

## **ACHIEVING CROSS INFECTION CONTROL**

### **General Objectives:**

1. To protect patients and members of the dental team from contracting infection during dental procedures.
2. To reduce the number of pathogenic micro-organisms in the dental environment and during dental procedures to the 'lowest possible level'.
3. To implement a high standard of cross infection when treating 'every patient' (Universal Precaution) to prevent the transmission of infection.

### **General Risks**

To achieve these objectives the main risks must be identified:-

1. Risks from contaminated instruments.
2. Risks from injury / subsequent infection (E.g. needle stick injury, eye injury).
3. Risks from contaminated droplets / splatter (E.g. Airotor handpiece).
4. Risks from contaminated surfaces (E.g. switches).
5. Risks from contaminated Dental Equipment.
6. Risks from contaminated waste (E.g. Contaminated gloves).

## **STRATEGY**

1. All patients must be screened / medical history.
2. Members of the dental team must stay healthy.  
Consider:-
  - Immunisation
  - Handwashing and handcare
  - Personal Hygiene
3. Provide barriers for personal protection.  
Consider:-
  - Gloves
  - Masks
  - Eye protection
  - Protective Clothing / Clinical Attire
4. Practice careful aseptic techniques  
(Limiting the spread of blood and saliva)  
Consider:-
  - Handling of Sharp Instruments
  - Limiting surface contact: Using surface disinfectants, drapes, covers, general surgery cleaning.
  - Minimise aerosols and splatter by using pre-operative mouthwash for selected patients and high volume aspirators, rubber dam.
  - Laundry of contaminated linen.
  - Handling of biopsy specimens and extracted teeth.
5. Decontamination of equipment:  
Consider:-
  - The dental unit, chair and cabinet
  - The dental water supply and retraction valves.
  - Triple syringes – autoclavable tips should be autoclaved or disinfected after every patient and if not autoclavable, use

disposables whenever possible.

Handpieces.

Ultrasonic Cleaner.

6. Organize instruments carefully.

Consider:-

Tray systems

Sterilization pouches, packing instruments.

7. 'Sterilize' all instruments and items used during dental procedures.

Consider:-

Holding solutions

Presterilization cleaning (E.g. Ultrasonic cleaning)

Sterilization

Testing sterilization equipment – spore test monthly and TST indicators at random (to be done in maximum load and inside the pouch).

Aseptic storage

The sterilization area / zone.

8. Dispose of contaminated waste safely.

Consider:-

Clinical waste

Contaminated sharps

Liquid waste

Suction trap

9. Careful Laboratory Asepsis.

10. Careful Asepsis in Radiology.

11. Careful Asepsis when undertaking Endodontic Procedures.

12. Understand National and Local Guidelines and Regulations.

## **CRITICAL / SEMI-CRITICAL AND NON-CRITICAL ITEMS**

Choice of sterilization / disinfection or decontamination may be based on how an item / instrument will be used.

Instruments are classified as:-

Critical

Semi-critical

Non-critical

### **Critical Instruments:**

Penetrate tissue or touch bone.

Must be '*sterilized*'.

E.g.. Scissors, forceps, elevator, scalers, tweezers.

### **Semi-Critical Instruments:**

Instruments touch mucous membrane but not penetrate tissue or touch bone.

It should be sterilized if possible **OR** if susceptible to heat damage- should be subjected to '**high level disinfection**'.

E.g. Amalgam carrier.

### **Non-Critical Instruments:**

Equipment and surfaces which contact only intact skin.

Decontaminated by '**intermediate level disinfection**'.

E.g.. Spatula, mixing slab, protective eyewear, rubber bowl.

## **Handwashing Precautions:**

Remove all rings, jewellery and watch.

Change protective gloves regularly to avoid buildup of sweat.

Protect cuts and abrasions on the hand with a waterproof dressing.

## **Between Patients or After Changing Damaged or Worn Gloves**

Discard the gloves used during the dental procedures.

Rinse the hands thoroughly with water and also the forearm.

## **Handwashing Procedures**

### **Full Hand Washing:**

To be carried out *before* and *after* each clinical session.

### **Procedure:**

1. Remove jewellery/watch and place in a safe container.
2. Preliminary hand and lower arm wash.  
(rinse the forearm and hands with water, apply disinfectant handscrub and wash hands and forearm for about 15 seconds, rinse off with water).
3. Reapply disinfectant handscrub (e.g. 5ml of 'Hibiscrub') and wash using the following procedure, each step consisting of 5 stroke backwards and forwards.
4. Elbow taps should be used.
5. Do not use linen towels or bars of soap. These are inefficient and unhygienic.

## **DENTAL HEALTHCARE WORKERS**

### 1. Immunisation:-

Immunisation reduces the risk of Dental Healthcare Workers becoming infected and may also protect their patients and family.

Vaccines available:

- Hepatitis B
- Rubella
- Tuberculosis
- Measles
- Tetanus
- Poliomyelitis
- Whooping Cough

### 2. Hand Care and Handwashing

Handwashing Procedure is **Very Important**.

(Handwashing removes debris, blood and potentially pathogenic transient micro-organisms from the hands).

General Objectives:-

- I. To destroy pathogenic micro-organisms which collect on the hands while providing dental treatment, thus avoiding transmission to other patients.
- II. To prevent blood which contains pathogenic micro-organisms from accumulating on damaged hand skin and transmitting infection to dental health care worker.

## **PERSONAL PROTECTION**

### Personal Protection Barriers

Special protective coverings act as a barrier, protecting the dental healthcare worker from contact with blood and saliva.

Barriers *essential* during all dental procedures are:-

Gloves, masks, protective eyewear and protective uniform, aprons, long sleeves and head covers.

### 1) Gloves

1 Types of gloves used in dentistry are:-

Latex gloves – Non sterile and sterile.

*(Protect Patients from becoming infected micro-organisms on the operator's hands. Operator and staff from micro-organisms present in the patient's blood and saliva)*

Vinyl gloves – Non sterile and sterile.

*(used if The operator suffers from irritant contact dermatitis, allergic contact dermatitis associated with latex gloves, or the operator has to leave a patient during a procedure)*

General purpose utility gloves

*(Should always be worn when:*

*Cleaning/packing instruments*

*Disinfecting hard surfaces*

*Handling disinfectants*

*Handling clinical waste*

*Performing general cleaning duties)*

Surgeon's Sterile gloves

*-Worn when performing oral surgery/implantology.*

### 2 Double gloving

Recommended when the operator has dematological conditions of the hand or if the patients are medically compromised.

Discard gloves after using contaminated instruments.

## 2) Masks

Masks protect the face from contaminated splatter and prevent inhaling of contaminated aerosols.

Essential to wear mask when:-

Using handpiece, air/water syringe or ultrasonic scaler.

Washing contaminated instruments.

Dental procedure in laboratory.

Disinfecting surfaces.

Use a new mask for each patient.

If a mask becomes wet while treating a patient, replace it immediately.

Do not touch OR adjust a mask during procedures.

Discard the mask as soon as the treatment is over. Do not leave it hanging around the neck OR put it into the pocket.

To remove a mask, hold the body of the mask with gloved hands.

Remove the mask and discard both the gloves and mask as contaminated waste.

Specification:- 1. Surgical Masks (2ply) for all operators and assistants.

2. 3M Mask for technician when mixing acrylic/laboratory.

## 3) Eye Protection

To reduce the likelihood of eye injury.

Between patient, wash the protective eyewear with water and detergent. (e.g.. Goggles & visors)

## 4) Protective Clothing

To protect clothing from contamination – wear a gown.

Uniform/gowns should be changed daily.

When removing contaminated clothing, fold the soiled area inside while being careful not to contaminate the hands.

### a) Sleeves

Long sleeves protect the lower arms from blood splatter, especially

if there is skin damage.

Always remove protective clothing when leaving surgery.

#### b) Headcovers

Headcovers provide effective barrier. Recommended during dental procedures. E.g. Oral Surgery, prophylactic procedure

## **B) AVOIDING INJURIES**

### **HANDLING SHARP INSTRUMENTS**

Sharp items e.g.. Needles, scalpel blades, scissors and elevators should be considered potentially infective. They must be handled with extreme caution to prevent accidental injuries.

#### **I. Avoiding Injury**

Precautions:-

Point the sharp end of instruments away from the hand.

Don't pass used syringes with needles from one person to another.

Avoid handling large number of sharp instruments.

(Pick up instruments individually)

Dispose of needles and other sharps immediately into sharp bins.

Wear heavy utility gloves during clean up.

## II. Recapping Dental Syringes

Precaution:-

Do not attempt to remove an uncapped disposable needle from a syringe.

Recap the needle using '*one-handed technique*'.

**Never recap** the needle using both hands.

Do not bend, break or manipulate needles by hand.

Put used needles into a solid sharps container.

## C) Management of a Needle Prick Injury

Every dental surgery should have a '**Written Policy**' for management of injuries.

All injuries that expose any member of the dental team to blood must be documented. All such information should be kept strictly confidential.

Details to be recorded in the 'written log for recording injury':-

Date of Injury

Person Injured

Cause of Injury

Patient's Name

Description of events

Witnesses

Action taken

Outcome

Follow-up if needed

## D) TREATMENT OF INJURIES

If any injury occurs which is caused by a blood contaminated sharp instrument:-

Wash the wound immediately under running tap water.

Encourage the wound to bleed.

Do not scrub the wound and do not suck the wound.

If eyes are exposed – plain water is used to irrigate the eyes.

**E) REPORTING OF OCCUPATIONAL ACCIDENT**

Report to your line manager any concerns/incident/accident.