 3.

Drying

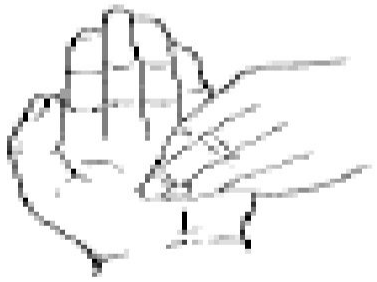
1. Palm to palm.

2. Right palm over left dorsum and left palm over right dorsum.

3. Palm to palm fingers interlaced.

4. Backs of fingers to opposing palms with fingers interlocked.

5. Rotational rubbing of right thumb clasped in left palm and vice versa.



6. Rotational rubbing, backwards and forwards, with clasped fingers of right hand in left palm, and vice versa.

Handwashing technique. [Aylliffe et al. 1978; Lowbury 1985]

PREPARATIONS FOR PREOPERATIVE WASHING OF HANDS:

1. **Hibiscrub & phisomed :- 4%chlorhexidine gluconate**

2.Betadine :- contains 7.5%

POVIDONE-IODINE 3.Soaps containing

hexachlorophene 4.70%hibisol

(2.5%chlorhexidine in 70%alcohol

PROTECTIVE ATTIRE AND BARRIER TECHNIQUES

GLOVES FOR PROTECTION

For protection of personnel and patients, gloves must be worn by the dentist when there is potential for contacting blood, blood contaminated saliva, or mucous membranes.

Non sterile gloves are suitable for examinations and sterile gloves are suitable for any surgical procedures.

Before treatment of each patient, dentist should wash their hands and put on a new gloves, and after treatment sh… …e gloves and wash

sh… …was

or reu…

USE OF GLOVES IN DENTISTRY

Note

Washing latex gloves with plain soap, chlorhexidine, or alcohol can lead to the formation of glove micropunctures and subsequent hand contamination. Because this condition, known as wicking, can allow penetration of liquids through undetected holes, washing gloves is not recommended.

DEGLOVING

When gloves are torn, cut or punctured, they should be removed as soon as patient safety permits. Dentist then should wash their hands thoroughly and reglove to complete the dental procedure. Dentist who have exudative lesions or weeping dermatitis, particularly on the hands should refrain from all direct patient care and handling dental patient care equipment until the condition resolves.

TYPES OF GLOVES IN DENTISTRY

PATIENT CARE GLOVES

- STERILE LATEX SURGICAL GLOVES
- STERILE NEOPRINE SURGICAL GLOVES
- STERILE STYRENE GLOVES
- STERILE COPOLYMER GLOVES
- LATEX EXAMINATION GLOVES
- NITRILE EXAMINATION GLOVES
- VINYL EXAMINATION GLOVES
- POLYURETHANE GLOVES
- POWDERLESS GLOVES
- POWDERED GLOVES
- PROTEIN GLOVES

UTILITY GLOVES

- HEAVY LATEX GLOVES
- HEAVY NITRILE GLOVES
- THIN COPOLYMER GLOVES
- THIN PLASTIC GLOVES

OTHER GLOVES

- HEAT RESISTANT GLOVES
- DERMAL COTTON GLOVES


GLOVES


www.medisave.co.uk


Neogloves

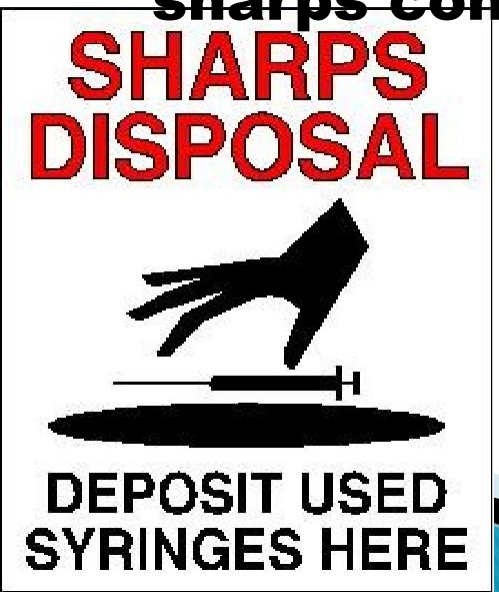

DONG WON

MASKS, FACE SHIELDS, EYE WEAR

Chin length plastic face shields, surgical masks and protective eye wear should be worn when splashing or spattering of blood or other body fluids is likely to come in contact. When a mask is used it should be changed between patients or during patient treatment if it becomes moist or wet. Face shields and eye wear should be washed with a cleaning agent regularly.

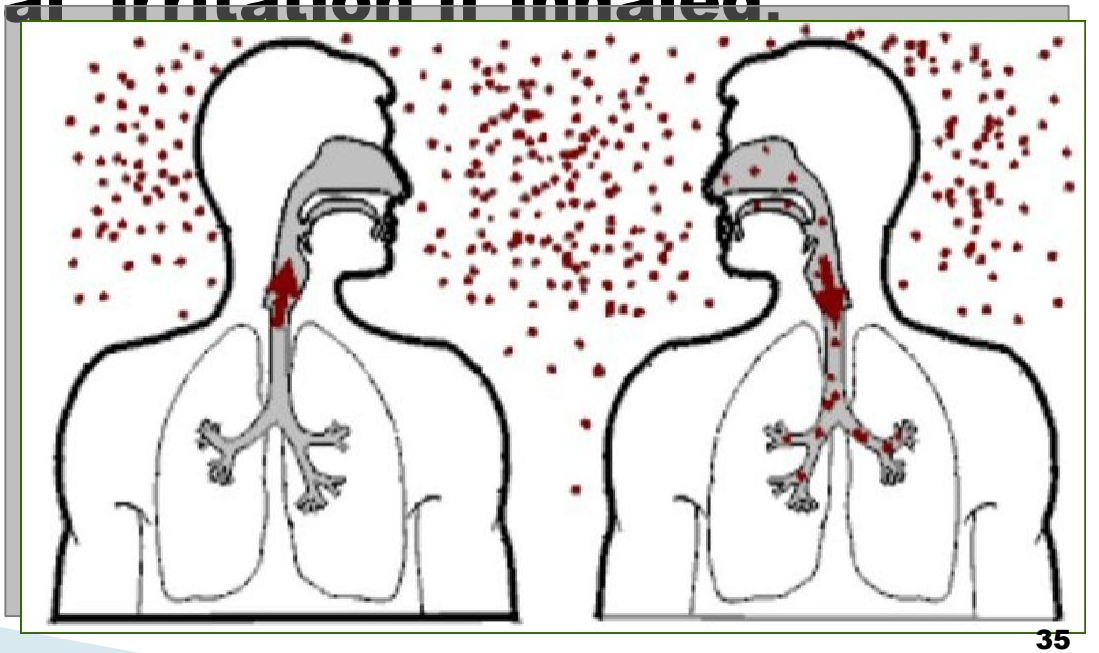
Impervious black paper, aluminum foil, plastic covers should be used to protect equipment and instruments that may become contaminated by blood or saliva during usage and are difficult to clean and disinfect. Once infected the coverings must be changed.

- Clinical sharps should be single-use only
  - Do not re-sheath a used needle
- Discard sharps directly into a sharps container immediately after use
- Carry sharps containers by the handle - do not hold them close to the body
  - Never leave sharps lying around
  - Do not try to retrieve items from a sharps container
- Lock the container when it reaches the fill-line, using the closure mechanism
  - Place damaged sharps containers inside a larger sharps container



BIO AEROSOLS IN DENTAL OFFICE

Bio aerosols are living microbes that travel via a mist and may contain bacteria, viruses, fungi or yeast. These air borne microorganisms can be found inside a dental office, coverings, surfaces etc. because aerosols are generally invisible, most individuals are unaware of their presence. Alginate powder mixed with water can become a aerosol and can cause bronchial irritation if inhaled.



Chemical barriers

- **Reduce contaminated aerosols**
- **Distilled water rinse reduces bacterial aerosols by 75%**
- **Brushing teeth before procedure- 90%**
- **Mouth wash before procedure- 98%**
- **Chlorhexidine gluconate(0.12%) mouth rinses effect a prolonged suppression of micro organisms.**

STERILIZATION OF INSTRUMENTS IN DENTAL PRACTICE:

Classification of instruments to be sterilized

(spaulding classification)

Critical

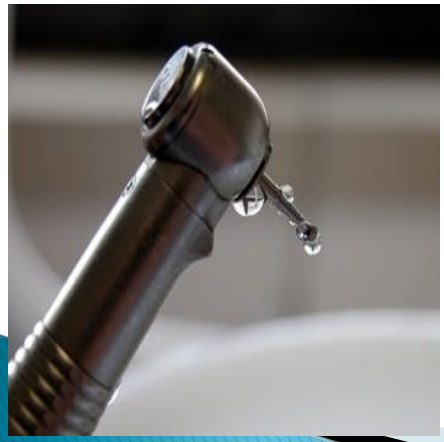
- **Surgical and other instruments that penetrate soft tissue or bone are classified as critical**
- **Sterilized after each use**

Semi critical

- **Instruments do not penetrate soft tissue or bone but contact oral tissues are classified as semi critical.**
- **Sterilized after each use but if not possible minimum high level disinfection for 6-10 hours needed.**

Non critical

Critical	Semi-critical	Non-critical
Extraction forceps	**Mirrors**	Medicament jars
Scalpels	**Cheek/lip retractors**	Cavity liners
Bone chisels	**Hand piece**	**Anaestheic spray tip**
Scaling instruments	**Tweezers**	Light cure tips
Surgical burs	restorative instruments	Glass slab
Periosteal elevators	Rubber dam equipment	Cement spatula
Gingivectomy knife	**Saliva ejector/evacuator**	**Instrument trays**
Bard parker handle	Polishing wheels and cups	Orthodontic pliers
Scissors		Cotton dispensers
Suction tips (metal)		Dapen dish
Suture needles		Three way syringe tip
Endodontic instruments		Wax knife



SEMICRITICAL

CRITICAL **NON CRITICAL**

sterilization

Four stages of sterilization

1. **Pre sterilisation cleaning**
2. **Packaging**
3. **Sterilisation process**
4. **Aseptic storage**

Pre sterilization cleaning

- **Significance**
- **Wear heavy duty gloves, eye protection and face mask while cleaning**
- **Sharps be handled carefully**

Packaging

- **Be appropriate**
- **Should allow penetration of steam to come in contact with all surfaces of instruments**
- **Different types of packages**

Sterilisation procedure

In dentistry sterilization is usually by

- **1)MOIST HEAT.(STEAM UNDER PRESSURE)**
- **2) DRY HEAT(HOT AIR OVEN)**
- **3)GASEOUS CHEMICALS.**

Autoclave

Dry Heat sterilisation

- **Least expensive of all heat sterilizers**
- **Spectrum**
- **Its important to keep air spaces between instruments to ensure unform hot air distributi**

CHEMICAL DISINFECTANTS

- *ALCOHOLS*
- *IODINE & IODOPHORS*
- *CHLORINE AGENTS*
- *PHENOL DERIVATIVES*
- *ALDEHYDE*

CHEMICLAVE:

- *Chemical vapour sterilization.*
- *The combinations of formaldehyde 0.2%, alcohols72.3%, acetone, ketones and steam at 138 kPa /20 psi serves as an effective sterilizing agent.*
- *Microbial destruction results from the dual action of the toxic chemicals and heat.*
- *It takes more time than autoclave but less time than hot-air oven that is 30 mins.*
- *127 -132 c at 20 to 40 psi for a period of 30 minutes.*
- *Instruments loosely packed*

UNIVERSAL PRECAUTIONS

STANDARD PRINCIPLES OF INFECTI (CONTROL/ UNIVERSALPRECAUTION

- Hand Hygiene and Skin Care
- Protective Clothing
- Safe Handling of Sharps (including Sharps Injury Management)
- Spillage Management.
- All blood and body fluids are potentially infectious, and precautions are necessary to prevent exposure to them.
- A disposable apron and latex or vinyl gloves should always be worn when dealing with excreta, blood and body fluids.
- Each member of staff is accountable for his/her actions and must follow safe practices

OSHA FOR DENTISTRY

- Require that universal precautions be observed to prevent contact with blood and other potentially infectious material. Saliva is considered to be blood contaminated body fluid in relation to dental treatments.
- Provide hepatitis b immunization to employees without charge within 10 days of employment.
- Implementing engineering controls to reduce production of contaminated mists and aerosols.
- Implement work practice control precautions to minimize splashing or contact of bare hands with contaminated surfaces.
- Provide facilities and instructions for washing hands after removing gloves and for washing skin immediately or as soon as feasible after contact with blood or potentially infectious materials.
- Prescribe safe handling of needles and other sharp items.

- Contaminated sharps are termed as regulated waste and must be discarded in hard walled containers.

- Contaminated equipment that has to be serviced must first be decontaminated or a bio hazard label must be put on it.

  - Do not try to retrieve items from a sharps container

- Provide laundering of PPE to the employees without any cost.

- Provide vaccination for all employees under no cost against all infectious that could be prevented by immunization.

- Prescribe disposable or single use needles, sharps and dispose them as soon as feasible in a hard walled leak proof containers that are closable. Containers must bear a biohazard label. Teeth must be discarded into sharp containers.

- Contaminated reusable sharp instruments must not be stored

- Prohibit eating, drinking, handling contact lenses etc in contaminated environments. Ban storage of foods and drinks in refrigeration or other spaces where blood or infectious materials are stored.

- Place blood and contaminated specimen to be transported into a suitable closed container that prevents leakage.

- Provide PPE to employees and clear directions for use of universal precautions. Ensure the correct use of PPE.

- As soon as feasible the working surface and environment must be sanitized after treatment. Provide a written schedule for cleaning.

Categories of Clinical Environmental Surfaces

- **Clinical contact surfaces**
  - **High potential for direct contamination from spray or spatter or by contact with DHCP's gloved hand**
- **Housekeeping surfaces**
  - **Do not come into contact with patients or devices**
  - **Limited risk of disease transmission**

Clinical Contact Surfaces

Housekeeping Surfaces

Waterline bio-films

- **Micro organisms that accumulate on surfaces inside moist environments such as dental unit water lines, allowing bacteria, fungi, and viruses to multiply**
- **Composed of millions of micro organisms that accumulate on surfaces in aqueous environments**
- **Excrete glue like substance that anchors them to substrate and forms a slimy protective layer which renders them resistant to disinfectants**

... *Waterline bio-films contd*

- **Organisms found- mature biofilms that vary in the type of organisms inhabiting them**

- Bacteria- **Actinomyces, Acinetobacter, Bacteroides, Fusobacterium, Lactobacillus, Legionella, Pasteurella, Staphylococcus, Streptococcus, etc.**
- Fungi-**Penicillium, Cladosporium, Alternaria, etc.**
- Protozoa- **Acanthamoeba, Cryptosporidium**

Guidelines & recommendations for dental office water line quality

- **ADA- no more than 200 cfu/ml of bacteria**

CDC recommends

- **Flush air & water through hand pieces for 20 sec between patients**
- **Avoid using dental unit water for procedures involving bone cutting**
- **Minimize usage of water**

Principles to reduce waterline biofilms

1. **Improve quality of incoming water**
2. **Control biofilms in reservoirs and tubings**
3. **Control water quality as it leaves the tubing**

1.Improve quality of incoming water

- **Avoid using water from public water supply**
- **For irrigation, use a hand syringe filled with either sterile water or distilled water**

2.Control biofilms in reservoirs and tubings

- **Decontaminate or disinfect the reservoirs / water lines routinely**
- **Disposable lines with a sterile water supply**
- **Reservoirs as small as possible- no stagnation of water for longer time**
- Disinfection-
- **1 part house hold bleach (5.25% Sodium hypochlorite) + 9 parts water**
- **100 ml solution in to the bottle- cap the bottle- shake for 5sec- wait 10 min- shake bottle again- empty bottle- rinse bottle twice with treatment water**

STERILISATION IN OPERATING ROOM

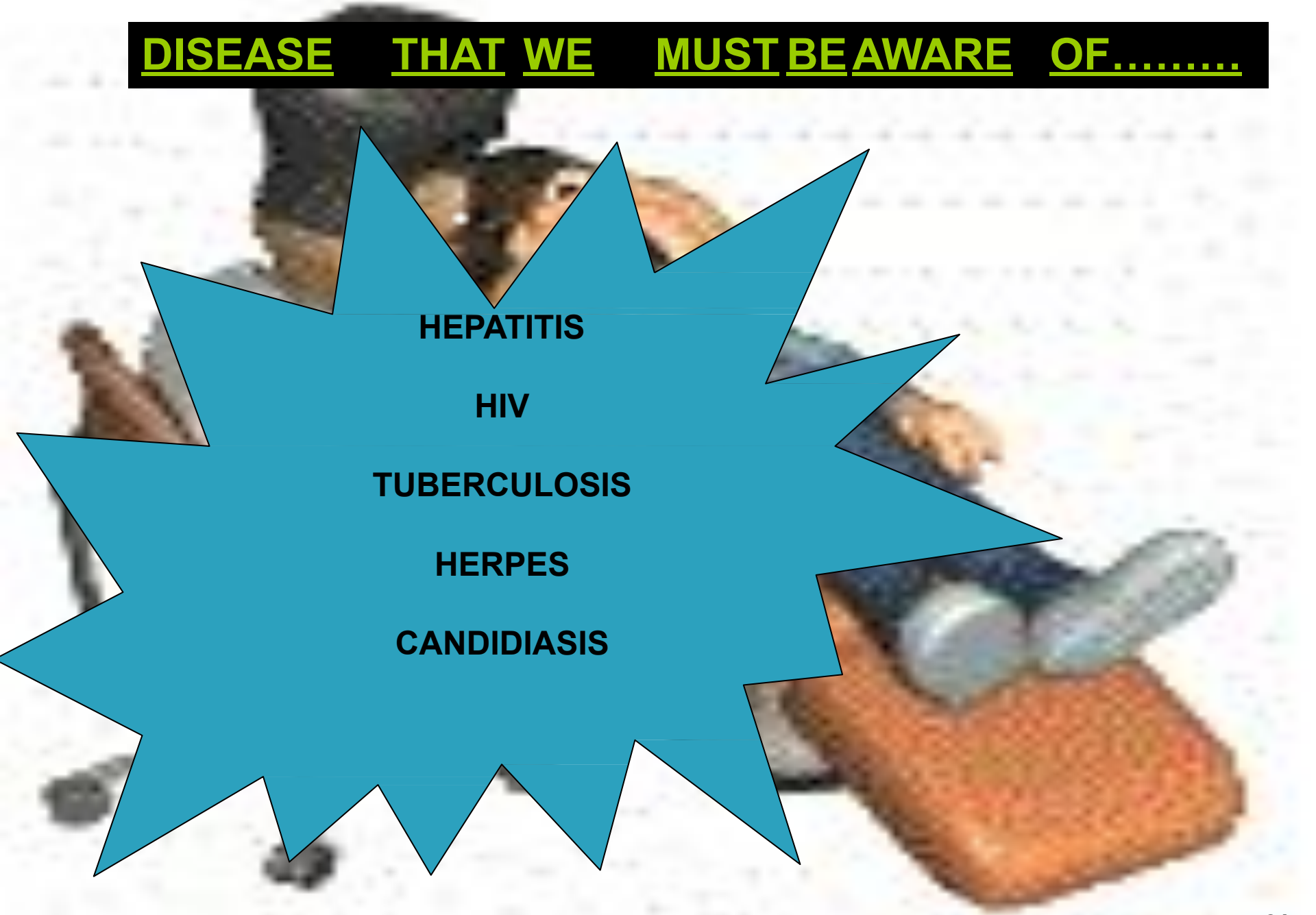
FUMIGATION OF OPERATING ROOM

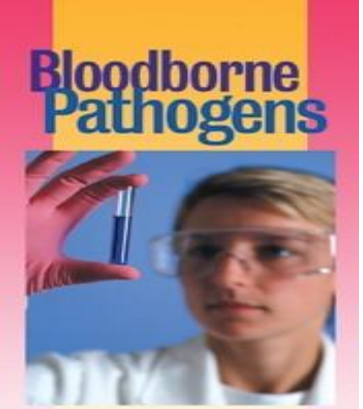
- Fumigation can be achieved by fumigators
- Fumigation is done with the instrument **STERITRAX**
- Fumigation chemical used is 40% FORMALINE
- Fumigator is set for 30 mins with timer adjustments in the instruments

A FOMITE is defined as an object, which becomes contaminated with infected organisms and which subsequently transmits those organisms to another person. Examples of potential FOMITES are instruments, impression trays and suction tips.

FOMITES IN DENTAL CLINIC

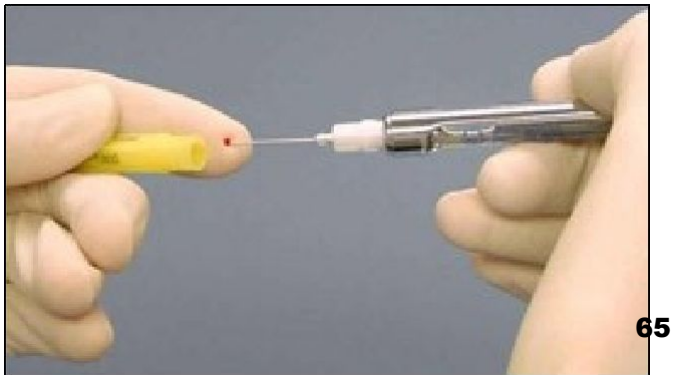
DISEASE THAT WE MUST BE AWARE OF……



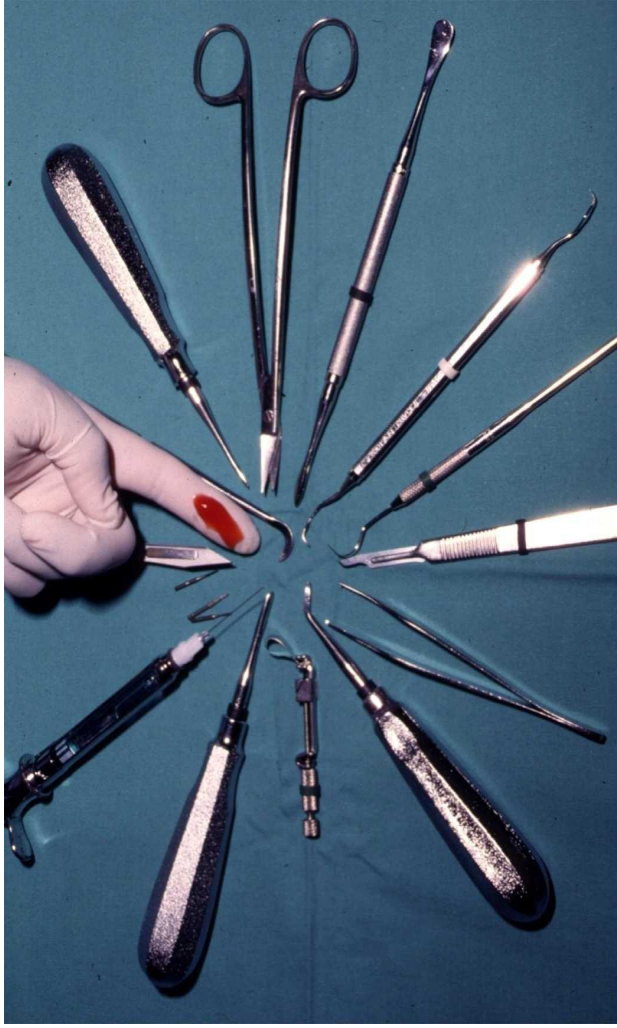


- Blood borne pathogens are contained in the blood and other body fluids and the disease may spread from person to person through contact with body fluids.

- pathogens may enter the mouth through dental procedures that induce bleeding



Transmission of Bloodborne



- **Blood borne viruses such as hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV)**

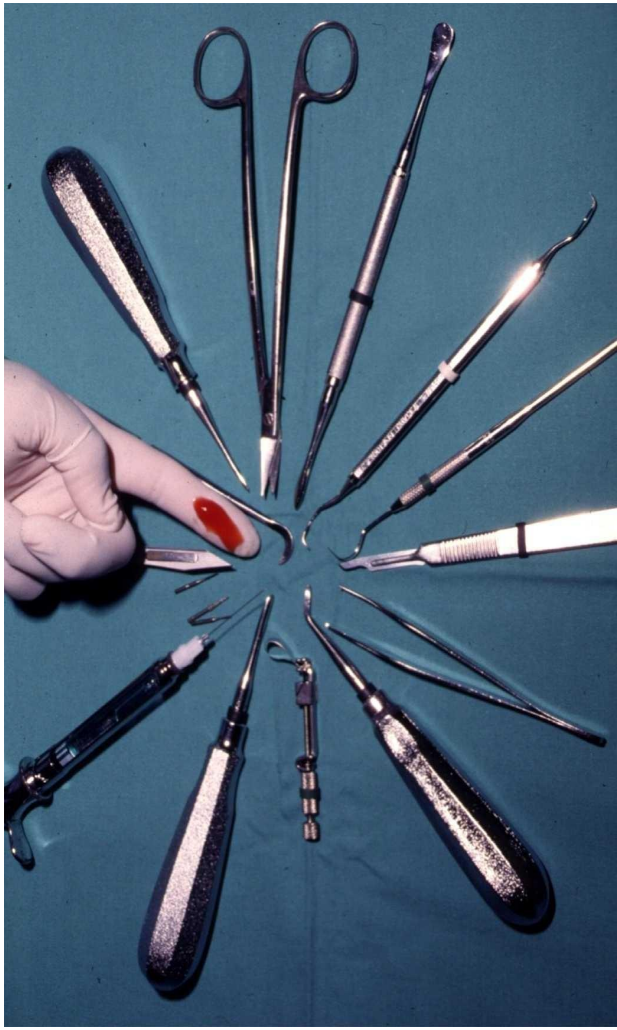
  Are transmissible in health care settings

- **Can produce chronic infection**

Are often carried by persons unaware of

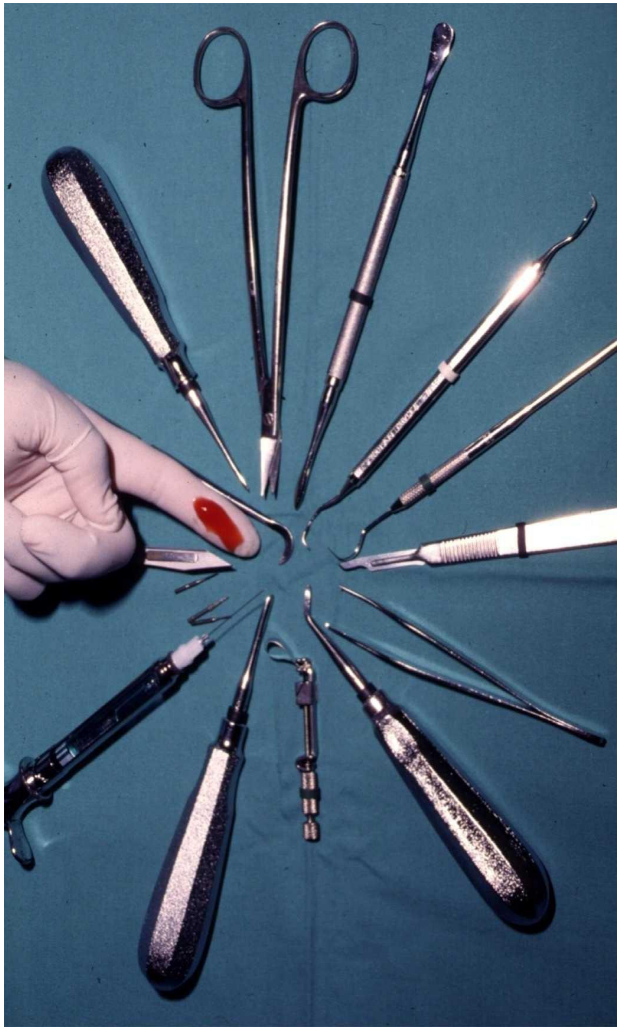
Transmission of HIV from Infected Dentists to Patients

- **Only one documented case of HIV transmission from an infected dentist to patients**
- **No transmissions documented in the investigation of 63 HIV-infected HCP (including 33 dentists or dental students)**



Characteristics of Percutaneous Injuries Among DHCP

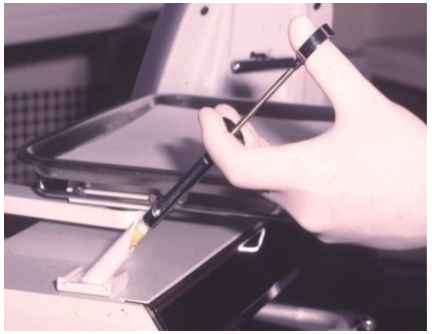
- **Reported frequency among general dentists has declined**
- **Caused by burs, syringe needles, other sharps**
- **Occur outside the patient's mouth**
- **Among oral surgeons, occur more frequently during fracture reductions and procedures involving wire**



Exposure Prevention Strategies

Engineering controls

Personal protective equipment



Work practice controls

Engineering Controls

- **Isolate or remove the hazard from the worker**
- **Examples:**
  - **Sharps container**
  - **Medical devices with injury protection features (e.g., self-sheathing needles and scalpel blades)**
- **Safer Design**

Work Practice Controls

- **Change the manner of performing tasks**
- **Examples include:**
  - **Using instruments**
  - **One-handed needle recapping**

Post Exposure Prophylaxis

prevent the transmission ofblood borne pathogens following a potential exposure toHIV

NACO Guidelines for ART, May 2007

MANAGEMENT OF EXPOSURE SITE

Do Not
Do not panic
Do not put the pricked finger in mouth
Do not squeeze the wound to bleed it
Do not use bleach, chlorine, alcohol, betadine, iodine or other antiseptics/detergents on the wound

NACO Guidelines for ART, May 2007

MANAGEMENT OF EXPOSURE SITE

Do
Remove gloves, if appropriate
Wash the exposed site thoroughly with running water
Irrigate with water or saline if eyes or mouth have been exposed
Wash the skin with soap and water

NACO Guidelines for ART, May 2007

Post Exposure Prophylaxis

Not Recommended if:

- **Exposed person already HIV positive**
- **Exposure occurred more than 72 hrs. ago**
- **Exposure does not present risk**
  - **Skin is intact**
  - **Fluid is non infectious**
  - **Source is known to be HIV negative**

NACO Guidelines for ART, May 2007

Post Exposure Prophylaxis

Recommended if:

- **Exposed person is HIV negative**
- **Exposure occurred within past 72 hrs.**
- **Source is HIV infected/ unknown status**
- **Significant exposure to infectious fluid**
  - **Skin is non intact/ punctured**
  - **Mucous membrane exposed**

NACO Guidelines for ART, May 2007

Post Exposure Prophylaxis Regimen

Basic regimen

Zidovudine 300mg + Lamivudine 150mg — **Twice daily for 4weeks**

Expanded regimen — **– 2 Tab. BD or 4 Tab. OD**

Lopinavir 2000Mg+ Ritonavir 200Mg
Atazanavir 300Mg + Ritonavir 100Mg

Thrice daily for 4weeks

Zidovudine300mg+ Lamivudine 150mg +indanavir 800mg

Pre Exposure Prophylaxis

- **sexually active adults at risk for HIV infection**

FDA approved regimen

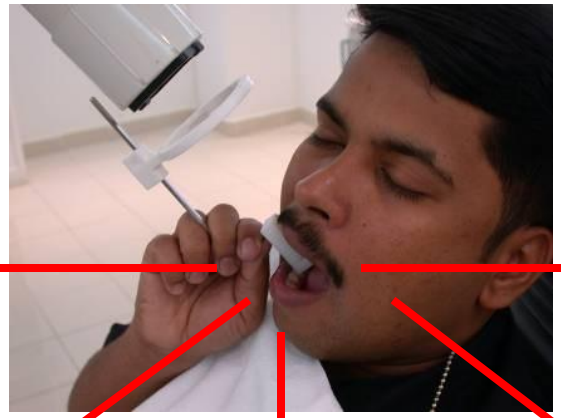
- **Tenofovir disoproxil fumarate 300mg plus emtricitabine 200mg**

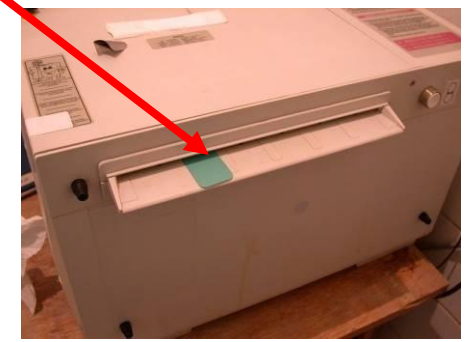
INFECTION CONTROL IN DENTAL RADIOLOGY

- Most of oral and maxillofacial radiology consists of non invasive procedures
- Oral and maxillofacial radiology procedures fall mainly in the semi critical and noncritical categories of Spaulding's classification

- It is advisable to use PPE when treating patients with history of gag-reflex or spatter is expected

Spread of Contamination

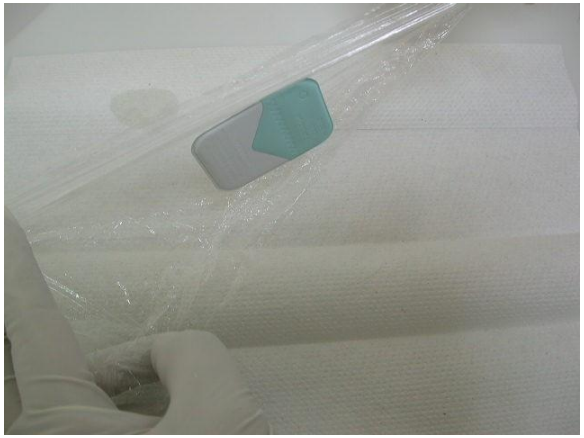




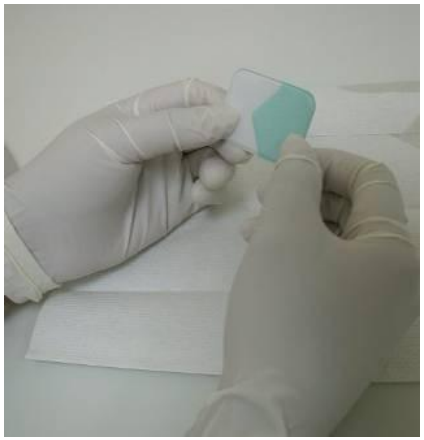
Charles john, infection control for dental radiography, 2004 AADMRT

Protect Film Packet

Cover film with plastic barrier



Remove film packet avoiding contamination of the film.



Handle clean film with new gloves.

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Infection Control During Radiograph Taking

- **Barrier Protection**
- **Regloving**
- **Two- Person Technique**

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Barrier Protection

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Re-gloving Technique

1- Position film in patient's mouth

2- Change gloves

3- adjust x-ray tube and controls with clean gloves

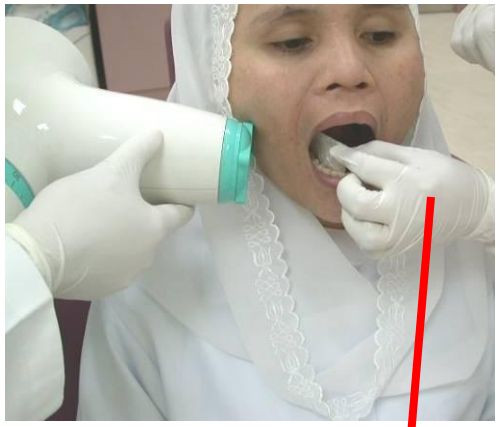
4- Remove the film from the r...

5- Remove film from wrapper.

6- discard used gloves and outer film wrapping.

Two- Person Technique

Another person wearing clean gloves adjusting x-ray tube and control



One person placing film in patient's mouth

The person with the dirty gloves then removes the film from the packet without contaminating the film

Consideration for dental laboratories

- **Impressions, casts, bite-registration blocks and dentures must be disinfected**

Immersion in 1% sodium hypochlorite for 10 minutes

- **There should be no residual germicides**

- **Veneers, porcelain, must be sterilized**

Special topics

- **Considerations for extracted teeth**

Methods to decontaminate teeth

-heat sterilization

- immersion in sterilants

such as 5000 ppm

bleach

7% hydrogen peroxide

2 %Gluteraldehyde

a) If the teeth is to be used to preclinical lab or for research purposes

- immerse in *0.005% thymol* solution in water

COLOUR CODING	TYPE OF CONTAINER	WASTE CATEGORY	TREATMENT OPTIONS
Yellow	Plastic bag	•Microbiology and bio technology waste •Solid waste containing blood and other body fluids Blood soaked cotton , gloves	Incineration/deep burial
Red	Disinfected container/plastic bag	•Microbiology and bio technology waste •Solid waste containing blood and other body fluids •Solid waste from disposables other than sharps like suction tips	Autoclaving/microwaving/chemical treatment
Blue/white	Plastic bag/puncture proof container	•Waste sharps used/unused, syringes, Bpblade, discarded sharp instuments, punch biopsy forceps	Autoclaving/microwaving/chemical treatment and destruction/shredding
BLACK	Plastic bag	•Discarded medicines and cytotoxic drugs, •Incineration ash, •Chemicals used in disinfection, insecticides .	Disposal in secured landfill

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