

# بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



University of Anbar

Dental Faculty

Prosthodontics Unit

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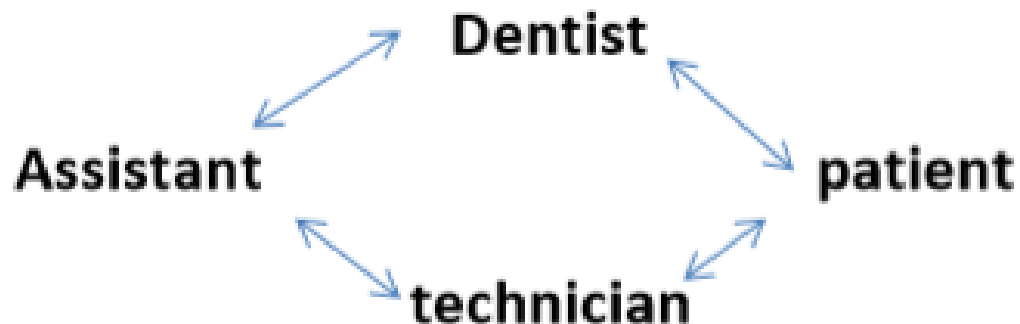
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## **Infection Control in Prosthodontics**

### **Infection control:-**

- Is an essential part of dentistry , dentist have a duty to take appropriate precautions to protect their patients and their staff from the risk of cross – infection.
- Dental work should be done in aseptic field , clean and sterile.
- To minimize the risk of transmission of infection between patients and between patients and health care workers a sensible and practical routine for the prevention of cross –contamination and cross –infection should followed.
- Dentists and auxiliary staff should additionally protect themselves by ensuring up – to date immunization against hepatitis B(HBV) and other infectious diseases such as tuberculosis , poliomyelitis, rubella, tetanus and diphtheria .



## **PROTECTION OF HEALTH CARE WORKERS:**

### **A- Immunization**

- Vaccination against hepatitis B virus (HBV) is strongly recommended for all clinical dental personal including dentists, chair side assistants , dental hygienists and students.
- Protection is also advised against diseases such as tuberculosis, varicella, measles , mumps, diphtheria and tetanus.

### **B- Hand Protection**

- Hand washing is a primary disease prevention measure for Health care workers . Hand must be washed thoroughly with disinfectant liquid soap and dried prior to putting on and after removing gloves.
- Any cuts or abrasions to the hands or wrists should be covered with adhesive waterproof dressing,
- Remove all jewelers, rings that bacteria counts are higher when rings are worn and nails should be kept short.

### **C- Eye Protection**

- Operators and close support dental nurses should protect their eyes against foreign bodies which may arise during dental work.
- Patient ,s eyes should always be protected against possible injury.
- Protective glasses with top and side shields are strongly recommended and should be disinfected between patients.

### **D- FACE MASKS**

A well- fitting surgical facemask should be worn by health care workers. The dome type facemask is preferable to the paper type which rapidly becomes permeable and inefficient.

### **E- Protective Clothing**

### **F- Ventilation:**

Good ventilation should be used to decrease the chance of contamination

## **METHODS TO ELIMINATE CROSS INFECTION**

Total elimination of cross infection in prosthodontics is presently not possible but steps can be taken to reduce it. Education of dental personnel is vitally important in effective implementation of safety measures for cross infection control. Sterilization and disinfection are the most popular and widely used methods for control of infection. Since it is not possible to screen every patient for every infection. Sterilization and disinfection are therefore on the top of this list. Cleaning prior to disinfection and sterilization is mandatory.

### **1- STERILIZATION OF INSTRUMENTS**

- Sterilization is defined as the act of killing or removal of microorganisms including viruses and spores.
- All instruments likely to be contaminated must be sterilized after use.
- Sterilization procedures must be effective against all known pathogens.
- The method of choice for most instruments is by using an autoclave.
- Autoclave is a device to sterilize equipment and supplies by subjecting them to high pressure steam at a certain temperature by using one of the following:-
  - ✓ Time-temperature combination.
  - ✓ Steam at 134C can achieve in 30 minutes the same sterility that hot air at 160C takes two hours to achieve.
  - ✓ The highest temperature compatible with the equipment to be sterilized should be used. Packs should be dry when removed from the autoclave.

### **2- Decontamination of impression and prosthetic appliances** **Disinfection**

All impressions should be rinsed in running water to remove all visible signs of contamination and be disinfected with an appropriate disinfecting agent before being sent to a dental laboratory.

## **DISINFECTING IMPRESSIONS**

Many disinfectants has been used as Iodophors, sodium hypochlorite, chlorine dioxide, phenols and other approved products.

An acceptable disinfectant and widely used is sodium hypochlorite.(Clorox) in a 1:10 dilution.

**Methods of disinfecting impression :**

**1-Rinse under running tap water to remove blood/saliva for 15 seconds.**

**2-Immerse in disinfectant 10 minutes.**

**3-Rinse thoroughly with tap water to remove residual disinfectant and casted.**

- Most reports indicate dimensional stability is not significantly affected by immersion technique for hydrophobic impression materials.
- Hydrophilic impression materials that cannot immersed in disinfectants alginate and polyether due to potential for absorption and distortion like should be disinfected as follows:

**1-Rinse under water 15 seconds.**

**2-Dipped or sprayed**

**3-Covered with damp paper towel for 10 minutes.**

**4-Rinse thoroughly and casted.**

**Cast disinfection:** If disinfection of a cast is indicated, immerse for 10 minutes or spray until wet and leave for 10 minutes. Cast should be fully set (at least 24 hours) before disinfecting.

- Bite registration , wax rims and custom trays should be disinfected by (Rinse-spray –rinse) technique.
- Prostheses which have been worn by the patient and have gross deposits must be cleaned well before disinfection
- Finished acrylic prosthesis should be clean and disinfect before delivery to patient, after disinfection rinse and place in plastic bag with distilled water until insertion.
- Cr-Co prosthesis do not exceed manufacturer recommended contact time on metal components to minimize corrosion . There is little effect on Cr-Co alloy with short-term exposures (10minutes).
- Heat stable items like Face- bow forks, metal impression trays, metal spatulas should be autoclaved while unstable items like articulator. Wooden

handled spatulas , torches, rubber mixing bowls and Shade-guides should be clean and disinfect.

- Disposable plastic impression trays which cannot be autoclaved should not be reused between patients.



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