

# Manual of Infection Prevention & Control in Dental Settings





Message from the General Director,

The unique nature of many dental procedures, instrumentation, and patient-care settings requires

specific strategies directed to prevent the transmission of pathogens among dental healthcare

workers and their patients. In this context the General Directorate of Infection Prevention and

control (GDIPC), in collaboration with General Directorate of Dentistry has completed the updates

for the 2<sup>nd</sup> edition of the Infection Prevention & Control Manual for Dentals Settings.

In the second edition of the Infection Prevention & Control Manual for dental settings, all of the

previous policies were reviewed and edited to reflect updates in infection control practices. In

addition, this manual aims to address other important requirements in improving and maintaining

safe dental healthcare facilities, hence, new policies on environmental health and aseptic

techniques and other aspects were included to expand on the information and guidance that is

needed to implement infection prevention and control strategies in dental healthcare institutions.

This manual is providing the most updated and evidence-based recommendations regarding

dental infection control and by maintaining high levels of adoption of the current Center for Disease

Control and Prevention infection control guidelines as well as other relevant guidelines.

It is highly important that recommendations mentioned in the manual are strictly adhered to by all

dental healthcare personnel in order to prevent the possibility of risk of cross contamination

occurring in dental clinic, thereby producing a safe environment for both patients and staff.

Wishing you all the best.

Dr. Khaild Hamdan Alanazi

Director General, General Directorate of Infection Prevention and Control

Ministry of health

Riyadh, Kingdom of Saudi Arabia

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Approval			
Name		Title	Department
Prepared By	Dr.Abobakr Alawi Al-jifri	Supervisor of Dental Infection Control Program	General Directorate of Infection Prevention and Control
Reviewed By	Dr.Ali Sulamian Alrumikan	Supervisor of Preventive Dentistry Program	General Directorate of Dental Services
Tieviewed by	Dr.Faiza Abdullah Alfozan	Supervisor of Programs	General Directorate of Infection Prevention and Control
Approved By	Dr. Khaild Hamdan Alanazi	General Director	General Directorate of Infection Prevention and Control
	Dr.Saud Mohamed Orfoli	General Director	General Directorate of Dental Services

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Policy title: Standard Precautions	Policy Number: GDIPC-IPP-DN-01
Effective Date: November 11, 2018	Revision Due: November 11 , 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding of application of standard precautions in the dental practice.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of standard precautions.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues

#### 5. Definitions / Abbreviations:

- **5.1. DHCP:** dental healthcare personnel.
- **5.2.** Standard Precautions: are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where health care is delivered.
- **5.3. Transmission-based precautions:** a set of practices that apply to patients with documented or suspected infection or colonization with highly transmissible or epidemiologically important pathogens for which precautions beyond the standard precautions are needed to interrupt transmission in healthcare settings.

#### 6. Procedure:

- **6.1.** The standard precautions should be applied to apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where health care is delivered.
- **6.2.** These practices are designed to both protect DHCP and prevent DHCP from spreading infections among patients.

#### 6.3. Standard Precautions include:

- 6.3.1. Hand Hygiene: (Refer to policy number GDIPC-IPP-DN-02)
- **6.3.2.**Use of personal protective equipment (e.g., gloves, masks, eyewear). (Refer to policy number GDIPC-IPP-DN-03)
- 6.3.3. Respiratory hygiene/cough etiquette. (Refer to policy number GDIPC-IPP-DN-05)
- 6.3.4. Sharps safety. (Refer to policy number GDIPC-IPP-DN-06).
- **6.3.5.** Safe injection practices. (Refer to policy number GDIPC-IPP-DN-07).
- 6.3.6.Sterilization of instruments and devices: (Refer to policy number GDIPC-IPP-DN-08).
- **6.3.7.**Cleaning and disinfection of environmental surfaces: (Refer to policy number GDIPC-IPP-DN-13).
- **6.4.** Standard precautions should be applied to contact with:

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- **6.4.1.**Blood; all body fluids, secretions, and excretions (except sweat), regardless of whether they contain blood;
- 6.4.2. Non-intact skin;
- 6.4.3. Mucous membranes.
- **6.4.4.** Saliva has always been considered a potentially infectious material in dental infection control.
- **6.5.** Education and training are critical elements of standard precautions, because they help DHCP make appropriate decisions and comply with recommended practices.
- **6.6.** When Standard Precautions alone cannot prevent transmission, they are supplemented with Transmission-Based Precautions. This second tier of infection prevention is used when patients have diseases that can spread through contact, droplet or airborne routes (and are always used in addition to Standard Precautions. (Refer to policy number GDIPC-IPP-DN-27).

#### 7. References:

**7.1.** Guidelines for Infection Control in Dental Health-Care Settings, Centers for Disease Control and Prevention, 2016.

#### 8. Appendices:

8.1. None.

Policy Title: Hand Hygiene	Policy Number: GDIPC-IPP-DN-02
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide to all dental healthcare personnel to ensure full understanding of application of hand hygiene in dental practice.

#### 2. Purpose:

- **2.1.** To prevent/minimize the risk of infection in dental settings.
- 2.2. To promote awareness for each dental personnel in the importance of Hand Hygiene.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1.** Alcohol-based hand rub: an alcohol-containing preparation designed for application to the hands to reduce the number of viable microorganisms on the hands.
- **5.2.** Antimicrobial soap: a soap (i.e., detergent) containing an antiseptic agent.
- **5.3. Antiseptic:** a germicide that is used on skin or living tissue for the purpose of inhibiting or destroying microorganisms.
- **5.4. Antiseptic hand rub:** the process of applying an antiseptic hand-rub product to all surfaces of the hands to reduce the number of microorganisms present.
- **5.5.** Antiseptic hand wash: washing hands with water and soap or detergents containing an antiseptic agent.
- **5.6. Hand hygiene:** a general term that applies to hand washing, antiseptic hand wash, antiseptic hand rub, and surgical hand antisepsis.
- 5.7. Hand washing: washing hands with plain (i.e., non-antimicrobial) soap and water.
- **5.8. Surgical hand scrub:** an antiseptic-containing preparation that substantially reduces the number of microorganisms on intact skin; it is broad-spectrum, fast-acting, and persistent

#### 6. Procedure:

#### **6.1.** Indications for Hand Hygiene:

- **6.1.1.** Wash hands with soap and water when visibly dirty or visibly soiled with blood or other body fluids or after using the toilet.
- **6.1.2.** If exposure to potential spore-forming pathogens is strongly suspected or proven, including outbreaks of Clostridium difficile, hand washing with soap and water is the preferred means.
- **6.1.3.** Use an alcohol-based hand-rub as the preferred means for routine hand antisepsis in all other clinical situations described in items listed in (6.1.5), if hands are not visibly soiled.
- 6.1.4. If alcohol-based handrub is not obtainable, wash hands with soap and water

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#### **6.1.5.** Perform hand hygiene:

- **6.1.5.1.** Before and after touching the patient.
- **6.1.5.2.** before handling an invasive device for patient care, regardless of whether or not gloves are used
- **6.1.5.3.** after contact with body fluids or excretions, mucous membranes, non-intact skin, or wound dressings
- **6.1.5.4.** If moving from a contaminated body site to another body site during care of the same patient.
- **6.1.5.5.** After contact with inanimate surfaces and objects (including medical equipment) in the immediate vicinity of the patient.
- **6.1.5.6.** After removing sterile or non-sterile gloves.
- **6.1.6.** Soap and alcohol-based handrub should not be used concomitantly.

#### 6.2. Hand Hygiene Techniques:

#### 6.2.1. Hand Hygiene Technique with Alcohol-Based Formulation:

- A. Duration of the entire procedure: 20-30 seconds
- **B.** Apply a palm full of alcohol-based handrub and cover all surfaces of the hands.
- C. Rub hands palm to palm;
- D. Right palm over left dorsum with interlaced fingers and vice versa;
- E. Palm to palm with fingers interlaced;
- F. Backs of fingers to opposing palms with fingers interlocked;
- **G.** Rotational rubbing of left thumb clasped in right palm and vice versa;
- **H.** Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
- I. Once dry, your hands are safe.
- J. (The technique for handrubbing is illustrated in figures 1&2)

#### 6.2.2. Hand Hygiene Technique with Soap and Water:

- **6.2.2.1.** Duration of the entire procedure: 40-60 seconds.
- **6.2.2.2.** Wet hands with water:
- **6.2.2.3.** Apply enough soap to cover all hand surfaces;
- **6.2.2.4.** Rub hands palm to palm;
- **6.2.2.5.** Right palm over left dorsum with interlaced fingers and vice versa;
- **6.2.2.6.** Palm to palm with fingers interlaced;
- **6.2.2.7.** Backs of fingers to opposing palms with fingers interlocked;
- **6.2.2.8.** Rotational rubbing of left thumb clasped in right palm and vice versa;
- **6.2.2.9.** Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
- 6.2.2.10. Rinse hands with water;
- **6.2.2.11.** Dry hands thoroughly with a single use towel;
- **6.2.2.12.** Use towel to turn off faucet:
- 6.2.2.13. Your hands are now safe.
- **6.2.2.14.** (The technique for hand washing is illustrated in figures 3&4).

#### 6.3. Recommendations for surgical hand preparation:

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- **6.3.1.** Remove rings, wrist-watch, and bracelets before beginning surgical hand preparation.
- **6.3.2.** Sinks should be designed to reduce the risk of splashes.
- **6.3.3.** If hands are visibly soiled, wash hands with plain soap before surgical hand preparation. Remove debris from underneath fingernails using a nail cleaner, preferably under running water.
- **6.3.4.** Brushes are not recommended for surgical hand preparation.
- **6.3.5.** Surgical hand antisepsis should be performed using either a suitable antimicrobial soap or suitable alcohol-based handrub, preferably with a product ensuring sustained activity, before donning sterile gloves.
- **6.3.6.** When performing surgical hand antisepsis using an antimicrobial soap, scrub hands and forearms for the length of time recommended by the manufacturer, typically 2–5 minutes. Long scrub times (e.g. 10 minutes) are not necessary.
- **6.3.7.** When using an alcohol-based surgical handrub product with sustained activity, follow the manufacturer's instructions for application times. Apply the product to dry hands only. Do not combine surgical hand scrub and surgical handrub with alcohol-based products sequentially.
- **6.3.8.** When using an alcohol-based handrub, use sufficient product to keep hands and forearms wet with the handrub throughout the surgical hand preparation procedure. (The technique for surgical hand preparation using alcohol-based handrubs is illustrated in Figures 6 & 7.)
- **6.3.9.** After application of the alcohol-based handrub as recommended, allow hands and forearms to dry thoroughly before donning sterile gloves

#### 6.4. Selection and handling of hand hygiene agents:

- **6.4.1.** Provide HCWs with efficacious hand hygiene products that have low irritancy potential.
- **6.4.2.** To maximize acceptance of hand hygiene products by HCWs, ask for their input regarding the skin tolerance, feel, and fragrance of any products under consideration.

#### 6.4.3. When selecting hand hygiene products:

- **6.4.3.1.** Determine any known interaction between products used to clean hands, skin care products, and the types of glove used in the institution.
- **6.4.3.2.** Ask for information from manufacturers about the risk of product contamination.
- **6.4.3.3.** Ensure that dispensers are accessible at the point of care.
- **6.4.3.4.** Ensure that dispensers function adequately and reliably and deliver an appropriate volume of the product.
- **6.4.3.5.** Ensure that the dispenser system for alcohol-based handrubs is approved for flammable materials.
- **6.4.3.6.** Ask for and evaluate information from manufacturers regarding any effect that hand lotions, creams, or alcohol-based handrubs may have on the effects of antimicrobial soaps being used in the institution.

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- **6.4.3.7.** Cost comparisons should only be made for products that meet requirements for efficacy, skin tolerance, and acceptability.
- **6.4.3.8.** Do not add soap or alcohol-based formulations to a partially empty soap dispenser.

#### 6.5. My (5) moments of hand hygiene:

#### 6.5.1. Moment (1): Before touching a patient:

#### 6.5.1.1. When?

A. Clean your hands before touching a patient when approaching him/her.

#### 6.5.1.2. Why?

A. To protect the patient against harmful germs carried on your hands.

#### 6.5.2. Moment (2): Before clean/ aseptic procedure:

#### 6.5.2.1. When?

A. Clean your hands immediately before performing a clean/aseptic procedure.

#### 6.5.2.2. Why?

A. To protect the patient against harmful germs, including the patient's own, from entering his/her body.

#### 6.5.3. Moment (3): After body fluid exposure risk:

#### 6.5.3.1. When?

A. Clean your hands immediately after an exposure risk to body fluids (and after glove removal).

#### 6.5.3.2. Why?

A. To protect yourself and the health-care environment from harmful patient germs.

#### 6.5.4. Moment (4): After touching a patient:

#### 6.5.4.1. When?

A. Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side.

#### 6.5.4.2. Why?

A. To protect yourself and the health-care environment from harmful patient germs.

#### 6.5.5. Moment (5): After touching patient surroundings:

#### 6.5.5.1. When?

A. Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.

#### 6.5.5.2. Why?

A. To protect yourself and the health-care environment from harmful patient germs.

#### 6.6. Storage and dispensing of hand-care products:

**6.6.1.** Soap should not be added to a partially empty dispenser, because the practice of topping off might lead to contamination. Signs of contamination include the product becoming discolored or cloudy, or developing an unusual odor.

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**6.6.2.** Always store and dispense products according to the manufacturer's directions.

#### 6.7. Fingernails and jewelry:

- **6.7.1.** Do not wear artificial fingernails or extenders when having direct contact with patients.
- **6.7.2.** Keep natural nails short (tips less than 0.5 cm long or approximately ¼ inch).

#### 7. References:

7.1. WHO guidelines on hand hygiene in health care. (2009)

#### 8. Appendices:

- **8.1.** Figure (1): Hand Rubbing Technique, English.
- 8.2. Figure (2): Hand Rubbing Technique, Arabic.
- 8.3. Figure (3): Hand Rubbing Technique, (Combined Arabic and English).
- 8.4. Figure (4): Hand Washing Technique.
- **8.5.** Figure (5): Hand Washing Technique, Arabic.
- 8.6. Figure (6): Hand washing technique, (Combined Arabic and English).
- 8.7. Figure (7): Combined Hand Hygiene Techniques, English.
- 8.8. Figure (8): Surgical Hand Rubbing Technique.
- **8.9.** Figure (9): five moments of hand hygiene, English.
- **8.10.** Figure (10): five moments of hand hygiene, Arabic.

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Figure (1) Hand Rub Technique

# **How to Handrub?**

#### **RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED**

Duration of the entire procedure: 20-30 seconds



Apply a palmful of the product in a cupped hand, covering all surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



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



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



Once dry, your hands are safe.



Patient Safety

SAVE LIVES Clean Your Hands

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May 2009

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Figure (2) Hand Rub Technique, Arabic



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Figure (3): Hand rubbing technique (combined Arabic and English)

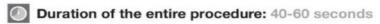


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Figure (4): Hand Washing Technique, English.

## **How to Handwash?**

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB





Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



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



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



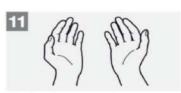
Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.



Patient Safety

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May 2006

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Figure (5): Hand Washing Technique, Arabic.



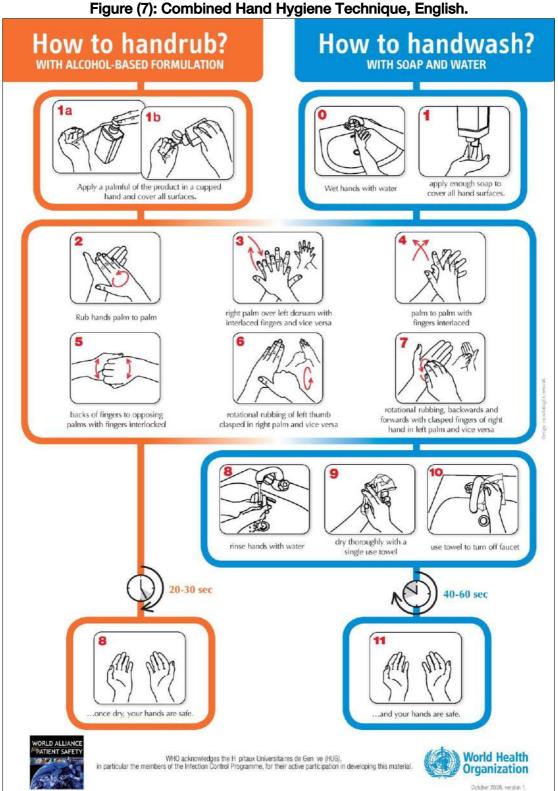
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Figure (6): Hand Washing Technique, (Combined Arabic and English).



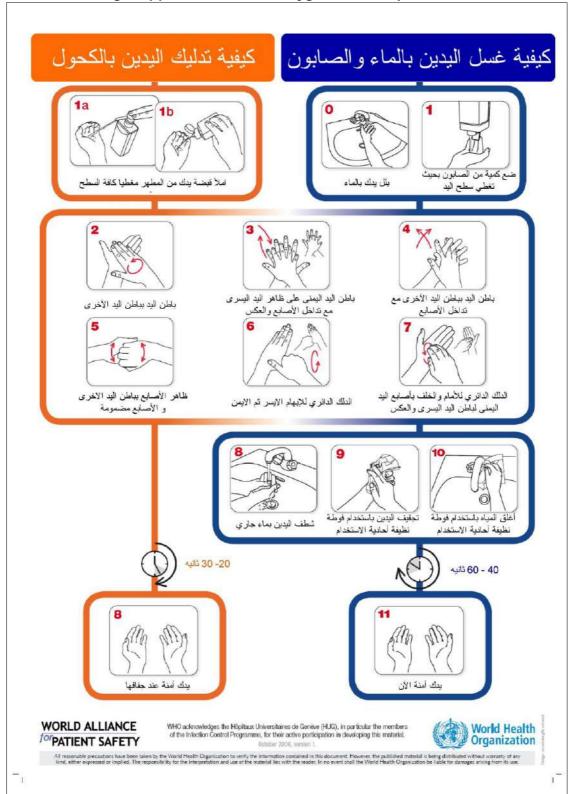
Policy Title: Hand Hygiene	Policy Number: GDIPC-IPP-DN-02
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Figure (7): Combined Hand Hygiene Technique, English.



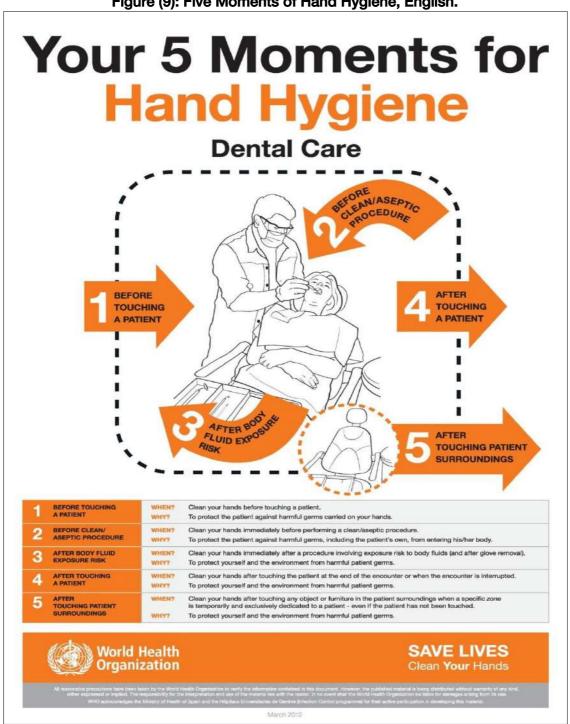
Policy Title: Hand Hygiene	Policy Number: GDIPC-IPP-DN-02
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Figure (8): Combined Hand Hygiene Technique, Arabic.



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Figure (9): Five Moments of Hand Hygiene, English.



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Figure (10): Five Moments of Hand Hygiene, Arabic.



Policy Title: Personal Protective Equipment	Policy Number: GDIPC-IPP-DN-03
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of use of personal protective equipment in dental practice.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of Personal Protective Equipment (PPE).
- **2.3.** To provide a framework for education of dental healthcare personnel in the Personal Protective Equipment (PPE).

#### Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and the staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1. Personal Protective Equipment (PPE):** specialized clothing or equipment worn by an employee for protection against a hazard (e.g., gloves, masks, protective eyewear, and gowns).
- 5.2. DHCP: Dental Health Care Personnel.

#### 6. Procedure:

#### 6.1. Use of PPE:

#### 6.1.1.Gloves:

- **6.1.1.1.** Wear gloves when there is potential contact with blood, body fluids, mucous membranes, non-intact skin or contaminated equipment.
- **6.1.1.2.** These are the most important do's and don'ts of glove use:
  - **A.** Wear gloves that fit appropriately (select gloves according to hand size).
  - **B.** Do not wear the same pair of gloves for the care of more than one patient.
  - **C.** Do not wash gloves for the purpose of reuse.
  - **D.** Perform hand hygiene before and immediately after removing gloves.
  - E. Work from "clean to dirty".
  - F. Limit opportunities for "touch contamination" to protect yourself, others, and the environment.
  - **G.** Do not touch your face or adjust PPE with contaminated gloves.
  - **H.** Do not touch environmental surfaces except as necessary during patient care.

#### 6.1.1.3. Change gloves:

- A. During use if torn and when heavily soiled (even during use on the same patient)
- B. After use on each patient.
- C. Discard in appropriate receptacle.
- D. Never wash or reuse disposable gloves.

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#### 6.1.2.Gowns:

- **6.1.2.1.** Wear a gown to protect skin and clothing during procedures or activities where contact with blood or body fluids is anticipated.
- **6.1.2.2.** Do not wear the same gown for the care of more than one patient.
- **6.1.2.3.** Remove gown and perform hand hygiene before leaving the patient's environment (e.g., exam room).

#### 6.1.3. Facemasks (Procedure or Surgical Masks):

- **6.1.3.1.** Wear a facemask when there is potential contact with respiratory secretions and sprays of blood or body fluids (as defined in Standard Precautions and/or Droplet Precautions).
- **6.1.3.2.** Masks should fully cover the nose and mouth and prevent fluid penetration. Masks should fit snuggly over the nose and mouth. For this reason, masks that have a flexible nose-piece and can be secured to the head with string ties or elastic are preferable.

#### 6.1.4.Goggles, Face Shields:

- **6.1.4.1.** Wear eye protection for potential splash or spray of blood, respiratory secretions, or other body fluids.
- **6.1.4.2.** Personal eyeglasses and contact lenses are not considered adequate eye protection
- **6.1.4.3.** Goggles should fit snuggly over and around the eyes or personal prescription lenses.
- **6.1.4.4.** Goggles with anti-fog features will help maintain clarity of vision.
- **6.1.4.5.** When skin protection, in addition to mouth, nose, and eye protection, is needed or desired, a face shield can be used as a substitute to wearing a mask or goggles. The face shield should cover the forehead, extend below the chin, and wrap around the side of the face.

#### 6.1.5.Respirators:

- **6.1.5.1.** Wear N95-or higher respirators for potential exposure to infectious agents transmitted via the airborne route (e.g., tuberculosis).
- **6.1.5.2.** All healthcare personnel that use N95-or higher respirator should be fit tested every (2) years according to MOH requirements.

#### 6.1.6.Head and Shoe Covers:

- **6.1.6.1.** Head and shoe covers are less frequently used types of PPE, but should be considered if contamination is likely.
- **6.1.6.2.** It's not mandated the use of shoe and head covers in dentistry.
- **6.1.6.3.** DHCP may want to consider using shoe covers when contamination of footwear is anticipated, such as during surgical procedures where unusually heavy bleeding may be anticipated (e.g., maxillofacial reconstructive surgery and trauma surgery).
- 6.1.6.4. Head covers are optional but may be useful in decreasing contamination of DHCP during ultrasonic scaling, surgical procedures using rotary or ultrasonic instrumentation, and manual decontamination of dental instruments, where spraying and spattering of blood and OPIM may be generated. Head covers also provide maximum protection to patients during surgical procedures.

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#### 6.1.7. Recommendations for Donning PPE:

- **6.1.7.1.** Always perform hand hygiene before donning PPE.
- 6.1.7.2. Sequence of donning PPE (figure 8):
  - **A.** The gown should be donned first.
  - B. The mask or respirator should be put on next and properly adjusted to fit; remember to fit check the respirator.
  - C. The goggles or face shield should be donned next.
  - **D.** The gloves are donned last.
  - E. Keep in mind, the combination of PPE used, and therefore the sequence for donning, will be determined by the precautions that need to be taken.

#### 6.1.7.3. To don a gown:

- **A.** First select the appropriate type for the task and the right size for you.
- **B.** The opening of the gown should be in the back; secure the gown at the neck and waist.
- C. If the gown is too small to fully cover your torso, use two gowns.
- **D.** Put on the first gown with the opening in front and the second gown over the first with the opening in the back.

#### 6.1.7.4. To don a mask:

#### A. If the mask has ties:

- 1) Place the mask over your mouth, nose and chin.
- 2) Fit the flexible nose piece to the form of your nose bridge.
- 3) Tie the upper set at the back of your head and the lower set at the base of your neck.

#### B. If a mask has elastic head bands:

- 1) Separate the two bands, hold the mask in one hand and the bands in the other.
- 2) Place and hold the mask over your nose, mouth, and chin.
- 3) Then stretch the bands over your head and secure them comfortably; one band on the upper back of your head, the other below the ears at the base of the neck.
- Adjust the mask to fit. Remember, you don't want to be touching it during use so take the few seconds needed to make sure it is secure on your head and fits snuggly around your face so there are no gaps.

#### 6.1.7.5. To don a respirator:

- A. The technique for donning a particulate respirator, such as an N95, is similar to putting on a pre-formed mask with elastic headbands.
- **B.** Key differences, however, are:
  - 1) The need to first select a respirator for which you have been fit tested.
  - 2) Fit checking the device, as you have been instructed, before entering an area where there may be airborne infectious disease.
  - 3) Be sure to follow the manufacturer's instructions for donning the device.

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#### 6.1.7.6. To Don Eye and Face Protection:

- **A.** Position goggles over eyes and secure to the head using the earpieces or headband.
- **B.** Position face shield over face and secure on brow with headband.
- C. Adjust to fit comfortably.

#### 6.1.7.7. To Don Gloves:

- A. The last item of PPE to be donned is a pair of gloves.
- B. Be sure to select the type of glove needed for the task in the size that best fits you. Insert each hand into the appropriate glove and adjust as needed for comfort and dexterity.
- **C.** If you are wearing an isolation gown, tuck the gown cuffs securely under each glove.

## 6.1.7.8. In addition to wearing PPE, you should also use the following safe work practices:

- A. Avoid contaminating yourself by keeping your hands away from your face and not touching or adjusting PPE.
- **B.** Remove your gloves if they become torn and perform hand hygiene before putting on a new pair of gloves.
- C. Avoid spreading contamination by limiting surfaces and items touched with contaminated gloves.

#### 6.1.8.Recommendations for Removing PPE:

#### 6.1.8.1. Sequence of removing PPE (see figures 9& 10):

- A. There are two sequences for removing PPE
  - 1) The first sequence:
    - a) The gloves are considered the most contaminated pieces of PPE and are therefore removed first.
    - b) The face shield or goggles are next because they are more cumbersome and would interfere with removal of other PPE.
    - c) The gown is third in the sequence, followed by the mask or respirator.

#### 2) The second sequence:

- a) Gowns and gloves should are removed first.
- b) The second item is goggles or face shield.
- c) Followed by mask or respirator.
- d) Perform hand hygiene immediately.

#### 6.1.8.2. How to Remove Gloves:

- **A.** Using one gloved hand, grasp the outside of the opposite glove near the wrist.
- **B.** Pull and peel the glove away from the hand.
- C. The glove should now be turned inside out, with the contaminated side now on the inside.
- **D.** Hold the removed glove in the opposite gloved hand.
- **E.** Slide one or two fingers of the ungloved hand under the wrist of the remaining glove.
- **F.** Peel glove off from the inside, creating a bag for both gloves.

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G. Discard in waste container.

#### 6.1.8.3. Remove Goggles or Face Shield:

- A. Using ungloved hands, grasp the "clean" ear or headpieces and lift away from face.
- B. If goggle or face shield are reusable, place them in a designated receptacle for subsequent reprocessing. Otherwise, discard them in the waste receptacle.

#### 6.1.8.4. Removing Gown:

- **A.** Unfasten the gown ties with the ungloved hands.
- **B.** Slip hands underneath the gown at the neck and shoulder, peel away from the shoulders.
- C. Slip the fingers of one hand under the cuff of the opposite arm.
- **D.** Pull the hand into the sleeve, grasping the gown from inside. Reach across and push the sleeve off the opposite arm.
- **E.** Fold the gown towards the inside and fold or roll into a bundle. (Only the "clean" part of the gown should be visible.)
- **F.** Discard into waste or linen container, as appropriate.

#### 6.1.8.5. Removing a Mask:

- **A.** The front of the mask is considered contaminated and should not be touched.
- **B.** Remove by handling only the ties or elastic bands starting with the bottom then top tie or band.
- **C.** Lift the mask or respirator away from the face and discard it into the designated waste receptacle.

#### 6.1.8.6. Removing a Particulate Respirator:

- A. The bottom elastic should be lifted over the head first.
- **B.** Then remove the top elastic. This should be done slowly to prevent the respirator from "snapping" off the face.

#### 6.2. Hand hygiene:

- 6.2.1. Hand hygiene should be performed immediately after removing PPE.
- **6.2.2.**If your hands become visibly contaminated during PPE removal, wash hands before continuing to remove PPE.
- **6.2.3.** Wash your hands thoroughly with soap and warm water or, if hands are not visibly contaminated, use an alcohol-based hand rub.

#### 7. References:

7.1. CDC Recommendations for donning and removing PPE.

#### 8. Appendix:

- 8.1. Figure (11): Sequence for putting on personal protective equipment (PPE)
- 8.2. Figure (12): How to safely remove personal protective equipment (PPE) Example 1.
- 8.3. Figure (13): How to safely remove personal protective equipment (PPE) Example 2.

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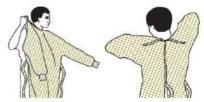
Figure (11): Sequence for putting on Personal Protective Equipment (PPE)

## SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

#### 1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- · Fasten in back of neck and waist



#### 2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- · Fit flexible band to nose bridge
- · Fit snug to face and below chin
- · Fit-check respirator



#### 3. GOGGLES OR FACE SHIELD

· Place over face and eyes and adjust to fit



#### 4. GLOVES

· Extend to cover wrist of isolation gown



### USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- · Limit surfaces touched
- · Change gloves when torn or heavily contaminated
- · Perform hand hygiene



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Figure (12): How to safely remove Personal Protective Equipment (PPE) Example 1

#### HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) **EXAMPLE 1**

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:

- Outside of gloves are contaminated!
- · If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- · Discard gloves in a waste container



- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or
- If the item is reusable, place in designated recentacle for reprocessing. Otherwise, discard in a waste container



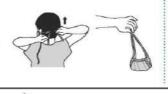
#### 3. GOWN

- . Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- · Turn gown inside out
- · Fold or roll into a bundle and discard in a waste container

#### 4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- · Discard in a waste container

REMOVING ALL PPE





#### 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER **IMMEDIATELY AFTER REMOVING ALL PPE**







1. GLOVES

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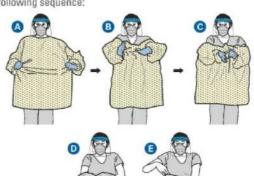
Figure (13): How to safely remove personal protective equipment (PPE) Example 2

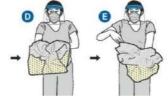
## HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:

#### 1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container





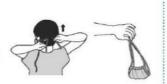
#### 2. GOGGLES OR FACE SHIELD

- . Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



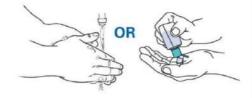
#### 3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- . Discard in a waste container





#### 4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE



CS260672-E

Policy Title: Contact Dermatitis and Latex Hypersensitivity	Policy Number: GDIPC-IPP-DN-04
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of contact dermatitis and latex hypersensitivity.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance Contact Dermatitis and Latex Hypersensitivity
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities

- **4.1** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and the staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- 5.1. Allergic contact dermatitis: a type IV or delayed hypersensitivity reaction resulting from contact with a chemical allergen (e.g., poison ivy, certain components of patient care gloves), generally localized to the contact area. Reactions occur slowly over 12-48 hours.
- 5.2. DHCP: Dental Healthcare Personnel.
- **5.3.** Latex: a milky white fluid extracted from the rubber that contains the rubber material cis-1,4 polyisoprene.
- **5.4. Latex allergy:** a type I or immediate anaphylactic hypersensitivity reaction to the proteins found in natural rubber latex (NRL).

#### 6. Procedure:

**6.1.** Contact dermatitis is classified as either irritant or allergic.

#### 6.1.1.Irritant contact dermatitis:

**6.1.1.1.** Is common, non-allergic, and develops as dry, itchy, irritated areas on the skin around the area of contact.

#### 6.1.2. Allergic contact dermatitis (type IV hypersensitivity):

- **6.1.2.1.** Can result from exposure to accelerators and other chemicals used in the manufacture of rubber gloves (e.g., natural rubber latex, nitrile, and neoprene), as well as from other chemicals found in the dental practice setting (e.g., methacrylates and glutaraldehyde).
- **6.1.2.2.** Allergic contact dermatitis often manifests as a rash beginning hours after contact and, similar to irritant dermatitis, is usually confined to the area of contact. (Refer to table 1).

#### 6.2. Latex allergy (type I hypersensitivity to latex proteins):

**6.2.1.**It is a serious systemic allergic reaction, usually beginning within minutes of exposure but sometimes occurring hours later and producing varied symptoms.

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- More common reactions include runny nose, sneezing, itchy eyes, scratchy throat, hives, and itchy burning skin sensations.
- **6.2.2.**More severe symptoms include asthma marked by difficult breathing, coughing spells, and wheezing; cardiovascular and gastrointestinal ailments; and in rare cases, anaphylaxis and death. (Refer to table 1).
- 6.3. Considerations if dental health care personnel are allergic to latex:
  - **6.3.1.**Dental health care personnel who are allergic to latex will need to take precautions at work and outside the workplace since latex is used in a variety of other common products in addition to gloves.
  - 6.3.2.If definitively diagnosed with allergy to natural rubber latex (NRL) protein:
    - **6.3.2.1.** Avoid, as far as feasible, subsequent exposure to the protein and only use nonlatex (e.g., nitrile or vinyl) gloves.
    - **6.3.2.2.** Make sure that other staff members in the dental practice wear either nonlatex or reduced protein, powder-free latex gloves.
    - **6.3.2.3.** Use only synthetic or powder-free rubber dams.
  - 6.3.3.Dental personnel can further reduce occupational exposure to NRL protein by taking the following steps:
    - **6.3.3.1.** Using reduced protein, powder-free latex gloves.
    - **6.3.3.2.** Frequently changing ventilation filters and vacuum bags used in latex contaminated areas.
    - **6.3.3.3.** Checking ventilation systems to ensure they provide adequate fresh or recirculating air.
    - **6.3.3.4.** Frequently cleaning all work areas contaminated with latex dust.
    - **6.3.3.5.** Educating dental staff on the signs and symptoms of latex allergies.
- 6.4. Considerations for providing dental treatment to patients with latex allergy:
  - **6.4.1.**Patients with a latex allergy should not have direct contact with latex-containing materials and should be treated in a "latex safe" environment.
  - **6.4.2.**By obtaining thorough patient health histories and preventing patients from having contact with potential allergens, dental health care professionals can minimize the possibility of patients having adverse reactions.
  - 6.4.3. Considerations in providing safe treatment for patients with possible or documented latex allergy include (but are not limited to) the following:
    - **6.4.3.1.** Screen all patients for latex allergy (e.g., obtain their health history, provide medical consultation when latex allergy is suspected).
    - **6.4.3.2.** Be familiar with the different types of hypersensitivity—immediate and delayed—and the risks that these pose for patients and staff.
    - **6.4.3.3.** Consider sources of latex other than gloves. Dental patients with a history of latex allergy may be at risk from a variety of dental products including, but not limited to, prophylaxis cups, rubber dams, and orthodontic elastics.
    - **6.4.3.4.** Provide an alternative treatment area free of materials containing latex. Ensure a latex-safe environment or one in which no personnel use latex gloves and no patient contact occurs with other latex devices, materials, and products.

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- **6.4.3.5.** Remove all latex-containing products from the patient's vicinity. Adequately cover/isolate any latex-containing devices that cannot be removed from the treatment environment.
- 6.4.3.6. Be aware that latent allergens in the ambient air can cause respiratory and or anaphylactic symptoms in people with latex hypersensitivity. Therefore, to minimize inadvertent exposure to airborne latex particles among patients with latex allergy, try to give them the first appointments of the day.
- **6.4.3.7.** Frequently clean all working areas contaminated with latex powder/dust.
- **6.4.3.8.** Frequently change ventilation filters and vacuum bags used in latex-contaminated areas.
- **6.4.3.9.** Have latex-free kits (e.g., dental treatment and emergency kits) available at all times.
- **6.4.3.10.** Be aware that allergic reactions can be provoked from indirect contact as well as direct contact (e.g., being touched by someone who has worn latex gloves). Hand hygiene, therefore, is essential.
- **6.4.3.11.** Communicate latex allergy procedures (e.g., verbal instructions, written protocols, posted signs) to other personnel to prevent them from bringing latex-containing materials into the treatment area.
- **6.4.3.12.** If latex-related complications occur during or after the procedure, manage the reaction and seek emergency assistance as indicated. Follow current medical emergency response recommendations for management of anaphylaxis
- 7. References:
  - 7.1. CDC recommendations for Contact Dermatitis and Latex Allergy.
- 8. Appendices:
  - **8.1.** Table (1) Categories of glove-associated skin reactions.

#### Table (1) Categories of glove-associated skin reactions

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	Irritant Contact Dermatitis	Allergic Contact Dermatitis (Type IV [delayed] Hypersensitivity)	Latex Allergy (Type I [immediate] Hypersensitivity or NRL* protein allergy)
Causative Agents	Toxic chemicals (e.g., biocides, detergents); excessive perspiration; irritating chemicals used in hand products and in glove manufacture.	Accelerators and other chemicals used in glove manufacture; sterilants and disinfectants (e.g. glutaraldehyde); bonding agents (e.g. methracrylates); local anesthetics.	Latex proteins from Hevea brasiliensis (rubber tree).
Diagnosis	<ul> <li>skin reactions usually confined to the area of contact Acute: Red, dry, itchy irritated areas.</li> <li>Chronic: Dry, thickened skin, crusting, deep painful cracking, scabbing sores, peeling.</li> </ul>	<ul> <li>Skin reactions usually confined to the area of contact.</li> <li>Acute: Itchy, red rash, small blisters.</li> <li>Chronic: Dry thickened skin, crusting, scabbing sores, vesicles, peeling (appears 4–96 hours after exposure).</li> </ul>	<ul> <li>Skin and systemic reactions can occur as soon as 2–3 minutes, or as long as several hours after skin or mucous membrane contact with the protein allergens.</li> <li>Acute: Hives, swelling, runny nose, nausea, abdominal cramps, dizziness, low blood pressure, bronchospasm, anaphylaxis (shock)</li> <li>Chronic: As above, increased potential for extensive, more severe reaction.</li> </ul>
Diagnosis	By medical history, symptoms, and exclusion of Type IV and Type I hypersensitivity.	By medical history, symptoms, and skin patch test.	By medical history, symptoms, and skin-prick or blood test.

<sup>\*</sup> NRL=natural rubber latex

Policy Title: Respiratory Hygiene and Cough Etiquette	Policy Number: GDIPC-IPP-DN-05
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of respiratory hygiene and cough etiquette in dental practice.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of respiratory hygiene and cough etiquette.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

**5.1.** Respiratory Hygiene and Cough Etiquette: a protocol used to prevent the transmission of respiratory infections in the facility, the following infection prevention measures are implemented for all potentially infected persons at the point of entry and continuing throughout the duration of the visit.

#### 6. Procedure:

#### 6.1. Identifying Persons with Potential Respiratory Infection:

- **6.1.1.** Facility staff remain alert for any persons arriving with symptoms of a respiratory infection
- **6.1.2.**Signs are posted at the reception area instructing patients and accompanying persons to:
  - **6.1.2.1.** Self-report symptoms of a respiratory infection during registration
  - **6.1.2.2.** Practice respiratory hygiene and cough etiquette (technique described below) and wear facemask as needed.

#### 6.2. Availability of Supplies:

- **6.2.1.**The following supplies are provided in the reception area and other common waiting areas:
  - **6.2.1.1.** Facemasks, tissues, and no-touch waste receptacles for disposing of used tissues.
  - **6.2.1.2.** Dispensers of alcohol-based hand rub.

#### 6.3. Respiratory Hygiene and Cough Etiquette:

- **6.3.1.**All persons with signs and symptoms of a respiratory infection (including facility staff) are instructed to:
  - **6.3.1.1.** Cover the mouth and nose with a tissue when coughing or sneezing;
  - **6.3.1.2.** Dispose of the used tissue in the nearest waste receptacle
  - **6.3.1.3.** Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials

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#### 6.4. Masking and Separation of Persons with Respiratory Symptoms:

#### 6.4.1.If patient calls ahead:

- **6.4.1.1.** Have patients with symptoms of a respiratory infection come at a time when the facility is less crowded or through a separate entrance, if available
- **6.4.1.2.** If the purpose of the visit is non-urgent, patients are encouraged to reschedule the appointment until symptoms have resolved
- **6.4.1.3.** Upon entry to the facility, patients are to be instructed to don a facemask (e.g., procedure or surgical mask).
- **6.4.1.4.** Alert registration staff ahead of time to place the patient in an exam room with a closed door upon arrival.

#### 6.4.2.If identified after arrival:

- **6.4.2.1.** Provide facemasks to all persons (including persons accompanying patients) who are coughing and have symptoms of a respiratory infection
- **6.4.2.2.** Place the coughing patient in an exam room with a closed door as soon as possible, if an exam room is not available, the patient should sit as far from other patients as possible in the waiting room.
- **6.4.2.3.** Accompanying persons who have symptoms of a respiratory infection should not enter patient-care areas and are encouraged to wait outside the facility.

#### 6.5. Healthcare Personnel Responsibilities:

- **6.5.1.**Healthcare personnel observe Droplet Precautions, in addition to Standard Precautions, when examining and caring for patients with signs and symptoms of a respiratory infection.
- **6.5.2.**These precautions are maintained until it is determined that the cause of the symptoms is not an infectious agent that requires Droplet or Airborne Precautions.
- **6.5.3.** All healthcare personnel are aware of facility sick leave policies, including staff who are not directly employed by the facility but provide essential daily services.
- **6.5.4.**Healthcare personnel with a respiratory infection avoid direct patient contact; if this is not possible, then a facemask should be worn while providing patient care and frequent hand hygiene should be reinforced.
- **6.5.5.**Healthcare personnel are up-to-date with all recommended vaccinations, including annual influenza vaccine.

#### 6.6. Staff Communication:

- **6.6.1.**Designated personnel regularly review information on local respiratory virus activity provided by the ministry of health (MOH) to determine if the facility will need to implement enhanced screening for respiratory symptoms
- 6.7. During Periods of Increased Community Respiratory Virus Activity (e.g., Influenza Season):
  - **6.7.1.**In addition to the aforementioned infection prevention measures, the following enhanced screening measures are implemented:

#### 6.7.2. When scheduling and/or confirming appointments:

**6.7.2.1.** Pre-screen all patients and schedule those with respiratory symptoms to come when the facility might be less crowded, if possible

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- **6.7.2.2.** Instruct patients with respiratory symptoms to don a facemask upon entry to the facility.
- **6.7.2.3.** If the purpose of the visit is non-urgent, patients with symptoms of respiratory infection are encouraged to schedule an appointment after symptoms have resolved.
- **6.7.2.4.** Encourage family members, caregivers, and visitors with symptoms of respiratory infection to not accompany patients during their visits to the facility.
- **6.7.2.5.** If possible, prepare in advance for the registration staff a daily list of patients with respiratory symptoms who are scheduled for a visit.

# 6.7.3. Upon entry to the facility and during visit:

- **6.7.3.1.** At the time of patient registration, facility staff identify pre-screened patients (from the list) and screen all other patients and accompanying persons for symptoms of respiratory infection.
- **6.7.3.2.** Patients identified with respiratory symptoms are placed in a private exam room as soon as possible; if an exam room is not available, patients are provided a facemask and placed in a separate area as far as possible from other patients while awaiting care.

# 6.7.4.If patient volume is anticipated to be higher than usual with prolonged wait time at registration:

- **6.7.4.1.** A separate triage station is established to identify pre-screened patients (from the list) and to screen all other patients and accompanying persons immediately upon their arrival and prior to registration.
- **6.7.4.2.** Patients identified with respiratory symptoms are registered in a separate area, if possible, and placed immediately in a private exam room; if an exam room is not available, patients are provided a facemask and placed in a separate area as far as possible from other patients while awaiting care.
- **6.7.5.**If possible, encourage family members, caregivers, and visitors with symptoms of respiratory infection to not enter the facility.

#### 7. References:

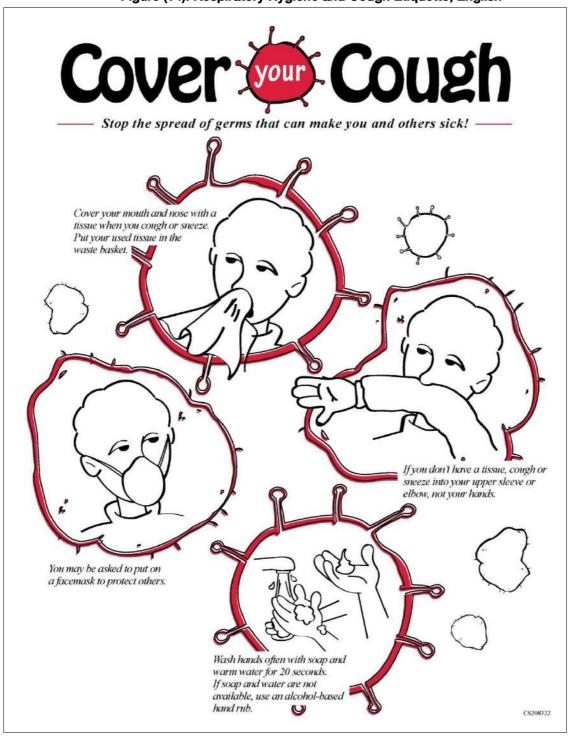
7.1. CDC recommendations for standard precautions.

#### 8. Appendices:

- 8.1. Figure (14): Respiratory Hygiene and Cough Etiquette, English.
- 8.2. Figure (15): Respiratory Hygiene and Cough Etiquette, Arabic.

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Figure (14): Respiratory Hygiene and Cough Etiquette, English



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Figure (15): Respiratory Hygiene and Cough Etiquette, Arabic



Policy Title: Sharps Safety	Policy Number: GDIPC-IPP-DN-06
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of sharps safety in dental practice.

## 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- 2.2. To promote awareness for each dental personnel in the importance of
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

## 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

**5.1. Sharps** refers to all sharp, invasive objects and instruments used to directly inject or cut into soft or hard tissue of the oral cavity.

#### 6. Procedure:

# 6.1. There are (3) basic approaches to preventing sharps injuries:

- 6.1.1. Applying standard precautions,
- **6.1.2.**Applying engineering controls
- **6.1.3.** Applying work practice controls.
- **6.2.** The standard precautions should be applied to apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where health care is delivered.

## 6.3. Applying Engineering Controls:

- **6.3.1.**These controls are frequently technology based and often incorporate safer designs of instruments and devices to reduce the risk of percutaneous and per mucosal injuries.
- **6.3.2.**When dealing with blood-borne pathogens, engineering controls help to eliminate or isolate some of the hazards to DHCP.

## 6.3.3. Examples of such designs include:

- **6.3.3.1.** A mechanical device designed for holding the needle cap to facilitate one-handed recapping. (Figure 16).
- **6.3.3.2.** Needles with a needle retraction mechanism, (Figure 17).
- **6.3.3.3.** Self-sheathing anesthetic needles. (Figure 18)
- **6.3.3.4.** Blunt suture needle.
- **6.3.3.5.** Retractable scalpel, (Figure 19).
- **6.3.3.6.** Sharps containers, (Figure 20).
- **6.3.3.7.** Tip-protection attachments to protect operator hands during insertion and removal of ultrasonic scaler tips and to shield the tips when resting in the handpiece.

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**6.3.3.8.** Also, plastic irrigation tubes attached to disposable syringes may reduce the risk of injury when disposable syringes are used for irrigation procedures.

#### 6.4. Apply Work Practice Controls:

**6.4.1.**Work-practice controls are an alteration in the manner in which a task is performed which results in safer behaviors, reducing the likelihood of exposure.

# 6.4.2. Examples of work-practice controls are:

- **6.4.2.1.** Avoid bending, breaking, or manipulating needles before disposal, because this practice requires unnecessary manipulation.
- **6.4.2.2.** A void removing needles from disposable medical syringes before disposal.
- **6.4.2.3.** Dispose of used needles as soon as possible after use (e.g., at chairside).
- **6.4.2.4.** For procedures involving multiple injections with a single needle, the practitioner should recap the needle between injections by using a one-handed scoop technique if no engineering controls are available for resheathing the needle or holding the needle cover. (Figure 21).
- **6.4.2.5.** Used needles should never be recapped or otherwise manipulated by using both hands, or any other technique that involves directing the point of a needle toward any part of the body. (Figure 22).
- **6.4.2.6.** Avoid hand-passing sharps to another person. (Figure 23).
- **6.4.2.7.** Use tongs or cotton pliers (rather than fingers) to pick up sharps from the floor.
- **6.4.2.8.** Organize sharp instruments in trays/cassettes so that their tips are not pointing up.
- **6.4.2.9.** Make sure handpieces in their holders have the bur pointing away from the operator.
- **6.4.2.10.** Use instrument cassettes thick enough to avoid sharps from protruding out of the cassette.
- **6.4.2.11.** Place sharp instruments back in a stable fashion when returning them to trays, cassettes, or bracket table. (Figure 25).
- **6.4.2.12.** Look before reaching for a sharp instrument or instrument package
- **6.4.2.13.** Carefully check instrument packages for protruding instruments before handling.
- **6.4.2.14.** Do not reach blindly into a container of sharp items.
- **6.4.2.15.** Use puncture-resistant, closable, labeled sharps containers for sharps disposal.
- **6.4.2.16.** Close sharps containers before moving them to avoid spillage if dropped
- **6.4.2.17.** Fill sharps containers only ¾ full to avoid sharps protruding from the top
- **6.4.2.18.** Do not routinely hand scrub sharp instruments.
- **6.4.2.19.** If an instrument must be hand-scrubbed on occasion, use a long-handled brush.
- **6.4.2.20.** Consider using tongs or cotton forceps rather than fingers to remove burs from the high-speed handpieces.

#### 7. References:

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7.1. CDC Summary of Infection Prevention Practices in Dental Settings, 2016.

# 8. Appendices:

- 8.1. Figure (16): Example of Needle Recapping Device.
- 8.2. Figure (17): Safety needle with integral retractable sheath.
- 8.3. Figure (18) Self-sheathing anesthetic needles.
- 8.4. Figure (19): Disposable retractable scalpel blade.
- 8.5. Figure (20): Sharps Container.
- 8.6. Figure (21): This shows recapping a needle by hand. Do not do this.
- 8.7. Figure (22): This shows the one-handed scoop technique, a safe way to recap a needle
- **8.8.** Figure (23): This shows the passing of an exposed needle.
- 8.9. Figure (24): This shows picking up a sharp with a gloved hand. Do not do this.
- **8.10.** Figure (25): The sharp instrument was placed by on the cassette in an unstable position.



Figure (16): Example of Needle Recapping Device.

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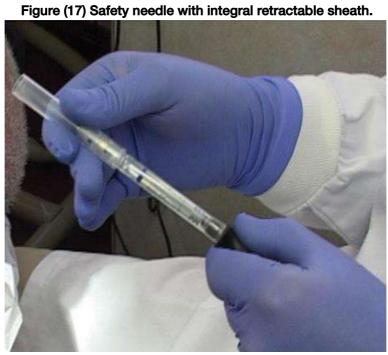
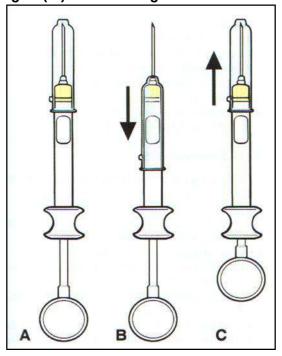


Figure (18) Self-sheathing anesthetic needles.



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Figure (19) Disposable retractable scalpel blade shown in the open position for use and in the safety position within the integral sheath.

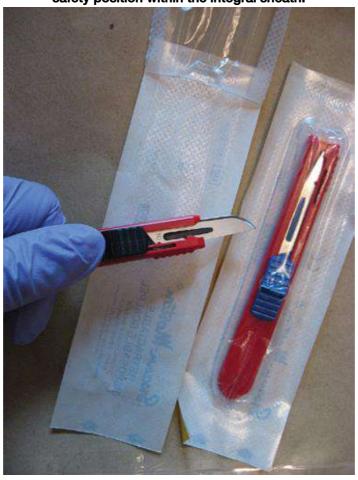


Figure (20): Sharps Container.



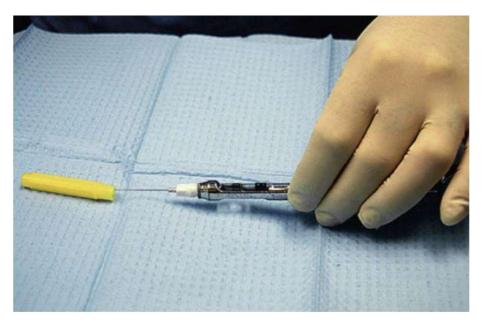
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Figure (21): This shows recapping a needle by hand.

Do not do this.



Figure (22): This shows the one-handed scoop technique, a safe way to recap a needle



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Figure (23): This shows the passing of an exposed needle.

Do not do this.



Figure (24): This shows picking up a sharp with a gloved hand.

Do not do this.



Figure (25): The sharp instrument placed by on the cassette in unstable position.

Do not do this.



Policy Title: Safe Injection Practices	Policy Number: GDIPC-IPP-DN-07
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of safe injection in dental practice.

# 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of Safe Injection Practices.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

# 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

# 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

**5.1. Safe Injection Practices:** refers to the proper use and handling of supplies for administering injections and infusions. These practices are intended to prevent transmission of infectious diseases between one patient and another, or between a patient and healthcare personnel during preparation and administration of parenteral medications.

# 6. Procedure:

- 6.1. Unsafe injection practices that have resulted in disease transmission have most commonly included:
  - **6.1.1.**Using the same syringe to administer medication to more than one patient, even if the needle was changed or the injection was administered through an intervening length of intravenous (IV) tubing.
  - **6.1.2.**Accessing a medication vial or bag with a syringe that has already been used to administer medication to a patient, then reusing contents from that vial or bag for another patient.
  - **6.1.3.**Using medications packaged as single-dose or single-use for more than one patient.
  - 6.1.4. Failing to use aseptic technique when preparing and administering injections.
- 6.2. Dental practitioners should adhere to the following injection practices that are critical for patient safety:
  - 6.2.1. Prepare injections using aseptic technique in a clean area.
  - **6.2.2.** Disinfect the rubber septum on a medication vial with alcohol before piercing.
  - **6.2.3.**Do not use needles or syringes for more than one patient (this includes manufactured prefilled syringes and other devices such as insulin pens).
  - **6.2.4.**Medication containers (single and multidose vials, ampules, and bags) are entered with a new needle and new syringe, even when obtaining additional doses for the same patient.

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- **6.2.5.**Use single-dose vials for parenteral medications when possible.
- **6.2.6.**Do not use single-dose (single-use) medication vials, ampules, and bags or bottles of intravenous solution for more than one patient.
- **6.2.7.**Do not combine the leftover contents of single-use vials for later use.
- 6.2.8. The following recommendations should be applied if multidose vials are used:
  - **6.2.8.1.** Dedicate multidose vials to a single patient whenever possible.
  - **6.2.8.2.** If multidose vials will be used for more than one patient, they should be restricted to a centralized medication area and should not enter the immediate patient treatment area (e.g., dental operatory) to prevent inadvertent contamination.
  - **6.2.8.3.** If a multidose vial enters the immediate patient treatment area, it should be dedicated for single-patient use and discarded immediately after use.
  - **6.2.8.4.** Date multidose vials when first opened and discard within 28 days, unless the manufacturer specifies a shorter or longer date for that opened vial.
- **6.2.9.**Do not use fluid infusion or administration sets (e.g., IV bags, tubings, connections) for more than one patient.
- 7. References:
  - **7.1.** CDC Summary of Infection Prevention Practices in Dental Settings, 2016.
- 8. Appendices:
  - 8.1. None.

Policy Title: Sterilization of Patient Care Items	Policy Number: GDIPC-IPP-DN-08
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of Sterilization and Disinfection of Patient-Care Items.

# 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of sterilization and disinfection of patient-care items.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

# 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- 5.1. Autoclave: an instrument for sterilization that uses moist heat under pressure.
- **5.2. Disinfection:** a process that eliminates many or all pathogenic microorganisms, except bacterial spores, on inanimate objects in healthcare settings.
- 5.3. High-level disinfectant: a liquid chemical germicide registered by the MOH and used in the disinfection process for critical and semicritical patient-care devices. It inactivates vegetative bacteria, mycobacteria, fungi, and viruses, but not necessarily high numbers of bacterial spores.
- **5.4. Sterilant:** a liquid chemical germicide that destroys all forms of microbiological life, including high numbers of resistant bacterial spores.
- **5.5. Sterilization:** the destruction or removal of all forms of life, with particular reference to microbial organisms. The limiting factor and requirement for sterilization is the destruction of heat-resistant bacterial and mycotic spores.

#### 6. Procedure:

## 6.1. General Recommendations:

- **6.1.1.**No repressing o dental instruments should be carried inside the clinics. All the instruments should be sent to the central sterilization department.
- **6.1.2.**Use only MOH-approved medical devices for sterilization and follow the manufacturer's instructions for correct use.
- **6.1.3.**Clean and sterilize critical dental instruments before each use. (Refer to Table 2).
- 6.1.4. Clean and sterilize semicritical items before each use. (Refer to Table 2).
- **6.1.5.**Allow packages to dry in the sterilizer before they are handled to avoid contamination.
- 6.1.6.Use of heat-stable semicritical alternatives is encouraged.
- 6.1.7.Reprocess heat-sensitive critical and semi-critical instruments by using sterilant/high-level disinfectants or a low-temperature sterilization method. Follow manufacturer's instructions for use of chemical sterilants/high-level disinfectants.

Policy Title: Sterilization of Patient Care Items	Policy Number: GDIPC-IPP-DN-08
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- **6.1.8.** Single-use disposable instruments are acceptable alternatives if they are used only once and disposed of correctly.
- **6.1.9.**Do not use liquid chemical sterilants/high-level disinfectants for environmental surface disinfection or as holding solutions.

#### 6.2. Instrument Processing Area:

- **6.2.1.** Designate a central processing area.
- **6.2.2.**Divide the instrument processing area, physically or, at a minimum, spatially, into distinct areas for:
  - **6.2.2.1.** Receiving, cleaning, and decontamination;
  - **6.2.2.2.** Preparation and packaging;
  - 6.2.2.3. Sterilization;
  - **6.2.2.4.** Storage.
  - **6.2.2.5. Note:** If there is a limitation in the space, the areas for sterilization and storage could be merged in one area.
- **6.2.3.**Do not store instruments in an area where contaminated instruments are held or cleaned.

## 6.3. Receiving, Cleaning, and Decontamination Work Area:

- **6.3.1.**Minimize handling of loose contaminated instruments during transport to the instrument processing area. Use work-practice controls (e.g., carry instruments in a covered container) to minimize exposure potential.
- **6.3.2.**Clean all visible blood and other contamination from dental instruments and devices before sterilization or disinfection procedures.
- **6.3.3.**Use automated cleaning equipment (e.g., ultrasonic cleaner or washer-disinfector) to remove debris to improve cleaning effectiveness and decrease worker exposure to blood.
- **6.3.4.**Use work-practice controls that minimize contact with sharp instruments if manual cleaning is necessary (e.g., long-handled brush).
- **6.3.5.**Wear puncture- and chemical-resistant/heavy-duty utility gloves for instrument cleaning and decontamination procedures.
- **6.3.6.**Wear appropriate PPE (e.g., mask, protective eyewear, and gown) splashing or spraying is anticipated during cleaning.

## 6.4. Preparation and Packaging:

- **6.4.1.**Use an internal chemical indicator in each package. If the internal indicator cannot be seen from outside the package, also use an external indicator.
- **6.4.2.**Use a container system or wrapping compatible with the type of sterilization process used.
- **6.4.3.**Before sterilization of critical and semi-critical instruments, inspect instruments for cleanliness, then wrap or place them in containers designed to maintain sterility during storage (e.g., cassettes and organizing trays).

## 6.5. Storage Area for Sterilized Items and Clean Dental Supplies:

- **6.5.1.**Implement practices on the basis of event-related shelf-life for storage of wrapped, sterilized instruments and devices.
- **6.5.2.**Even for event-related packaging, at a minimum, place the date of sterilization, and if multiple sterilizers are used in the facility, the sterilizer used, on the outside of

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the packaging material to facilitate the retrieval of processed items in the event of a sterilization failure.

- **6.5.3.**Examine wrapped packages of sterilized instruments before opening them to ensure the barrier wrap has not been compromised during storage.
- **6.5.4.**Re-clean, repack, and re-sterilize any instrument package that has been compromised.
- 6.5.5. Store sterile items and dental supplies in covered or closed cabinets.

# 6.6. Implant Devices:

- **6.6.1.** Implantable devices should not be sterilized unwrapped.
- **6.6.2.**A biological indicator should be used for every sterilizer load that contains an implantable device.
- **6.6.3.** The results should be verified before using the implantable device.

#### 7. References:

7.1. CDC guidelines on infection control in dentals settings.

## 8. Appendices:

**8.1. Table (2)** Categories of dental Patient-Care Instruments form the infection control prospective.

Table (2) Ca	Table (2) Categories of Dental Patient-Care Instruments form the infection control prospective		
Category	Definition	Dental Instrument or Item	
Critical	The category of medical devices or instruments that are introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body (e.g., surgical instruments and scalpel).	Surgical instruments, periodontal scalers, scalpel blades, surgical dental burs	
Semi- critical	The category of medical devices or instruments (e.g., mouth mirror and amalgam condenser) that come into contact with mucous membranes and do not ordinarily penetrate them.	Dental mouth mirror, amalgam condenser, reusable dental impression trays, dental handpieces	
Noncritical	The category of medical items or surfaces that carry the least risk of disease transmission. This category has been expanded to include not only noncritical medical devices but also environmental surfaces. Noncritical medical devices touch only unbroken (nonintact) skin (e.g., a blood pressure cuff). Noncritical environmental surfaces can be further divided into clinical contact surfaces (e.g., a light handle) and housekeeping surfaces (e.g., floors and countertops).	Radiograph head/cone, blood pressure cuff, face bow	

Policy Title: Sterilization Monitoring	Policy Number: GDIPC-IPP-DN-09
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This Policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of sterilization monitoring.

## 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of sterilization monitoring.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

# 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1. Biological indicator (BI):** a device to monitor the sterilization process that consists of a standardized population of bacterial spores known to be resistant to the mode of sterilization being monitored. Bls indicate whether all the parameters necessary for sterilization were present.
- **5.2. Chemical indicator:** a device to monitor the sterilization process that changes color or form with exposure to one or more of the physical conditions within the sterilizing chamber (e.g., temperature, steam).
- **5.3. Mechanical indicator:** devices (e.g., gauges, meters, displays, and printouts) that display an element of the sterilization process (e.g., time, temperature, and pressure).

#### 6. Procedure:

**6.1.** There are (3) forms of sterilization monitoring, all of which must be used to achieve sterility assurance, are mechanical, chemical, and biological monitoring.

#### 6.2. Mechanical Monitoring:

- **6.2.1.**Mechanical monitoring involves examining and recording the critical variables (time, temperature and pressure).
- **6.2.2.**Mechanical monitoring provides real time assessment of each cycle. This information is found on the sterilizer print out or on the digital display.
- **6.2.3.**If your machine does not have a print-out, contact the manufacturer. It is possible that your machine has print-out capabilities and the manufacture can provide equipment for print-outs.
- **6.2.4.**At the end of each cycle, before items are removed from the sterilizer, review the print-out to ensure that the correct time, temperature, and pressure were achieved and then initial the print-out once all of these have been verified.

## 6.3. Chemical Monitoring:

- **6.3.1.**Chemical monitoring involves the use of external and internal indicators that change color or physical form when exposed to high temperatures or to certain combinations of time, temperature, and the presence of steam.
- **6.3.2.** Chemical indicators should be compatible with the packaging material.

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- **6.3.3.** The type used should be designed for use with steam autoclaves.
- **6.3.4.**The indicators should be stored and used following the indicator manufacturer's instructions.
- **6.3.5.**Chemical indicators should be used with each and every instrument pack entering the sterilizer.

#### 6.3.6. External Chemical Indicators:

- **6.3.6.1.** External Chemical Indicators should be present on the outer surface of packages and are also called process indicators or rapid-change indicators.
- **6.3.6.2.** External indicators, e.g. autoclave tape and special markings on commercially available packages, change color rapidly after a certain temperature has been reached.
- **6.3.6.3.** External indicators should applied to the outside of each instrument package to verify that the package has been exposed to the sterilization process.
- **6.3.6.4. Note:** Because the external chemical indicators change color very soon after exposure to a high temperature, these indicators should not be considered a reliable indicator that sterility has been achieved.

#### 6.3.7.Internal Chemical Indicators:

- **6.3.7.1.** Internal chemical indicators are placed with the items to be sterilized within the packs and are also called integrating indicators or slow-change indicators.
- **6.3.7.2.** Internal chemical indicators should be of the slow-change type, which are multi-parameter indicators designed to react to two or more sterilizing parameters and are a more reliable indicator that sterilization conditions have been met.
- **6.3.7.3.** Internal chemical indicators should be placed inside every single instrument pack to ensure the steam has penetrated the packaging material and actually reached the instruments inside.
- **6.3.8.Note:** Although chemical indicators may indicate that the necessary sterilization parameters have been reached, they should not be considered as an assurance of sterility because they cannot guarantee that the packages have been exposed to the necessary parameters for the required time.

# 6.3.9.A Bowie-Dick test:

- **6.3.9.1.** It is a special type of chemical indicator that does not test the sterilization process but tests for air removal in vacuum and pre-vacuum steam sterilizers.
- **6.3.9.2.** It consists of a pack placed on the bottom shelf near the drain in an empty chamber.
- **6.3.9.3.** It contains an internal heat-sensitive chemical that will completely change color if air is removed and steam heat is allowed to completely penetrate the pack.
- **6.3.9.4.** When air is not completely removed from a vacuum/pre-vacuum steam sterilizer, air pockets can exist that may not reach sterilizing temperatures.

### 6.4. Biological Monitoring:

**6.4.1.**Biological monitoring (also called spore testing) provides the main guarantee of sterilization. It evaluates the procedure's effectiveness.

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- **6.4.2.**Its strongly recommend at least weekly spore testing of each sterilizer in the practice.
- **6.4.3.**Additionally, they must be part of routine load release criteria for every load that contains implantable devices.

#### 6.5. The following are recommended in the case of a positive spore test:

- **6.5.1.**Remove the sterilizer from service and review sterilization procedures (e.g., work practices and use of mechanical and chemical indicators) to determine whether operator error could be responsible.
- **6.5.2.**Retest the sterilizer by using biological, mechanical, and chemical indicators after correcting any identified procedural problems.
- **6.5.3.**If the repeat spore test is negative, and mechanical and chemical indicators are within normal limits, put the sterilizer back in service.

# 6.6. The following are recommended if the repeat spore test is positive:

- **6.6.1.**Do not use the sterilizer until it has been inspected or repaired or the exact reason for the positive test has been determined.
- **6.6.2.**Recall, to the extent possible, and reprocess all items processed since the last negative spore test.
- **6.6.3.**Before placing the sterilizer back in service, re-challenge the sterilizer with biological indicator tests in three consecutive empty chamber sterilization cycles after the cause of the sterilizer failure has been determined and corrected.
- **6.7.** Maintain sterilization records (i.e., mechanical, chemical, and biological) in compliance with local regulations.

#### 7. References:

7.1. CDC Guidelines for Infection Control in Dental Settings, 2016.

## 8. Appendices:

8.1. None.

Policy Title: Transporting Contaminated Items	Policy Number: GDIPC-IPP-DN-10
Effective Date: November 11, 2018	Revision Due: November 11, 2021

1.1. This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of infection control in transporting contaminated Items to CSSD.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of infection control considerations in transporting contaminated items to CSSD.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

## 3. Scope:

3.1. This policy applies to dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and the staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

**5.1. CSSD:** Central Sterile Services Department.

#### 6. Procedure:

# 6.1. The following recommendations should be applied when transporting contaminated instruments:

- 6.1.1. Contaminated items should be sent to CSSD as soon as possible after use.
- **6.1.2.**If the items will not be sent to the CSSD immediately, a transporting gel should be applied on the instruments while keeping it in the clinic.
- **6.1.3.**Tissues, blood, and material debris should be removed from the contaminated instruments (by wiping with gauze) as soon as possible, prior to transport to the decontamination area.
- 6.1.4.All disposable items should be removed from the kit prior to transportation.
- **6.1.5.**Transport of contaminated items from the point of use to the CSSD should be in an appropriate container to minimize the risk of percutaneous injury.
- **6.1.6.**The transport container should be puncture resistant and of adequate size and depth for the items to be stable and rest safely within the container without protruding beyond its edges.
- **6.1.7.** The transport container should be covered and locked.
- **6.1.8.**The transport container should be considered contaminated. (biohazard logo should be posted on the container).
- **6.1.9.**During transport of items to the CSSD, the courier's gloves, contaminated items, and container should not contact any surface in the way to the CSSD.
- **6.1.10.** Once the contaminated items have returned to the CSSD, the courier must remove the contaminated gloves and perform hand hygiene.
- 7. References: Infection control guidelines for the college of dentistry king Saud university.
- Appendices: None.

Policy Title: Storing Sterile Items	Policy Number: GDIPC-IPP-DN-11
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of storing sterile items in clinics.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of storing sterile items in clinics.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and the staff are trained and assessed in these issues.

## 5. Definitions / Abbreviations:

- **5.1. CSSD:** Central Sterile Services Department.
- **5.2. Shelf life of sterile packages:** is the period of time during which sterility is assumed to be maintained.
- **5.3. Sterile/sterility:** state of being free from all living microorganisms. In practice, it is usually described as a probability function.

# 6. Procedure:

#### 6.1. Storage:

**6.1.1.** All decontaminated and sterilized items must be stored in such a way that their integrity and decontaminated state is maintained.

#### 6.1.2. Storing conditions of sterile packages:

- **6.1.2.1.** The sterile packages should be stored in covered or closed cabinets in dry, enclosed, low-dust areas protected from obvious sources of contamination.
- **6.1.2.2.** The packages should be stored away from heat sources that may make the packaging material brittle and more susceptible to tearing or puncture.
- **6.1.2.3.** The packages should be protected from sharp objects that may puncture or tear the packaging.
- **6.1.3.**Care must be taken that the storage area is not exposed to moisture, so the packages should not to be stored next to or under sinks, under water or sewer pipes, or in any location where they can become wet.

# 6.1.4. Sterile materials should be stored on appropriate designated shelving with the following distances:

- **6.1.4.1.** at least 20-25 cm from the floor,
- 6.1.4.2. at least 12cm from the ceiling (45 cm away from sprinkler heads), and
- **6.1.4.3.** at least 5 cm from outside walls.
- **6.1.5.**Items should be positioned so that packaging is not crushed, bent, compressed, or punctured and so that their sterility and integrity is not otherwise compromised.

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**6.1.6.**Use of the instrument packs should be on a first-in/first-out basis, i.e. the freshly sterilized packages are placed at the back so the previously sterilized packages are used first.

#### 6.2. Shelf life of sterile packages:

**6.2.1.**Shelf- life of sterilized items should be event-related. This means that if the expiration date has not been exceeded, the contents of sterilized packages stored in the appropriate storage conditions are considered sterile until some event causes the items to become contaminated.

# 6.2.2. Examples of events cause the sterile items to become contaminated:

- **6.2.2.1.** A tear in packaging,
- 6.2.2.2. packaging becomes wet,
- **6.2.2.3.** presence of insects or in the storage space,
- **6.2.2.4.** the seal is interrupted.
- **6.2.3.** Items removed from packaging but not used must be reprocessed.

#### 6.2.4. "First in, First out" System:

- **6.2.4.1.** This is a system used for stock rotation.
- **6.2.4.2.** The "oldest" sterile packs should be used first, as long as the packaging material is intact.
- **6.2.5.**A key point in sterility assurance and event-related storage is to examine each pack, pouch, and cassette carefully before opening it to ensure that the barrier wrap has not been compromised during storage.

#### 6.3. Transport of sterilized items to clinics:

- **6.3.1.** Sterilized packages should be allowed to cool down before they are transported.
- **6.3.2.**Transport of items from the CSSD to the clinics or other departments should be within closed solid walled containers, or in covered or enclosed carts with solid-bottom shelves to protect them from exposure to environmental contaminants along the transportation route.

#### 7. References:

- 7.1. CDC guidelines of infection control in dental settings, 2016.
- 7.2. Infection control guidelines for the college of dentistry king Saud university, 2013.

#### 8. Appendices:

8.1. None.

Policy Title: Opening of Instrument Packages	Policy Number: GDIPC-IPP-DN-12
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of Opening of Instrument Packages.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of Sterility of Patient Care Items.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and the staff are trained and assessed in these issues.

### 5. Definitions / Abbreviations:

5.1. CSSD: Central Sterile Services Department.

#### 6. Procedure:

- 6.1. The following recommendations should be applied prior to opening of instrument packages:
  - **6.1.1.**Before opening instrument packages, the packages must be examined to ensure the seal is intact, and the integrity of the package is not broken in any way (e.g. through tears, perforations, or wetness).
  - **6.1.2.**The instrument packages should be opened without touching the instruments.
  - **6.1.3.**The packages should be opened with clean, ungloved hands after the patient is seated and then put on gloves just before first contact with the patient's mouth.
  - **6.1.4.**If the instrument package was opened with gloved hands, the gloves will become contaminated with any microorganisms on the outside of the packaging. If it's necessary to manipulate instruments just before patient treatment begins (e.g., arranging bagged instruments on the bracket table), the instruments should be handled with sterile tongs.
- 6.2. The following recommendations should be applied after opening of instrument packages:
  - **6.2.1.**The internal chemical indicator must be checked to ensure the sterilization conditions have been reached within the package.
  - 6.2.2.If the chemical indicator does not indicate that sterilization parameters have been met, the items should not be used for patient care and the package, along with the internal indicator, must be returned to the CSSD and the incident reported to the CSSD supervisor.
- 7. References: CDC guidelines of infection control in dental settings, 2016.
- Appendices: None.

Policy Title: Environmental Surfaces Infection Control	Policy Number: GDIPC-IPP-DN-13
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of environmental infection control in dental settings.

# 2. Purpose:

- **2.1.** To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of environmental surfaces infection control.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the Environmental Infection Control.

#### 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

## 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1. Chemical sterilant:** chemicals used for the purpose of destroying all forms of microbial life including bacterial spores.
- **5.2. Disinfectant:** a chemical agent used on inanimate (i.e., nonliving) objects (e.g., floors, walls, and sinks) to destroy virtually all recognized pathogenic microorganisms, but not necessarily all microbial forms (e.g., bacterial endospores).
- **5.3. Disinfection:** the destruction of pathogenic and other kinds of microorganisms by physical or chemical means.
- **5.4. High-level disinfectant:** a liquid chemical germicide used in the disinfection process for critical and semi critical patient-care devices.
- **5.5.** Intermediate-level disinfectant: a liquid chemical germicide with a label claim of potency as a tuberculocidal.
- **5.6.** Intermediate-level disinfection: a process that inactivates most vegetative bacteria, most fungi, and some viruses, but cannot be relied on to inactivate resistant microorganisms, such as mycobacteria or bacterial spores.
- **5.7. Low-level disinfectant:** a liquid chemical germicide used as a hospital disinfectant.
- **5.8. Low-level disinfection:** a process that will inactivate most vegetative bacteria, some fungi, and some viruses but cannot be relied on to inactivate resistant microorganisms (e.g., mycobacteria or bacterial spores).
- **5.9. Surface barrier:** material that prevents the penetration of microorganisms, particulates, and fluids.

#### 6. Procedure:

- **6.1.** Based on the potential risk of contamination, the various environmental surfaces can be divided into clinical contact surfaces and housekeeping surfaces. These two types of surfaces require different types of cleaning/disinfecting agents and protocols.
- 6.2. Clinical Contact Surfaces:

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- **6.2.1.** Clinical contact surfaces are those surfaces which risk being contaminated with aerosols and spatter or touched with contaminated gloves during operation.
- 6.2.2. Such surfaces include, but are not limited to,
  - 6.2.2.1. the dental chair,
  - 6.2.2.2. light handles,
  - **6.2.2.3.** switches,
  - **6.2.2.4.** dental radiograph equipment,
  - **6.2.2.5.** dental chair-side computers
  - **6.2.2.6.** reusable containers of dental materials,
  - 6.2.2.7. drawer handles.
  - **6.2.2.8.** sinks and faucet handles used for processing contaminated items, countertops, pens, telephones, and doorknobs.
- 6.2.3. The spread of microorganism from these surfaces can be minimized by:
  - 6.2.3.1. Using impervious barriers to cover the surfaces during treatment, or
  - **6.2.3.2.** Cleaning and disinfecting such surfaces after patient treatment.

## 6.2.4. Using Barriers:

- A. Covering surfaces with an impervious barrier is the preferred method of preventing cross-contamination from clinical contact surfaces.
- **B.** Even if barriers are used, general cleaning and disinfection of clinical contact surfaces, dental unit surfaces, and countertops is required at the end of the work session.
- C. When barriers are used to prevent cross-contamination, they must be removed between patients. A new set of barriers should be placed with each patient. Barriers should never be used for more than one patient.
- D. After removal of the barrier, the surface should be examined. If the surface is found to have been inadvertently soiled, then it should be cleaned and disinfected before placement of clean barriers for the next patient.
- **E.** Suitable materials for use as barriers include clear plastic wrap, bags, sheets, tubing, and plastic-backed paper or other materials impervious to moisture.

# 6.2.5 Cleaning and Disinfection:

- **6.2.4.1.** Cleaning is using detergents or surface active agents to remove organic matter (e.g. saliva and blood), salts, and visible soils.
- **6.2.4.2.** The physical action of scrubbing with detergents and surfactants and rinsing with water removes substantial numbers of microorganisms. Furthermore, if a surface is not cleaned first, the disinfection process may be ineffective (depending on the type of disinfectant) because organic matter interferes with the action of some disinfectants.
- **6.2.4.3.** Removal of all visible blood and inorganic and organic matter is critical as the germicidal activity of the disinfecting agent.
- **6.2.4.4.** Even if barriers are used, general cleaning and disinfection of clinical contact surfaces, dental unit surfaces, and countertops is required at the end of the work session.
- 6.2.4.5. There are two methods for cleaning and disinfection: spray-wipe-spray and wipe-discard-wipe.

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# A. Spray-Wipe-Spray Technique:

- 1) The spray-wipe-spray method is used on any environmental surfaces and equipment contacted, or that have the potential for splash or splatters of OPIM.
- 2) Electrical switches or the x-ray master control should not be sprayed with disinfectant because this may cause short-circuiting.
- 3) In this technique, the detergent/disinfectant is sprayed onto the surface, wiped clean, then sprayed on the same surface again and left untouched for the contact time specified by the manufacturer of the solution.
- 4) Chairside equipment such as curing lights, air abrasion systems, ultrasonic scalers, intraoral cameras, intraoral scanners, and computer keyboards can potentially be damaged with sprays; therefore, barriers or a two-wipe method should be employed.

## B. Wipe-Discard-Wipe:

- 1) Disinfectant wipes are preferred to spray-on products because of the generation of unnecessary aerosols, which may cause sensitization of staff and patients.
- 2) Obtain a disinfectant towelette from its container, close the container lid and vigorously wipe (clean) the surface.
- 3) Discard the towelette and obtain a fresh towelette and wipe the surface again for disinfection.
- Discard the towelette and let the surface dry.
- **6.2.4.6.** To reduce the risk of surfaces and objects becoming unnecessarily contaminated, equipment and supplies not needed during a particular patient's treatment should not be placed near the treatment area or on the counters.

# 6.3 Housekeeping Surfaces:

**6.3.1** Housekeeping surfaces are those surfaces which are less likely to be contacted with contaminated gloves but may become contaminated with aerosols, spatter, or spills.

## 6.3.2 Examples of such surfaces are:

- 6.3.2.1 floors,
- **6.3.2.2** walls and
- 6.3.2.3 sinks.
- **6.3.3** Because housekeeping surfaces have limited risk of disease transmission, they can be decontaminated with less rigorous methods than those used on dental patient-care items and clinical contact surfaces.
- 6.3.4 The majority of housekeeping surfaces need to be cleaned only with a detergent and water or an MOH-registered hospital disinfectant/detergent, depending on the nature of the surface and the type and degree of contamination.
- 6.3.5 Frequency of cleaning of housekeeping surfaces:
  - 6.3.5.1 Floors and sinks should be cleaned daily.

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**6.3.5.2** Walls, window coverings, and other vertical surfaces in healthcare areas should be cleaned and disinfected at least every 3 months. However, when housekeeping surfaces are visibly contaminated by patient material, prompt removal and surface disinfection should be carried out.

# 6.3.6 Personal Protective Equipment (PPE):

- **6.3.6.1** During cleaning and disinfection of environmental surfaces, staff should wear gloves and other PPE to prevent occupational exposure to infectious agents and hazardous chemicals.
- **6.3.6.2** Puncture resistant utility gloves offer more protection than patient examination gloves when using hazardous chemicals.

#### 6.3.7 Cleaning and disinfectant solutions:

- **6.3.7.1** Cleaning and disinfectant solutions should be prepared and stored correctly and in clean containers.
- **6.3.7.2** The manufacturers' instructions for preparation and use should be followed closely.
- **6.3.7.3** Solutions should be freshly diluted at the start of each work day. At the end of the day, any remaining solution should be discarded and the container scrubbed clean and allowed to dry to minimize bacterial contamination.

#### 6.3.8 Mops and cloths:

- **6.3.8.1** Mops and cloths should be cleaned and disinfected after use and allowed to dry before reuse.
- **6.3.8.2** Single-use, disposable mop heads and cloths may be used to avoid spreading contamination.
- **6.3.9** Non-disposable cleaning tools of the various areas within the healthcare facility (clinics, theatres, laboratories, hallways, offices, classrooms, and restrooms) should be separate and not mixed with those of other areas.

## 6.4 Managing Blood and Body Fluid Spillages:

6.4.1 All work locations where employees may come into contact with blood or other potentially infectious material must have blood spill biohazard equipment/kits available to safely and effectively clean up any spills.

#### 6.4.2 The spill kit must include the following:

- 6.4.2.1 Personal protective equipment (PPE) such as gown, gloves, eyewear, mask.
- **6.4.2.2** Supplies such as forceps, plastic scoop and scraper, absorbent granules or absorbent pads, hospital-approved disinfectant, yellow plastic bag and sharp container.
- **6.4.2.3** The steps described below should be taken when cleaning and decontaminating spills of blood or other potentially infectious materials:
- 6.4.2.4 Control access to area:
- **6.4.2.5** Prevent people from walking through affected area and spreading the blood or other potentially infectious material to other areas. Use the signage for wet floor sign.

# 6.4.3 Contain spill:

- **6.4.3.1** Use other absorbent granules or absorbent pads to contain the spill.
- 6.4.3.2 Put on appropriate PPEs.

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- **6.4.3.3** Use plastic scoop or other mechanical means to remove any broken glass or other sharp objects from the spill area, and dispose into the sharp container
- **6.4.3.4** Sprinkle absorbent granules over the spill and leave for two minutes or as per the manufacturer's recommended contact time. Allow the spill to solidify before removing.
- **6.4.3.5** Remove the solidified waste material using the scoop and scraper and carefully dispose all contaminated materials into the infectious waste bag.
- **6.4.3.6** If there are no available absorbent granules, contain the spill by placing absorbent pads (i.e. paper towel) on top of the spill and apply the appropriate disinfectant.
- 6.4.3.7 To avoid creating aerosols, never spray disinfectant directly onto the spilled material. Instead, gently pour disinfectant on top of paper towels covering the spill or gently flood the affected area, first around the perimeter of the spill, then working slowly toward the spilled material. If sodium hypochlorite solution (5.25% household chlorine bleach) is used, prepare a fresh solution on a daily basis. Leave for the recommended contact time.
- **6.4.3.8** Pick up all absorbent material and carefully place in the infectious yellow bag for disposal. Remove PPEs and place in a yellow bag for disposal.
- 6.4.3.9 Seal the yellow bag.
- **6.4.3.10** Wash hands thoroughly with soap and water.
- **6.4.3.11** Contact housekeeping to clean the affected area with hospital-approved disinfectant.

# 7. References:

- 7.1. CDC guidelines of infection control in dentals settings, 2016.
- 7.2. Infection control guidelines for the college of dentistry king Saud university, 2013.
- **7.3.** GCC manual for infection prevention and control, 2017.

# 8. Appendices:

- 8.1. Table (3): Categories of Disinfectants/ Sterilants and Recommended Uses in Dentistry.
- **8.2. Figure (26):** Examples of clinical contact surfaces.
- 8.3. Figure (27): Examples of housekeeping surfaces.

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Table 3: 0	Categories of Disinfectant	s/ Sterilants and Recomme	ended Uses in Dentistry.
Category	Definition	Examples	Uses
Sterilant	<ul> <li>Destroys all microorganisms-</li> <li>Including high numbers of bacterial spores</li> </ul>	<ul> <li>Gluteraldehydes</li> <li>Hydrogen peroxide</li> <li>(Depending on the contact time).</li> </ul>	<ul><li>Semi-critical heat sensitive items.</li><li>Immersion only.</li></ul>
High-level disinfectant	<ul> <li>Destroys all microorganisms- but not necessarily high numbers of bacterial spores</li> </ul>	<ul> <li>Gluteraldehydes.</li> <li>Hydrogen peroxide.</li> <li>(Depending on the contact time).</li> </ul>	<ul><li>Semi-critical heat sensitive items.</li><li>Immersion only.</li></ul>
Intermediate level disinfectant	Inactivates Mycobacterium tuberculosis (tuberculocidal) and destroys vegetative bacteria, most fungi and most viruses.	<ul> <li>Chlorine and chlorine compounds.</li> <li>Iodophors.</li> <li>Phenolics.</li> <li>Quaternary ammonium Compounds with alcohol.</li> </ul>	<ul> <li>Clinical contact surfaces.</li> <li>Non-critical items visibly soiled with patient material</li> <li>Spills of patient material.</li> </ul>
Low-level disinfectant	Does not inactivate     Mycobacterium tuberculosis (is not tuberculocidal) but destroys vegetative bacteria, some fungi, and some viruses.	Quaternary     ammonium     compounds.	<ul> <li>Clinical contact surfaces (if active against HBV, HIV).</li> <li>Spills of patient material (if active against HBV, HIV).</li> <li>Housekeeping surfaces (e.g. floors and walls).</li> <li>Non-critical items without visible patient material.</li> </ul>

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Figure (26): Examples of clinical contact surfaces.



Figure (27): Examples of housekeeping surfaces.



Policy Waterlii	Title:	Treatment	of	Dental	Unit	Policy Number: GDIPC-IPP-DN-14
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**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of treatment of dental unit waterlines.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- 2.2. To promote awareness for each dental personnel in the importance of dental unit waterlines.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

## 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1. Biofilm:** is an aggregate of microorganisms in which cells adhere to each other on a surface.
- **5.2. Boil water advisory:** a public health announcement that the public should boil tap water before drinking it; when issued, the public should assume the water is unsafe to drink.
- **5.3.** Colony forming unit (CFU): the minimum number of separable cells on the surface of or in semi-solid agar medium which gives rise to a visible colony of progeny is on the order of tens of millions.
- **5.4. Independent water reservoir:** a container used to hold water or other solutions and supply it to handpieces and air/water syringes attached to a dental unit.
- **5.5. Retraction:** the entry of oral fluids and microorganisms into waterlines through negative water pressure.

## 6. Procedure:

- 6.1. The following approaches are acceptable methods for reduction of the number of microorganisms and bacterial endotoxins exiting the waterlines:
  - **6.1.1.** Use of single-use disposable or sterilizable tubing,
  - 6.1.2. Elimination of the biofilm,
  - **6.1.3.**Use of microfiltration devices placed inside DUWLs to treat water exiting the waterlines.
  - 6.1.4. Combined approach.

# 6.1.5. Single-use Disposable or Sterilizable Tubing:

- 6.1.5.1. Whenever possible, single-use disposable or sterilizable tubes which allow the cleaning and removal of the organic matrix of the biofilm from their lumens, are the preferred method of controlling the microbial population within DUWLs.
- **6.1.5.2.** When used with a self-contained, sterile water source, this type of system may even be used during surgical procedures.

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#### 6.1.6. Elimination of the Biofilm:

- **6.1.6.1.** When using non-detachable tubings, management of waterline contamination should aim at elimination of the biofilm.
- **6.1.6.2.** Attempting to eliminate the resident bacteria without removal of the biofilm is an inadequate approach to DUWL treatment which may increase the hazards of contaminated water.
- **6.1.6.3.** Biofilm re-growth in DUWLs usually occurs within a week following disinfection/cleaning and so DUWLs need be treated regularly
- **6.1.6.4.** Elimination of the biofilm can be achieved through the use of a variety of chemical products.

# 6.1.6.5. Any product used must be:

- A. Shown to be effective in the independent literature,
- **B.** Compatible with the DUWL components (as recommended by the dental unit manufacturer),
- C. Non-toxic to patients or DHCP when used as recommended by the dental unit manufacturer, and
- **D.** Does not have adverse effects on the environment.

## 6.1.6.6. Introduction of the chemical agent into the waterlines:

**A.** Introduction of the chemical agent into the waterlines may be either intermittent or continuous.

#### 1) The intermittent method of waterline treatment:

- a) This method involves placement of the chemical agent in a self-contained water reservoir (the source bottle) and flushing the water lines to allow the chemical to fill all the tubings.
- b) The chemical is, then, left in contact with the tubings for the appropriate contact time advised by the chemical's manufacturer.
- c) Afterwards, the chemical should be flushed out thoroughly with water, and, depending on the type of chemical disinfectant, the unit is not put into use for a specified number of hours.
- d) If the unit is connected to the municipal water mains supply, it is essential that the connection is turned off prior to treatment of the waterlines to prevent contamination of mains water with treatment agent.

# 2) The continuous method of waterline treatment:

- a) This method involves mixing low concentrations of the chemical agent with the dental treatment water.
- b) This may be achieved either through mixing the chemical agent with the source water in a self-contained system or through placement of the agent in a reservoir inside the dental unit which provides for measured, continuous release into the water passing through the tubings.

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- c) The continuous method may be used alone or may be used after a single regimen of the intermittent type.
- **6.1.6.7.** Once a dental unit is in place, the dental unit manufacturer's instructions must be observed regarding the protocol and choice of chemical for treatment of the DUWLs, while ensuring the method and chemicals used have been proven to be effective.
- **6.1.6.8.** Adherence to maintenance protocols is necessary as non-compliance has been associated with persistence of contamination of the water.

#### 6.1.7. Microfiltration:

- **6.1.7.1.** Microfilters placed near the exit of waterlines reduce the number of bacteria in dental treatment water.
- **6.1.7.2.** Sediment filters commonly found in dental unit water regulators have pore sizes of 20-90 µm and do not function as microbiological filters.
- **6.1.7.3.** Microfiltration occurs at a filter pore size of 0.03-10 µm.
- **6.1.7.4.** The nearer the filters are placed to the exit of the tubings, the lower the bacterial counts achieved.
- **6.1.7.5.** Filters are not sufficient to manage the water-line problem alone, but they may be used in conjunction with other water-line treatment methods to improve the quality of outgoing water.

# 6.1.8. Combined Approach:

**6.1.8.1.** An ideal water-line treatment regimen would be filters combined with treatment of the water-lines to remove the biofilm.

## 6.1.8.2. Additional recommendations:

- A. flushing for 2 minutes in the morning and for 20–30 seconds after each patient should be considered the norm for dental surgery procedures, and longer flushing is suggested after weekends.
- **B.** Flushing at the beginning of the day should be performed without handpieces connected to the waterlines.
- C. At the end of each working day, the water supply should be disconnected and the water lines purged with air.
- D. If the dental units have antiretraction devices, the manufacturer must be consulted to determine whether testing or maintenance of antiretraction valves or other devices is required.
- **E.** If required, efficacy testing of antiretraction valves / devices should be performed yearly.

#### 6.2. Boil-Water Notices:

# 6.2.1. The following should be applied while a boil-water advisory is in effect:

- **6.2.1.1.** Do not deliver water from the public water system to the patient through the dental operative unit, ultrasonic scaler, or other dental equipment that uses the public water system.
- **6.2.2.**Do not use water from the public water system for dental treatment, patient rinsing, or hand washing.

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- **6.2.3.**For hand washing, use antimicrobial-containing products that do not require water for use (e.g., alcohol-based hand rubs). If hands are visibly contaminated, use bottled water, if available, and soap for hand washing or an antiseptic towelette.
- 6.2.4. The following should be applied when the boil-water advisory is cancelled:
  - **6.2.4.1.** Follow guidance given by the local water utility regarding adequate flushing of waterlines.
  - **6.2.4.2.** If no guidance is provided, flush dental waterlines and faucets for 1--5 minutes before using for patient care.
- **6.3.** Disinfect dental waterlines as recommended by the dental unit manufacturer.
- 7. References:
  - 7.1. CDC guidelines for infection control in dental settings, 2016.
  - 7.2. Infection control guidelines for the college of dentistry king Saud university, 2013.
- 8. Appendices:
  - 8.1. None.

Policy Title: Water Quality Monitoring	Policy Number: GDIPC-IPP-DN-15
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of treatment of water quality monitoring.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of water quality monitoring.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

## 5. Definitions / Abbreviations:

- **5.1. Bacterial count:** a method of estimating the number of bacteria per unit sample. The term also refers to the estimated number of bacteria per unit sample, usually expressed as colony forming units (CFUs) per square centimeter (cm2) per milliliter (mL).
- **5.2. Biofilm:** is an aggregate of microorganisms in which cells adhere to each other on a surface.
- **5.3.** Colony forming unit (CFU): the minimum number of separable cells on the surface of or in semi-solid agar medium which gives rise to a visible colony of progeny is on the order of tens of millions.
- **5.4. Independent water reservoir:** a container used to hold water or other solutions and supply it to handpieces and air/water syringes attached to a dental unit.

#### 6. Procedure:

- **6.1.** For non-surgical procedures, regardless of the source water, the number of bacterial counts of non-pathogenic bacteria in the water exiting the device into the oral cavity be as low as reasonably achievable without exceeding 500 cfu/ml.
- **6.2.** A process should be in place to monitor the quality of waterlines regularly.

## 6.3. Procedure for Sampling Dental Unit Waterlines:

- **6.3.1.**The manufacture recommendations for sampling dental unit waterlines should be strictly followed.
- 6.3.2.In the absence of the manufacture recommendations, the following should steps should be applied:
  - **6.3.2.1.** Dental units have dental waterlines supplying several instrument hoses, three-in-one air/water syringes, patient cup-filler and cuspidor bowl rinse outlets. All these waterlines are interconnected.
  - **6.3.2.2.** Label sterile water bottle (usually 50-100 ml tubes/bottles containing neutralizer). The labelling information should contain details of each waterline to be sampled, sender's reference, person sampling, date and time of sampling.

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- **6.3.2.3.** Purge the 3:1 air/water syringe waterline, instrument hose waterline, patient cup filler waterline (where present) and cuspidor rinse waterline (where present) outlets of the dental unit for 2 minutes before collecting water samples.
- **6.3.2.4.** Aseptically open the tube/bottle and collect 50 ml of water from each outlet.
- **6.3.2.5.** Samples of water should also be taken from independent water reservoir bottles where used.
- **6.3.2.6.** Store the water between 2 and 8°C and return to the microbiology laboratory for analysis ideally within 24 hours of collection.
- 6.4. In the event that standards are not met when monitoring dental unit water (i.e.,  $\geq$  500 CFU/mL), the following actions should be applied:
  - 6.4.1. The manufacture recommendations should be strictly followed.
  - 6.4.2.In the absence of the manufacture recommendations, the following should actions should be applied:
    - **6.4.2.1.** Review work practices, waterline treatment protocols, and waterline treatment and monitoring records.
    - **6.4.2.2.** Correct any identified procedural problems, retreat the waterlines, and retest the dental unit.
    - **6.4.2.3.** If the test remains positive, a shock treatment of the waterlines may be indicated.
    - **6.4.2.4.** Many dental unit waterline product manufacturers offer guidance on initial or periodic shock treatments for the waterlines, which may include using a higher concentration of their product or an extended treatment time.
    - **6.4.2.5.** Cleaning or shocking the lines with diluted bleach (1-part household 6% bleach to 10 parts water) is another option.
    - **6.4.2.6.** In the event that a unit consistently does not meet standards (i.e.,  $\geq$  500 CFU/mL) contact the waterline treatment product manufacturer for guidance.

#### 7. References:

- **7.1.** CDC guidelines for infection control in dental settings, 2016.
- 7.2. Infection control guidelines for the college of dentistry king Saud university, 2013.
- 8. Appendices:
  - 8.1. None.

Policy Title: Waste Management	Policy Number: GDIPC-IPP-DN-16
Effective Date: November 11, 2018	Revision Due: November 11,2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of Waste Management in dental practice.

## 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of Waste Management.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1. Generator:** Any legal individual or body, such as health care facilities and their various departments, whose activity leads to generating healthcare waste.
- **5.2. Infectious waste:** hazardous waste capable of causing infections in humans, including contaminated waste, human blood and blood products, isolation waste, pathological waste, and discarded sharps (needles, scalpels, or broken medical instruments).
- **5.3. Medical waste:** any solid waste generated in the diagnosis, treatment, or immunization of human beings.
- **5.4. OPIM:** Other Potently Infectious Material.
- 5.5. Regulated waste: liquid or semiliquid blood or OPIM; contaminated items that would release blood or OPIM in a liquid or semiliquid state if compressed; items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or OPIM.
- **5.6. Waste Segregation:** This is the separation of the different groups of healthcare waste.

#### Procedure:

**6.1.** There are two basic types of waste found in the dental setting: nonregulated medical waste and regulated medical waste.

## 6.2. Non-regulated dental healthcare waste:

- **6.2.1.**It is described as waste that is generated by administrative departments and general cleaning work within healthcare facilities, similar to normal household or municipal waste.
- **6.2.2.**It includes Domestic waste: such as food, drinks, cans, bottles, plastics, ink cartridges, shredded document papers, cardboard and paper towels.
- **6.2.3.** This type of waste is to be collected in black plastic bags.

## 6.3. Regulated Medical Waste:

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- **6.3.1.**Regulated medical waste requires special storage, handling, neutralization, and disposal.
- 6.3.2.The regulated waste can be categorized into different categorizes, includes but not limited to:
  - **6.3.2.1.** Infectious waste.
  - 6.3.2.2. Pathological waste.
  - **6.3.2.3.** Sharp Waste:
  - 6.3.2.4. Chemical Waste.

### 6.3.3.Infectious Waste:

- **6.3.3.1.** This is the waste that contains biological agents such as bacteria, viruses, parasites, and fungi which might cause a disease for individuals susceptible to get infected.
- **6.3.3.2.** Infectious waste includes any discarded contaminated instruments or materials that have been in contact with blood or body fluids of infected persons (i.e. contaminated clinical waste such as gloves, aprons, masks, disposable bibs, swab, gauze, cotton, used impression and bite registration materials, single -use materials and instruments, used custom trays, sutures, and disposable gowns).
- **6.3.3.3.** According to the standard precautions concept, all patients should be considered as potentially infective.
- **6.3.3.4.** All clinical waste produced from the treatment of patients should be considered infectious waste.

# 6.3.4. Pathological Waste:

**6.3.4.1.** This is the waste that contains human tissues (including extracted teeth), blood, blood components, and body fluids.

### 6.3.5. Sharps Waste:

**6.3.5.1.** This is the waste that contains sharp items such as needles, glass vials, scalpels, orthodontic wires, broken glass, or any other sharp object that has the potential to cut or puncture through the body.

### 6.3.6.Chemical Waste:

- **6.3.6.1.** This is the waste that contains discarded solid, liquid or gaseous chemicals resulting from diagnostic, therapeutic (including local anaesthetic solutions), and laboratory activities or those used in cleaning and disinfecting or sterilizing procedures.
- **6.3.6.2.** It also includes photographic and radiographic chemicals (developer and fixer), lead foil (within intraoral radiographic film packets), and waste amalgam.

### 6.4. Health-Care Waste Management

- **6.4.1.**The effective management of health care waste must consider the basic elements of waste which include:
  - 6.4.1.1. Segregation.
  - **6.4.1.2.** Collection.
  - **6.4.1.3.** Storage.
  - **6.4.1.4.** Transport.
- 6.4.2. Segregation of hazardous healthcare waste inside the health care facility:

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- **6.4.2.1.** A segregation plan must be developed that includes staff training on segregation of waste.
  - A. Considering the transmission routes for infection, good health care waste segregation requires that:
    - 1) Waste should be placed in containers (e.g. bins, boxes, strong disposable bags) to prevent direct contact.
    - 2) Containers should be kept covered to prevent contact with the open air.
    - Sharps and potentially infectious waste should be kept in separate containers in each medical area and located well away from patients.
    - 4) Sharps containers should be clearly labeled.
    - 5) A color coding system should be established or clear signs placed on containers and bags to differentiate between general and hazardous health care waste.
- **6.4.2.2.** Each healthcare waste generator must segregate hazardous from non-hazardous waste at the generation site (e.g. clinic, laboratory, CSSD, radiology department).
- 6.4.2.3. The waste generator holds the responsibility of segregating and collecting waste in containers specially made for this purpose within the health care facility and its department's as follows:
  - A. Non-hazardous healthcare waste:
    - this type of waste required to be collected in black plastic bags.
       These bags are not always doubled but double bags should be used when bags are not sturdy.
    - 2) it should be treated separately and must be segregated from the hazardous healthcare waste in all stages (packaging, collection and transporting inside the facility and storage) until it joins the stream of domestic refuse or municipal solid waste, and transported to the final disposal places in the landfill (e.g. municipal landfill).
  - B. Infectious Waste:
    - 1) This type of waste is collected in orange/yellow- colored plastic bags bearing the phrase "Hazardous Healthcare Waste" (in Arabic and English) along with the biohazard logo (Figure 4).
    - 2) It therefore needs to be packaged in bags that are compatible with the proposed treatment process.
  - C. Pathological waste:
    - 1) In dentistry this type includes extracted teeth. (Refer to policy number GDIPC-IPP-DN-17).
  - D. Sharps wastes:
    - a) This type should all be collected together, regardless of whether or not they are contaminated.
    - b) They are to be disposed of in color-coded containers (usually made of metal or high-density plastic), fitted with

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covers and bearing the phrase "Hazard - Sharp Items" (in Arabic and English) and the biohazard logo.

c) The containers should be rigid, leak proof, and puncture proof.

# E. Pharmaceutical Waste (Medications):

- 1) Quantities of expired medications/materials should be returned to the Pharmacy Department for proper disposal.
- 2) Trace medications and pharmaceutical items likely to be contaminated are to be disposed of by collecting them in leakproof containers, then in color-coded plastic bags bearing the phrase "Chemical Waste-Medications" in (Arabic and English) as well as the biohazard logo.

## F. Chemical Waste:

- This type of waste should be packed in chemical resistant containers and sent to specialized treatment facilities (if available).
- 2) The identity of the chemicals should be clearly marked on the containers. Hazardous chemical wastes of different types should never be mixed.
- 3) Liquid Chemical Waste is collected inside color-coded and thick hermetically sealed, leak proof containers, bearing the phrase "Chemical Waste" in (Arabic and English) as well as the biohazard logo. Meanwhile, solid chemicals such as powder materials' waste are to be collected in color-coded plastic bags bearing the phrase" Chemical Waste-Medications" in (Arabic and English) as well as the biohazard logo.
- 4) Waste with a high content of heavy metals (e.g. cadmium or mercury) should be collected separately. These wastes can be sent to a waste treatment facility available in the area.

# G. Dental Amalgam:

# 1) The following are best management practices for amalgam waste:

- Amalgam waste, amalgam capsules and extracted teeth that contain amalgam restorations should not be placed in biohazard containers, infectious waste containers or regular garbage.
- b) Amalgam waste should not be flushed down the drain or toilet.
- c) Devices containing amalgam should not be rinsed under running water over drains or sinks as this could introduce dental amalgam into the waste stream.
- d) Precapsulated alloys and a variety of capsule sizes should be used to minimize the amount of amalgam waste generated.
- e) Bulk mercury should not be used.

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	-
f)	Chair-side traps, vacuum pump filters, or amalgam
	separators should be used to retain amalgam.
g)	Line cleaners that minimize dissolution of amalgam should
	be
h)	used. The use of bleach or chlorine-containing cleaners to
	flush wastewater lines should be avoided.
i)	All contact and non-contact scrap amalgam should be
	salvaged and stored in separate, appropriately labeled
	containers.
j)	Amalgam waste should be stored in wide-mouthed,
	covered, rigid plastic container.
k)	After mixing amalgam, the empty capsules should be placed
	in a wide-mouthed, container that is marked "Amalgam
	Capsule Waste for Recycling." The container lid should be
	well sealed. When the container is full, it should be sent to a
	recycler.
I)	Any defective capsules that cannot be emptied should be
	placed with the non-contact scrap amalgam so they can be
	recycled (the amalgam recycler should be asked if they will
	take capsules with scrap amalgam).
H. Radiogra <sub>l</sub>	phic Fixer and Developer Solutions:
1) Use	d radiographic fixer, the solution left over from X-ray
proc	essing, and developer solutions are classified as hazardous
cher	nical waste.
II	y developer and used X-ray fixer should not be mixed.
II	silver-laden used X-ray fixer cannot be flushed down the
draiı	
II	ray developer is accidentally mixed with used X-ray fixer, the
	ure must be disposed of through a waste treatment and
II .	osal facilities.
II	te radiographic developer and fixer solutions should be
	ed in leak proof containers and collected by a suitably
	sed company or waste facility for material recovery.
	s, Shields and Aprons:
II -	packaging containing residues of, or contaminated by,
	gerous substances are classified as hazardous waste. In
	istry this includes the lead foil present in radiographs.
II	lead foil that shields X-ray film, protective lead shields, and
	aprons should not be placed into the trash or into biohazard
-	s. They should be disposed of by suitable licensed or
II	nitted waste treatment and disposal facilities.
II	ufacturer recommendations should be followed for recycling
pos	sibilities for lead aprons that become worn out or damaged.

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4) Documentation should be obtained from the company handling the lead waste confirming that the waste has been disposed of properly.

### J. Chemical Sterilant Solutions:

- 1) The label directions on the product container should be followed for guidance.
- 2) The spent solution should be diluted with at least 4 parts of water (4 parts water to one-part solution) or more before discharging down the drain.
- 3) The solution should not be washed down the drain undiluted and should not be placed in the garbage.

# K. Disinfectants, Cleaners and other Chemicals:

- The label directions on the product container should be followed for guidance on the proper handling and disposal of used disinfectants and cleaners, along with the residue remaining in the product containers.
- 2) The empty container can be recycled or disposed of in the trash.
- Alcohols, ethers, and peroxides are considered ignitable and must not be discarded down the drain undiluted because they could explode.
- 4) These materials are considered to be hazardous waste.
- 5) Unused products should be disposed of by suitable licensed or permitted waste treatment and disposal facilities.
- 6) Cleaning solution, disinfectant or any other process waste should not be placed into a septic system, regardless of its concentration.

## 6.4.3. Collection/Transportation Within the Health Care Facility:

- **6.4.3.1.** Collection and transportation of bags/containers of hazardous healthcare waste within the health care facility require using specially designed trolleys or carts that are dedicated solely for that purpose, and well-trained janitorial staff.
- **6.4.3.2.** Healthcare waste should be collected at regular intervals to reduce its build up in the facility, and transported to the designated central storage site or waste transfer station.
- **6.4.3.3.** If clinical waste is stored outside the practice for collection, it must be secure and not accessible to outside interference.
- **6.4.3.4.** Suggested collection frequency is once every clinical session or as often as necessary.
- **6.4.3.5.** Time of collection should be at the end of clinical session.
- **6.4.3.6.** Prior to collection and transportation of bags/ containers of hazardous healthcare waste, they should be fully-sealed and locked and it should be made sure that they have the data-sticker that reveals their contents, as well as the presence of proper hazard identification and its related labeling including the biohazard logo.

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- **6.4.3.7.** Waste bags should not be filled with more than ¾ of their capacity and should not be pressurized or compacted.
- **6.4.3.8.** All hazardous health care wastes should be collected in double bags. Bags should not be closed by stapling, and when doubled should be tied separately.
- **6.4.3.9.** Waste bags should not be held close to the collector body or to be held from their bottom.
- 6.4.3.10. Bags should only be held at the top when handling. The bags or containers should be replaced immediately with new ones of the same type. A supply of new collection bags or containers should be readily available at all locations where waste is produced.
- **6.4.3.11.** In cases when hazardous healthcare waste spill or leak out of plastic bags, containers, or trolleys, such waste must be considered as extremely hazardous. This requires an immediate action.
- **6.4.3.12.** Cleaning, disinfection, and safety measures must be taken when and where a leakage is identified.
- **6.4.3.13.** Trolleys for collecting and carrying hazardous healthcare waste are to be cleaned, washed, and disinfected on a daily basis with an appropriate disinfectant (such as chlorine compounds, and phenolic compounds), by trained janitorial staff, under the supervision of the person responsible for hazardous healthcare waste in the health care facility, and in a special location.

### 6.4.4. Temporary Storage Inside the Health Care Facility:

- **6.4.4.1.** The bags or containers of waste should be stored in a designated area, room, or building of a size appropriate to the quantities of waste produced and the frequency of collection.
- **6.4.4.2.** In cases where the health care facility lacks the space, daily collection and disposal should be enforced.
- **6.4.4.3.** The hazardous waste and domestic waste should have different rooms for storage. If not possible, a hard barrier made of impenetrable material should separate the hazardous and non- hazardous waste.
- **6.4.4.4.** The general waste should not be stored longer than 1- 2 days to minimize microbial growth, putrefaction, and odors.
- **6.4.4.5.** The storage period for hazardous heath care waste should not exceed 24 hours. If the waste must be stored longer than 1 day, refrigeration at 4°C or less or application of treatment like chemical disinfection is recommended.

### 6.4.4.6. Requirements of the storage area:

- A. The area should be located within the health care facility so as to be a temporary collection site/center for the health care hazardous waste generated by that health care facility.
- **B.** Location should be appropriate and cause no pollution or harm to human health or environment.
- C. It should be located away from dental clinics and direct patient care areas, laboratories, operation rooms, or any public access areas.

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- **D.** Should be easily accessible for storage, transport, and cleaning.
- E. Should be equipped with safety and fire protection tools in addition to an emergency kit.
- F. Should be equipped with proper lighting, ventilation, and air conditioning, with the temperature being between 15-18°C.
- **G.** Should have a water supply for cleaning purposes.
- H. Should be equipped with the necessary protective clothing; waste bags or containers; and cleaning tools and supplies for frequent cleaning of the area, as well as cleaning of spills, and any other emergency cleaning needs.
- I. Should be managed by competent personnel specialized in handling hazardous healthcare waste.
- J. Should only store waste which has been filled in the recommended containers or plastic bags.
- **K.** Access should be restricted to the authorized personnel only.
- L. The entry should have a clear hazard sign that states the storage contents (in Arabic and English), e.g. "CAUTION: BIOHAZARDOUS WASTE STORAGE AREA- UNAUTHORIZED PERSONS KEEP OUT"
- **M.** It should be possible to lock the storage area to prevent access by unauthorized persons.

# 6.4.5. Transporting Hazardous Healthcare Waste

**6.4.5.1.** If the generator of hazardous healthcare waste needs to transport such waste to another site outside the facility in which it was generated.

# 6.4.5.2. The generator is responsible for implementation of all of the following procedures related to the transportation of such waste:

- A. Packaging hazardous healthcare waste and labelling it correctly in accordance with the "Segregation of Hazardous Healthcare Waste Inside Health Care Facility" and "Data Stickers" sections.
- **B.** Taking adequate steps to ensure that the waste is managed safely and kept secure.
- C. Refraining from delivery of such waste for transport outside the facility without an attached manifest paper or consignment notes (see following section on "Documentation and Records").

### 7. References:

7.1. Infection control guidelines for the college of dentistry king Saud university, 2013.

# 8. Appendices:

**8.1.** Figure (28): The Bio-hazard Logo

Figure (28): The Bio-hazard Logo



Policy Title: Management of Extracted Teeth	Policy Number: GDIPC-IPP-DN-17
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of managing extracted teeth and other tissues in dental practice.

### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of managing extracted teeth and other tissues.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

## 5. Definitions / Abbreviations:

- **5.1. Infectious waste:** hazardous waste capable of causing infections in humans, including contaminated animal waste, human blood and blood products, isolation waste, pathological waste, and discarded sharps (needles, scalpels, or broken medical instruments).
- **5.2. Medical waste:** any solid waste generated in the diagnosis, treatment, or immunization of human beings.
- 5.3. Regulated waste: liquid or semiliquid blood or OPIM; contaminated items that would release blood or OPIM in a liquid or semiliquid state if compressed; items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or OPIM.
- **5.4. OPIM:** Other potentially infectious materials.

### 6. Procedure:

# 6.1. General recommendations:

**6.1.1.**Extracted teeth (with no amalgam) and surgically removed hard and soft tissues are considered to be potentially infectious and must be disposed of in medical waste containers.

## 6.2. Disposal of Extracted Teeth Containing Amalgam:

- **6.2.1.**Extracted teeth with amalgam restorations cannot be disposed of in municipal waste, into sharps containers or as biohazardous waste (i.e., in biohazard bags or red bags).
- **6.2.2.**Extracted teeth containing amalgam should be treated (e.g., sprayed) with a disinfectant that does not contain bleach or chlorine, air dried, and stored in a sealed container.
- **6.2.3.**The recommendation to use formalin to disinfect extracted teeth containing amalgam before disposal is discontinued.

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- **6.2.4.**Extracted teeth containing amalgam restorations should not be heat-sterilized because of the potential health hazards associated with mercury vaporization and exposure.
- **6.2.5.**Accumulated extracted teeth with amalgam should be turned in to local hazardous waste companies along with other amalgam waste (e.g., scrap amalgam, amalgam capsules, amalgam chairside traps) generated in the dental clinic.

# 6.3. Extracted Teeth in Educational Settings:

- **6.3.1.**Extracted teeth are occasionally collected and used for preclinical or post-graduate educational training.
- **6.3.2.**Extracted teeth in educational settings should be cleansed of visible blood and gross debris, and maintained in a hydrated state in a well-constructed container with a secure lid to prevent leakage during transport. The container should also be labeled with the biohazard symbol.
- **6.3.3.**Because the recommendation is to autoclave these teeth before clinical exercises, use of the most economical storage solution (e.g., water or saline) is recommended.
- **6.3.4.**Before they are used in an educational setting, the teeth should be heat-sterilized to allow for safe handling.
- **6.3.5.**The only time that an extracted tooth should be heat sterilized is if it does not contain amalgam and will be used for educational purposes (e.g., preclinical or postgraduate educational training).

# 6.3.6.Recommended Steps for Sterilizing Amalgam-Free Teeth for Use in an Educational Setting:

- **6.3.6.1.** Wear proper PPE when handling extracted teeth.
- **6.3.6.2.** Clean and thoroughly rinse any amalgam-free teeth to be sterilized.
- **6.3.6.3.** Place amalgam-free teeth in a heat-resistant glass container.
- **6.3.6.4.** Fill the heat-resistant container no more than halfway with deionized or distilled water or saline, and cover loosely.
- **6.3.6.5.** Process through a steam sterilizer at 121°C for 40 minutes using a fluid or liquid cycle.
- **6.3.6.6.** At the end of the cycle, remove the container slowly without shaking to prevent the water from boiling over.

# 6.3.7.If extracted teeth containing amalgam restorations are to be used in educational settings:

- **6.3.7.1.** The only method to disinfect both the internal and external structure of the teeth is by immersion in 10% formalin solution for two weeks.
- **6.3.7.2.** When using formalin, the manufacturer material safety data sheet (MSDS) should be reviewed for occupational safety and health concerns.
- **6.3.7.3.** Formalin should not be used when disinfecting extracted teeth containing amalgam before disposal.

### 7. References:

7.1. CDC guidelines for infection control in dental settings, 2016.

# 8. Appendices:

8.1. None.

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**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of infection control in dental radiography.

### 2. Purpose:

- **2.1.** To prevent/minimize the risk of infection in applying infection control in dental radiography.
- **2.2.** To promote awareness for each dental personnel in the importance of applying infection control in dental radiography.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

### 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

# 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

### 5. Definitions / Abbreviations:

- **5.1. Aseptic technique:** a procedure that breaks the cycle of cross-infection and ideally eliminates cross-contamination.
- **5.2. Daylight loader:** equipment attached to an automatic film processor that shields an area from light, allowing films to be unwrapped in regular lighting.
- **5.3. Digital radiography:** a technique for capturing a radiographic image using an appropriate radiation source and a sensor instead of radiographic film; the image is sent to a computer monitor for viewing.
- **5.4. Digital sensor:** a detector used intraorally instead of x-ray film when taking radiographs; the image is sent to a computer monitor for viewing.
- **5.5.** Intermediate-level disinfectant: a liquid chemical germicide registered by the ministry of health (MOH) as a hospital disinfectant and with a label claim of potency as a tuberculocidal.
- **5.6.** Intermediate-level disinfection: is a process that inactivates most vegetative bacteria, most fungi, and some viruses, but cannot be relied on to inactivate resistant microorganisms, such as mycobacteria or bacterial spores.

# 6. Procedure:

### 6.1. Intraoral Radiography:

- **6.1.1.** Intraoral radiography involves direct contact with saliva which may contaminate the films, film holders, position-indicating devices, x-ray tube-head, door handles, as well as the timing controls and exposure switch.
- **6.1.2.** When taking radiographs, the potential to cross-contaminate equipment (including the processor and processing solutions) and environmental surfaces with blood or saliva is high if the aseptic technique is not practiced.

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- **6.1.3.** For intraoral radiographic procedures, infection-control procedures can be simplified by using films with protective barriers. DHCP can use films with plastic barrier covers that protect the film from contamination and reduce processing time. after the radiograph is exposed, if the barrier is carefully opened, the underlying uncontaminated film packet can be dropped onto a clean surface or into a plastic cup for transport to the processing area (Figure: 28). DHCP can then open the film packet with clean, ungloved hands in the processing area.
- **6.1.4.** Efforts at prevention of cross-contamination should be directed towards isolating or protecting:
  - 6.1.4.1. Items which directly contact the oral cavity, and
  - **6.1.4.2.** Items which are contacted by the operator's hands (contact surfaces).
- **6.1.5.** Infection control procedures should be carried out such that contaminated items should not leave the immediate vicinity of the x-ray rooms.
- **6.1.6.** All contaminated gloves, towels, and barriers should be disposed of in the vicinity of the x-ray room so as to not contaminate other areas.
- **6.1.7.** All areas beyond the x-ray room (especially the dark room) should be considered clean and maintained as such.
- 6.1.8. Items which make contact with the oral cavity:
  - **6.1.8.1.** items which enter the oral cavity must be either sterilizable, disposable, or covered with a disposable barrier between patients.
  - **6.1.8.2.** Such semi-critical items should never be processed between patients with disinfection alone.
  - 6.1.8.3. The following are items which contact the oral cavity during intra-oral radiograph making:
    - A) Operator's Hands:
      - 1) The radiographer must wear gloves when making intraoral radiographs.
      - 2) Contaminated gloves must not contact any surface not protected by a barrier.
      - 3) If the operator needs to obtain more supplies, the contaminated gloves should not contact containers, drawers or other unprotected surfaces.
      - 4) The contaminated gloves must be removed before touching such surfaces or a colleague may obtain the needed items.
      - 5) Used gloves must be removed and hands washed before entering the dark room.
    - B) Film packets:
      - 1) Intraoral films packets must be covered with a protective plastic barrier before being placed inside the patient's mouth.
      - 2) After removal from the patient's mouth, the excess saliva must be wiped off of the outer barrier and the film dropped out of the barrier onto a clean paper towel or into a clean plastic cup.

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- The film must be dropped out without touching it with the contaminated gloves in order to maintain the film's cleanliness.
- 4) The clean film can, then, be taken to the dark room and processed without contaminating the room's surfaces or equipment.
- 5) When the film packets are kept clean, aseptic processing in daylight loaders becomes easier and more practical.
- The clean films are inserted with the operator's hands through the cuffs of the daylight loader and processed with no resultant contamination of the loader, film holders, or solutions.
- Aseptic handling of the films, protective barriers, and gloves must be ensured to avoid contamination of the dark room or daylight loaders. It is not acceptable to contaminate processor rooms or daylight loaders by introducing film packs or gloves still coated in saliva.
- 8) Due to the possible failure of barrier protection, new clean gloves should be used to transport the films to the dark room in their clean container.
- C) Film holding devices and position indicating devices:
  - Film holding devices and position indicating devices should be either disposable and not reused between patients or they may be autoclavable and heat-sterilized between patients. Disinfecting such semi-critical items between patients is unacceptable and should not be attempted.

### 6.1.9. Contact Surfaces:

- **6.1.9.1.** Contact surfaces are those surfaces touched by the radiographer during the making of intra-oral films.
- **6.1.9.2.** Such surfaces should be protected from contamination to avoid the need for repeated disinfection procedures which are time consuming and not full-proof (refer to policy number GDIPC-IPP-DN-13).
- **6.1.9.3.** However, in the event of surfaces becoming inadvertently contaminated, they must be cleaned and disinfected with the spray-wipe-spray technique.
- **6.1.9.4.** X-ray unit components, though, should not be sprayed directly as this may lead to a short-circuit so the wipe-discard-wipe technique should be used. They should be disinfected by generously soaking paper towels with the disinfectant and wiping the surface to reduce the microbial count, then wiping the surface again and letting the surface remain wet for the appropriate contact time.
- **6.1.9.5.** Although contamination of the following surfaces and items should be avoided, they should be cleaned and disinfected at the beginning and end of the work day.
- 6.1.9.6. The following surfaces are the most often touched contact surfaces:
  - A) X-ray tube-head,
  - B) Control panel,
  - C) Chair operating controls,

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- D) Exposure buttons,
- E) Door handles.
  - 1) the above five components must all be covered by a barrier before making the radiographs.
  - 2) barriers must be removed immediately after the patient exits the chair.
  - barriers should not be left in place until after processing of the films as this may lead to confusion whether the barriers are new or used.

# F) Lead apron:

- 1) Removal of the lead apron from the patient after making the radiographs leads to its contamination by the radiographer's gloves. Therefore, to avoid the need for cleaning and disinfection, the radiographer should not touch the lead apron with gloves.
- 2) The apron should be placed onto the patient before donning the new gloves prior to radiograph making.
- After the end of the exposures, the method of removal of the lead apron depends on whether the radiographs were taken in the radiology department or in a clinic.
- 4) In the radiology department:
  - A) If the patient has not been asked to hold the film, the patient should be instructed to remove the apron and place it in its appropriate place.
  - B) If the patient has been asked to hold the film, the radiographer should remove the apron after removal of the contaminated gloves.
- 5) In the clinics:
  - A) The radiographer should remove the apron after removal of the contaminated gloves.

### 6.2. Extra-Oral and Panoramic Radiography:

- **6.2.1.** If they are not detachable and sterilizable, non-critical items used to stabilize and position the head such as ear rods, head positioners, and chin rests (i.e. items that contact intact skin) should be covered with a barrier or disinfected between patients.
- **6.2.2.** Bite-blocks and any other item placed inside the oral cavity should be covered with a barrier or sterilized between patients.
- **6.2.3.** Disinfection of such items between patients is not sufficient; although they must be disinfected in the event of failure of the barrier isolation.
- **6.2.4.** During extra-oral radiography, the operator's hands do not routinely contact the oral cavity. However, if the operator's gloves do become contaminated, then contact surfaces should not be touched and precautions must be taken as with intra-oral radiography.

# 6.3. Digital Radiography:

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- **6.3.1.** Digital radiography is a form of intra-oral radiography; therefore, the same infection control procedures apply to it as those pertaining to intra-oral radiography.
- **6.3.2.** With digital radiography, sensors replace film packets. Sensors come into contact with mucous membranes and oral fluids; therefore, they should ideally be sterilized.
- **6.3.3.** However, as of yet, there are no serializable digital sensors; therefore, sensors must be covered with disposable barriers between patients.
- **6.3.4.** To minimize the potential for cross-infection, after removing the barrier, the sensor should be cleaned and disinfected with an intermediate level disinfectant after each patient, but only according to the manufacturer's instructions.
- **6.3.5.** The computer and work station components which may be contacted by the operator's gloves (e.g. keyboard, mouse, screen, and table) should also be covered with a barrier. These barriers must be changed between patients.
- **6.3.6.** The components of the digital system should never be transported between clinics before removal of barriers and, if necessary, disinfection.
- **6.3.7.** Cleaning and disinfection of the components should be performed if failure of the barrier has taken place (i.e. if patient materials have contaminated the component).
- **6.3.8.** The manufacturer's care instructions should be consulted regarding appropriate disinfection/sterilization procedures for digital radiography sensors and components.

## 7. References:

- **7.1.** CDC guidelines for infection control in dental settings, 2016.
- 7.2. Infection control guidelines for the college of dentistry king Saud university 2013.

# 8. Appendices:

**8.1.** Figure 29: Radiographic film protected with plastic barrier covers.

Figure 29: Radiographic film protected with plastic barrier covers



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**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of infection control in dental lab and prosthodontics.

## 2. Purpose:

- **2.1.** To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of infection control in dental lab.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

# 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

# 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

### 5. Definitions / Abbreviations:

- **5.1. Dental laboratory** is a laboratory to manufacture or customize a variety of products to assist in the provision of oral healthcare by a dentist.
- **5.2. Intermediate-level disinfectant:** a liquid chemical germicide registered by MOH as a hospital disinfectant and with a label claim of potency as a tuberculocidal.
- **5.3. Rinse-spray-rinse-spray:** a disinfection method whereby an item that has been or potentially can be contaminated with oral secretions is rinsed under running water and then sprayed with disinfectant. This method is most appropriate for items that are not easily wiped (as in the spray-wipe-spray method).
- **5.4. Unit dosing:** the amount of material that is sufficient to accomplish a particular procedure to prevent cross-contamination. The material is dispensed before patient contact, and any excess is discarded at completion.

### 6. Procedure:

## **6.1.** The Use of Proper Methods for Handling Soiled Items:

**6.1.1.**To minimize the potential for cross contamination and disease transmission the following should be adhered to in the laboratory infection control program.

### 6.1.1.1. Adherence to Standard Precautions:

A. Adherence to standard precautions includes hand hygiene and the use of personal protective equipments (see Standard Precautions).

## B. Personal Protective Equipment:

- 1. Personal protective equipment (PPE) must be used when handling contaminated items in the laboratory.
- 2. Depending on the task being performed PPE is indicated.
- 3. After decontamination of a laboratory item, the item can then be handled as noninfectious if separate clean working areas are

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available. However, the use of a gown or laboratory coat is still recommended and other barriers are often required as a safety precaution.

4. A dust/mist face mask and eye protection or a face shield must be worn whenever operating lathes, model trimmers, or other rotary equipment.

## 6.1.2.Task-Specific Designation of Work Areas:

- **6.1.2.1.** The laboratory should be composed of clearly specified areas, with each area designated for particular tasks. Strict adherence to these designated purposes acts as a barrier system, reducing the potential for cross-contamination.
  - A. The design of a dental laboratory should include the following areas:
    - 1. Receiving area.
    - 2. Production area.
    - 3. Shipping area.

# 6.1.2.2. Receiving Area:

- A. The receiving area should be separate from the production area. Persons working in the receiving area should wear a clean uniform or laboratory coat, a face mask, protective eyewear, and disposable gloves.
- **B.** Personnel working in the receiving area should remove their PPE before moving to an uncontaminated area of the lab.
- C. This receiving area should have running water and hand-washing facilities.
- D. Countertops and work surfaces should be covered with impervious paper if possible, cleaned and disinfected once or twice daily with MOH-registered tuberculocidal (intermediate level) disinfectant according to the manufacturer's directions.
- E. Incoming cases should be unpackaged carefully and handled in an aseptic manner. Unless the case was labeled as disinfected in the dental clinic, it should be cleaned and disinfected immediately on receipt with an MOH-registered tuberculocidal disinfectant.
- F. Items should be disinfected before being transferred to case pans to avoid contamination of the pans. Case pans should be disinfected or sterilized after each use.
- **G.** Packing materials should be discarded to avoid cross-contamination.

### 6.1.2.3. Production Area:

- A. Separate areas should be designated for new work and repairs inside the production area.
- B. If this area is separated adequately and all incoming cases are known to have been disinfected, DHCP can handle new cases as noninfectious once they have been decontaminated.
- **C.** Full PPE should be used when handling these items and every effort should be made to avoid cross-contamination from such items.

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- **D.** All work surfaces should be cleaned and disinfected with an MOH registered tuberculocidal disinfectant on a regular basis but at least once or twice daily.
- E. Plastic wrap or other barrier can be used to cover work surfaces for simplifying cleanup.
- F. Any instruments, attachments, and materials to be used with new prostheses/appliances should be maintained separately from those to be used with prostheses/appliances that have already been inserted in the mouth.
- **G.** Equipment should be cleaned and sterilized or disinfected as appropriate, usually once or twice a day and after each case for repairs.
- **H.** Disposable items are available, such as polishing wheels and brushes, eliminating the need for cleaning and disinfection of the reusable items.

# 6.1.2.4. Shipping Area:

- A. This area is designed for final inspection, cleaning and disinfection of prostheses and appliances.
- B. The disinfected devices should be shipped in a labeled and sealed plastic bag (information such as type of disinfectant used, disinfection method, and duration should all be mentioned).
- C. Disinfected acrylic items should be stored and shipped in a sealed bag containing a small amount of diluted mouthwash.
- **D.** Disinfected items should never be shipped in sealed bag containing disinfectant.
- E. Only new packing material should be used to avoid cross contamination.

### 6.1.3. Aseptic Technique:

- **6.1.3.1.** Whenever handling patient materials or instruments and devices, sterile, disinfected, and clean (aseptic) materials should not contact contaminated materials and vice versa.
- **6.1.3.2.** The laboratory technicians are required to exercise their judgment and apply the aseptic technique to all situations in which they come in contact with patient materials, instruments, or devices.

## 6.1.4.Unit-dose Concept:

- **6.1.4.1.** The dispensing of an amount of a material or device which is sufficient to accomplish the procedure and where excess may be discarded at completion is commonly referred to as a "unit-dose."
- **6.1.4.2.** Items such as denture adhesives for record trays, petroleum jelly, impression materials, waxes, pumice, and indelible pencils are amenable to unit –dosage with little or no change in the established routine.

# 6.1.5.Barrier Technique:

**6.1.5.1.** Instruments such as face-bows, articulators, torch handles, and impression guns pose obvious problems for sterilization and disinfection and should be covered with a plastic barrier to prevent contamination.

### **6.1.6.Avoiding Exposure Incident:**

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- **6.1.6.1.** The use of sharps should be avoided whenever possible.
- **6.1.6.2.** When gloves are worn during operation of a lathe, extreme caution must be taken to avoid injury resulting from the glove catching in the lathe.
- **6.1.6.3.** Wearing masks, and safety shields (or protective eye glasses), and use of air-suction motors and ventilation systems are all required when operating mounted rotary equipment, such as lathes, to reduce the risk from aerosols, spatter, and projectiles.
- **6.1.6.4.** The applied protocols and recommendations for vaccinating DHCP, and for post exposure management, must be observed (refer to policies numbers GDIPC-IPP-DN-28 and GDIPC-IPP-DN-29).
- **6.1.6.5.** Sharp items (e.g., burs, disposable blades, and orthodontic wires should be disposed of in puncture-resistant containers (refer to policy number GDIPC-IPP-DN-16).

# 6.2. The Use of Proper Method and Materials for Decontaminating Soiled Items:

## 6.2.1.Steam Sterilization (Autoclave):

**6.2.1.1.** Heat tolerant items used in the mouth and on contaminated laboratory items and materials should be cleaned and sterilized before being used for another patient or another laboratory case.

# 6.2.1.2. Examples of such items are:

- A. Metal impression trays
- B. Burs
- C. Rag wheels
- **D.** Polishing points
- E. Laboratory knives
- F. Facebow forks
- G. Handpieces and instruments
- H. Polishing points
- I. Water bath basins
- J. Stainless steel bowels
- K. Boley gauges
- L. Metal rulers
- M. Metal spatulas
- N. Occlusal plane guides
- O. Orthodontic pliers
- P. Impression guns

# 6.2.2. Disinfection:

- **6.2.2.1.** For items that will come in contact with mucous membranes, but which are not used between patients (e.g., prostheses, custom trays, and occlusal and orthodontic appliances), intermediate- to high-level disinfection is sufficient, if laboratory infection control protocols are adequate to prevent cross-contamination.
- **6.2.2.2.** However, items which are used between patients, and which contact the mucous membranes, must be sterilized between patients. Heat-sensitive semi-critical items should be sterilized with chemical sterilants, or, at

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minimum, undergo high level disinfection in the central sterilization department.

- **6.2.2.3.** Items that do not normally contact the mucous membranes but frequently become contaminated and cannot withstand heat-sterilization should be cleaned and disinfected between patients and according to the manufacturer's instructions. Spray-wipespray method with phenolics or iodophors can be used for such items.
- 6.2.2.4. Equipment particularly suited to this procedure are:
  - A. Articulators
  - B. Face-bows
  - C. Lathes
  - D. Case pans
  - E. Pressure pots
  - F. Water baths
  - G. Shade guide (spray-wipe spray with phenolics or iodophors)
  - H. Wooden-handled spatulas
  - I. Rubber mixing bowls
  - J. Torch
- 6.2.2.5. Contaminated materials and items used intra-orally that cannot be cleaned, sterilized, are to be discarded, for example:
  - A. Plastic impression trays
  - **B.** Custom trays
  - C. Disks
  - D. Brushes
  - E. Waxes

### 6.2.3. Chemical Disinfectants:

- **6.2.3.1.** Only MOH-registered hospital disinfectants with a tuberculocidal claim should be used.
- **6.2.3.2.** Examples of acceptable disinfectants are sodium hypochlorite (in concentrations ranging from 0.05% to 0.5% (500 to 5,000 ppm) diluted with water), iodophor (1% stock iodine diluted to the range of 0.05% to 0.5% in 70% isopropyl alcohol) and phenolics.
- **6.2.3.3.** It is important to remember that most immersion disinfectants can only be used once before they should be discarded. Concentrations of solutions should be regularly assessed as dilutions will occur with time.
- **6.2.3.4.** Items should never be shipped or stored in chemical disinfectants.

# 6.3. Disinfection of Dental Impressions:

- **6.3.1.**Impressions be cleaned and disinfected immediately after their removal from the mouth.
- **6.3.2.**Chair-side rinsing of impressions is the first step in successful infection control in the laboratory.
- **6.3.3.**Impressions should be rinsed under running water after being removed from the mouth to visibly eliminate saliva and blood.

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- **6.3.4.** After rinsing, the impression should be disinfected using the proper material and method.
- **6.3.5.**Trimming the excess of impression material from noncritical areas might reduce the number of microorganisms and organic debris present. Given the porosity of impression materials, recommended exposure times probably should be greater than those for hard surfaces.
- **6.3.6.**Impression materials marketed as containing a disinfectant still need to be rinsed and disinfected after removal from the oral cavity.

#### 6.3.7. Disinfection Methods:

- 6.3.7.1. The following techniques are recommended for disinfection of impressions:
  - A. Spraying Method.
  - B. Short-term Submersion.
  - C. Immersion Method.

## 6.3.7.2. Spraying Method:

- A. The impression must be sprayed with disinfectant on all sides until it is thoroughly wet and then covered (wrapped with plastic or otherwise enclosed) to avoid drying and allow exposure for the recommended disinfection time.
- B. Some disinfectants, such as glutaraldehydes should never be sprayed, as the fumes may rapidly reach a lethal level. The fumes may also cause allergenic and other undesired reactions.

## 6.3.7.3. Short-term Submersion:

- A. Short-term submersion is an alternative method to spraying.
- B. The impression is immersed in the disinfectant solution and gently swirled for less than a minute and then kept in a closed plastic bag for the recommended disinfection time.

## 6.3.7.4. Immersion Method:

- **A.** The immersion method is the preferred method of disinfection unless contraindicated by the manufacture instructions.
- B. The time for exposure to a particular disinfectant (i.e., the immersion time) should be at least that recommended by the product manufacturer for tuberculocidal disinfection.

### 6.3.8. Choice of Disinfectant for Impressions:

- **6.3.8.1.** No single disinfectant is compatible with all impression materials.
- **6.3.8.2.** When selecting a disinfectant, the followings should be considered:
  - A. the type of impression material,
  - B. the disinfectants available in the dental clinic or laboratory, and
  - C. the number of impressions to be disinfected per day.
- **6.3.8.3.** Tables below list the effect of various disinfectant treatments of impressions on the resultant cast dimensions.
- **6.3.8.4.** Disinfectants should not be used repeatedly for disinfection of impressions unless they are approved for reuse.

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# 6.3.8.5. When considering methods of disinfection for impressions, two factors must be addressed:

- **A.** The effect of the treatment on the dimensional stability and surface detail of the impression.
- B. The effectiveness of the antimicrobial agent, and the deactivating effect of the impression material on the disinfecting solution, which could reduce the efficacy of the process.
- **6.3.8.6.** Dental materials' manufacturers should be consulted regarding the compatibility with different disinfectants and disinfection methods not addressed in these guidelines.
- **6.3.8.7. Table:** Effect of Disinfectant Treatment on Cast Dimensions as Compared with Room Temperature Controls.

### 6.3.9. Elastomeric Impressions

### 6.3.9.1. Polysulfide:

A. polysulfide impression material can be disinfected by immersion with most of the disinfectants recommended for use in dentistry without affecting accuracy and detail reproduction, but exposure time should be kept to minimum (10 minutes) (Table 4).

## 6.3.9.2. Silicones:

**A.** addition silicone impressions can be disinfected by immersion with most of the disinfectants recommended for use in dentistry without affecting accuracy and detail reproduction (Table 5).

### **6.3.9.3.** Polyether:

- A. Although hydrophilic, polyether impressions can be disinfected by immersion, exposure times should be kept to a minimum (10 minutes).
- **6.3.9.4.** Therefore, polyether would not be the material of choice when complete sterilization is required.
- **6.3.9.5.** Acceptable disinfectants for polyether impressions are listed in Table 16.

# 6.3.10. Hydrocolloid Impressions

# 6.3.10.1. Irreversible Hydrocolloid (Alginate):

- A. If dimensional changes are to be avoided or minimized, it appears that spraying the surface of the impressions or short-term submersion would be the viable methods of disinfecting irreversible hydrocolloid impressions.
- B. It is recommended to disinfect alginates by immersion (not more than 10 minutes) in diluted hypochlorite, (Table 6).

# 6.3.10.2. Reversible Hydrocolloid:

- A. For reversible hydrocolloid impression materials, a further possible source of contamination is the water bath used for liquefying and conditioning.
- **6.3.10.3.** Immersion in 2% alkaline glutaraldehyde has a significant adverse effects on the impressions and resultant dies.

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**6.3.10.4.** Reversible hydrocolloid can be immersed up to 30 minutes in an iodophor without loss of clinically significant linear dimensional stability.

### 6.3.11. Zinc Oxide Eugenol (ZOE) and Compound Impression

- **6.3.11.1.** Zinc oxide eugenol impression materials may be disinfected by immersion in glutaraldehyde or iodophor.
- **6.3.11.2.** The use of accepted disinfectants that require no more than 30 minutes for disinfection is preferred (Table 7).
- **6.3.11.3.** Spraying with phenolics, iodophors, or chlorine compounds can be used to disinfect impression compound.

# 6.4. Disinfection of Wax Bites, Wax Rims, Casts, Custom Impression Trays, and Bite Registration:

# 6.4.1.Bite Registration:

- **6.4.1.1.** Wax rims should be disinfected by the spray-wipe-spray method using an iodophors or phenolics. Rinse-spray-rinse-spray, with most MOH-registered hospital-level tuberculocidal disinfectant, may be more appropriate for wax bites.
- **6.4.1.2.** After the second spray, they can be enclosed in a sealed plastic bag for the recommended time.
- **6.4.1.3.** These items probably should be rinsed again after disinfection to remove any residual disinfectant.
- **6.4.1.4.** Chlorine compounds should not be applied to bite registration made of ZOE.

### 6.4.2.Stone Casts:

- **6.4.2.1.** It is difficult to disinfect casts without damaging the cast.
- **6.4.2.2.** In order to minimize the adverse effects on the cast, casts to be disinfected should be fully set (24 hours after pouring).
- **6.4.2.3.** Stone Casts be disinfected by spraying until wet or immersing in a 1:10 dilution of sodium hypochlorite or an iodophor (Table 8).
- **6.4.2.4.** Immersion of set die stone in a 1:10 sodium hypochlorite or 1:213 iodophor solution has shown no, or minimal, undesirable physical effects on the stone.
- **6.4.2.5.** Casts should be rinsed after disinfection to remove any residual disinfectant, and they should be allowed to dry completely prior to handling

### 6.4.3.Impression Trays:

- **6.4.3.1.** Custom acrylic resin impression trays should be disinfected by spraying with a disinfectant or immersing in either 1:213 iodophor or 1:10 sodium hypochlorite (Table 8).
- **6.4.3.2.** They should be rinsed thoroughly to remove any residual disinfectant and allowed to dry fully before use.
- **6.4.3.3.** After use in the mouth, custom trays should be discarded.
- **6.4.3.4.** Metal trays should be steam sterilized after each use.

# 6.5. Disinfection of Dental Prostheses and Appliances:

6.5.1. Removable Prosthesis and Orthodontic Appliances: refer to tables9:

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- **6.5.1.1.** Prosthodontic and orthodontic appliances should be disinfected prior to delivery and before and after any laboratory adjustments.
- **6.5.1.2.** Prostheses or appliances that have been worn by patients and require repair should be handled as contaminated (even after disinfection) and cleaned thoroughly before disinfection by scrubbing with a brush and an antiseptic handwash chairside or by cleaning in an ultrasonic unit.
- **6.5.1.3.** The best time to clean and disinfect prostheses, or appliances is as soon as possible after removal from the patient's mouth before drying of blood or other bioburden can occur.
- **6.5.1.4.** Severely contaminated prosthetic devices may have copious amounts of calculus and other tenacious bioburden. This material must be removed prior to attempts at disinfection, otherwise the decontamination process will not be effective.
- **6.5.1.5.** Immersion of the prosthesis in a beaker or plastic bag with stone and plaster removal solution, followed by placing it in an ultrasonic cleaner for 3 to 5 minutes, will remove most of the material. Cleaning and disinfection can, then, be performed.
- **6.5.1.6.** Denture cleansers, including those made for ultrasonic cleaning in the dental office, are cleaners, and cannot substitute for appropriate disinfection. Some of these products now have limited antimicrobial activity; however, they cannot be assumed to eliminate all classes of microorganisms.
- **6.5.1.7.** After cleaning, the appliance is immersed in the chosen disinfectant for a minimum of 10 minutes.
- **6.5.1.8.** The clinician must be careful to rinse the appliance thoroughly with water prior to delivery.
- **6.5.1.9.** Prostheses should never be stored in a disinfectant before insertion.
- **6.5.1.10.** After disinfection and thorough rinsing, acrylic items can be stored in diluted mouthwash until inserted.

# 6.5.1.11. Orthodontic appliances:

- **A.** These appliances can be handled in a similar manner.
- **B.** Any device that has been immersed in a disinfectant should be rinsed thoroughly before delivery to the patient.

## 6.5.2. Fixed Prosthesis: refer to tables below.

- **6.5.2.1.** Fixed metal/porcelain prostheses are actually sterile following porcelain firing/glazing, but if they are not handled aseptically after this step, they must be disinfected before delivery to the patient.
- **6.5.2.2.** However, care should be taken to minimize the exposure times of metals to potentially corrosive chemicals.
- **6.5.2.3.** Unglazed porcelain should not be exposed to any disinfectant; the process of porcelain firing/glazing will sterilize the porcelain.
- **6.5.2.4.** Fixed metal prostheses can be sterilized by autoclaving if desired.
- 6.6. Sterilization of Dental Impressions, Stone Casts, and Dental Prostheses and Appliances:

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- **6.6.1.**Sterilization of impression materials; stone casts; and dental prosthesis and appliances have been recommended to minimize cross contamination in the dental facility.
- **6.6.2.**In addition to high temperature sterilization (e.g., autoclave), low-temperature sterilization (e.g., hydrogen peroxide gas plasma, and immersion in 2% glutaraldehyde for 10 hours) which is used for heat- and moisture-sensitive devices have been suggested for sterilizing dental impressions; casts; and dental prosthesis and appliances.
- **6.6.3.**At least one addition type polyvinyl siloxane impression material is marketed as being autoclavable without affecting the impression reproducibility when used in a rigid reinforced polycarbonate impression tray or in a metal tray.

### 6.7. Communication with the dental laboratory:

- **6.7.1.**The dental practitioner should communicate with the dental laboratory regarding infection control procedures used in the dental clinic.
- **6.7.2.**When a case is transported from and to the dental clinic or dental laboratory, DHCP should provide written information regarding the methods (e.g., type of disinfectant and exposure time) used to clean and disinfect the material (e.g., impression, stone model, or appliance); otherwise, the laboratory or dental clinic should assume that the case is contaminated and disinfect as appropriate.
- **6.7.3.**If during manipulation of a material or appliance a previously undetected area of blood or bioburden becomes apparent, cleaning and disinfection procedures should be repeated.
- **6.7.4.**Transportation of contaminated items should be in a closed, leak proof container which is either colored or identified with a biohazard label.

# 7. References:

**7.1.** Infection control Guidelines for the College of dentistry, King Saud university, 2013.

# 8. Appendices:

- **8.1.** Table 4: Recommendations for Disinfection of Polysulfide and Silicon Rubber Impressions.
- 8.2. Table 5: Recommendations for Disinfection of Polyether Impressions.
- **8.3.** Table 6: Recommendations for Disinfection of Hydrocolloid Impressions.
- 8.4. Table 7: Recommendations for Disinfection of ZOE.
- **8.5.** Table 8: Recommendations for Disinfection of Stone Casts and Custom Impression Trays
- 8.6. Table 9: Disinfection of Dental Prostheses and Appliances.

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Table 4: Recommendations for Disinfection of Polysulfide and Silicon Rubber Impressions						
Accepted Disinfectant Dilution Time						
Sodium hypochlorite 5.25%	1:10	10 minutes				
lodophors	1:213	10 minutes				
Combination synthetic phenolics	1:32	10 minutes				
Glutaraldehyde with phenolic buffer 2%* 1:16 10 minutes						
2% Glutaraldehyde acidic*	1:4	30 minutes				

Recommended method for disinfecting polysulfide and silicon rubber impressions: Immersion in an accepted disinfectant (for  $\leq$ 30 minutes).

<sup>\*</sup> The use of Glutaraldehydes is discouraged because they are toxic and require special precautions

Table 5: Recommendations for Disinfection of Polyether Impressions					
Accepted Disinfectant Dilution Time					
Sodium hypochlorite 5.25%	1:10	10 minutes			
lodophors	1:213	10 minutes			
Combination synthetic phenolics	1:32	10 minutes			
Glutaraldehyde with phenolic buffer 2%*	1:16	10 minutes			

Recommended method for disinfecting polyether impressions: Immersion (with caution) in an accepted disinfectant (not more than 10 minutes.

<sup>\*</sup> The use of Glutaraldehydes is discouraged because they are toxic and require special precautions.

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Table 6: Recommendations for Disinfection of Hydrocolloid Impressions						
Accepted Disinfectant Dilution Time						
Sodium hypochlorite 5.25%	1:10	10 minutes				
odophors 1:213 10 minute						
Glutaraldehyde with phenolic buffer 2%* 1:16 10 minutes						

Recommended method for disinfecting hydrocolloid impressions: Immersion (with caution) in an accepted disinfectant (not more than 10minutes)>

<sup>\*</sup>The use of Glutaraldehydes is discouraged because they are toxic and require special precautions.

Table 7: Recommendations for Disinfection of ZOE						
Accepted Disinfectant Dilution Time						
Sodium hypochlorite 5.25%	1:10	10 minutes				
Glutaraldehyde with phenolic buffer 2%*	1:16	10 minutes				
2% Glutaraldehyde acidic* 1:4 30 minute						

Recommended method for disinfecting ZOE impressions: Immersion in an accepted disinfectant (for  $\leq$ 30 minutes).

<sup>\*</sup> The use of Glutaraldehydes is discouraged because they are toxic and require special precautions.

Table 8: Recommendations for Disinfection of Stone Casts an	nd Custom Impression Trays
(Acrylic)	

Accepted Disinfectant	Dilution	Time
Sodium hypochlorite 5.25%	1:10	10 minutes
lodophors	1:213	10 minutes

Recommended method for disinfecting stone casts and custom impression trays :Spraying until wet or immersion in an accepted disinfectant.

Disinfectant for stone casts may be prepared using slurry water (saturated calcium sulfate)

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Table 9: Disinfection of Dental Prostheses and Appliances				
Appliances	Method	Accepted Disinfectant	Dilution	Time
Metal/acrylic All metal	Immersion/ spray until	Sodium hypochlorite 5.25%	1:10	10 minutes
All Metal	wet	Iodophors	1:213	10 minutes
<ul> <li>Removable (acrylic/ porcelain)</li> </ul>		Sodium hypochlorite 5.25%	1:10	10 minutes
<ul> <li>Removable (metal/ acrylic)</li> </ul>	Immersion	lodophors	1:213	10 minutes
<ul><li>Fixed (metal/porcelain)</li></ul>				

Policy Title: Infection Control in Endodontics	Policy Number: GDIPC-IPP-DN-20
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of infection control considerations in endodontics.

### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of infection control considerations in endodontics.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

## 5. Definitions / Abbreviations:

**5.1. Endodontics:** is the branch of dentistry concerning dental pulp and tissues surrounding the roots of a tooth.

#### 6. Procedure:

### 6.1. Barbed broaches:

- **6.1.1.**These instruments are difficult to clean, even with washing machines or ultrasonic cleaners, therefore barbed broaches should be used once and discarded.
- 6.1.2. No attempt to clean or sterilize barbed broaches should be carried out.

# 6.2. Endodontic files:

- **6.2.1.**The manufactures instructions for decontamination and disposal of the endodontic instruments must be followed for proper management.
- 6.2.2.In the absence of manufacture instructions, the endodontic files should be considered as <u>single-use devices</u> and should be discarded immediately after use, due to the following reason:
  - **6.2.2.1.** The physical construction of endodontic files makes their cleaning, disinfection and sterilization difficult.
- 6.2.3.If there are <u>clear instructions</u> from the manufacture to <u>reuse</u> the endodontic files, the following additional recommendations may be applied unless contraindicated by the manufacture:
  - **6.2.3.1.** Endodontic files should be wiped with sodium hypochlorite after each insertion inside the canal so they are submitted for sterilization without any visible debris.
  - **6.2.3.2.** If endodontic files manufactured as reusable, they can be can be disinfected, sterilized, stored and reused only on the same patient during the course of a multi-visit root canal treatment; and then must be discarded as hazardous sharps waste at the end of the course of treatment in order to comply with the regulations on single-use instruments.

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- **6.2.3.3.** The use of a single endo box for multiple patients is unacceptable, as the contents of the box are considered potentially infected after it is opened.
- **6.2.3.4.** To reduce the amount of times the box contents are subjected to the sterilization cycle, single sets of files may be packaged individually inside autoclavable envelopes along with gauze to absorb the excess moisture and reduce the potential for corrosion.

### 7. References:

- **7.1.** CDC guidelines for infection control in dental settings, 2016.
- 7.2. Infection control guidelines for the college of dentistry king Saud university, 2013.
- 8. Appendix:
  - 8.1. None.

Policy Title: Aseptic Techniques	Policy Number: GDIPC-IPP-DN-21
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of aseptic techniques in dental practice.

# 2. Purpose:

- **2.1.** To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of Aseptic Techniques.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

## 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

## 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

### 5. Definitions / Abbreviations:

- **5.1. Aseptic Technique:** a technique that prevents or reduces the spread of microorganisms from one site to another, such as from patient to DHCP, from patient to operatory surfaces, or from one operatory surface to another.
- 5.2. (HVE): High-volume evacuation.

# 6. Procedure:

### 6.1. Aseptic techniques could be applied in dentistry by several methods, including:

## 6.1.1. Touching of as few surfaces as possible:

- **6.1.1.1.** Dental healthcare personnel should touch as few surfaces as possible with saliva- or blood-coated fingers. Any surfaces that may be touched should be protected with surface covers or pre-cleaned and disinfected.
- **6.1.1.2.** It's required to make every effort to dispense all items needed at chair side before patient care begins.
- **6.1.1.3.** Dental healthcare personnel should not rub eyes, skin, or nose or touch hair with contaminated, gloved hands.

### 6.1.2. Minimization of dental aerosols and spatter:

**6.1.2.1.** Minimizing the generation of dental aerosols and spatter by use of high-volume evacuation and the rubber dam and by proper positioning of the patient's head reduces the spread of microbes from the patient's mouth.

# 6.1.3. High-volume evacuation:

- **6.1.3.1.** Using High-volume evacuation (HVE) during use of rotary equipment and the air/water syringe greatly reduces the escape of salivary aerosols and spatter from the patient's mouth, which reduces cross contamination.
- **6.1.3.2.** Dental healthcare personnel should clean the HVE system at the end of the day by evacuating a detergent or water-based detergent-disinfectant through the system.

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- **6.1.3.3.** Dental healthcare personnel should not use bleach (sodium hypochlorite) because this chemical can destroy metal parts in the system.
- **6.1.3.4.** The trap should be removed and cleaned the trap in the system periodically. A safer approach, however, is to use a disposable trap. These traps may contain scrap amalgam that should be disposed of properly.
- **6.1.3.5.** The dental team member must wear gloves, masks, protective eyewear, and protective clothing when cleaning or replacing these traps to avoid contact with patient materials in the lines from splashing and direct contact.
- **6.1.3.6.** Disinfection of the trap by evacuating some disinfectant-detergent down the line followed by water is best before one cleans or changes the trap.

# 6.1.4. Saliva Ejector:

- **6.1.4.1.** Dental healthcare personnel should not tell patients to close their lips around the ejector and "spit" into the tip.
- **6.1.4.2.** Alternatively, some disposable saliva ejector tips now have a small hole in the side that relieves the pressure when the tip is closed off preventing reverse flow.

#### 6.1.5.Use of the rubber dam:

- **6.1.5.1.** Reduction in microorganisms escaping a patient's mouth in aerosols or spatter can approach with proper use of the rubber dam.
- **6.1.5.2.** Simultaneous use of HVE and the rubber dam provides the best approach to minimize dental aerosols and spatter.
- **6.1.5.3.** A sealant is also available for placement at the rubber dam-tooth interface to reduce further the leakage of saliva into the operative site.
- **6.1.5.4.** Even though the rubber dam and HVE greatly reduce the salivary aerosols and spatter, dental healthcare personnel still must use gloves, mask, protective eyewear, and protective clothing when using these aseptic techniques.

### 6.1.6.Pre-procedure mouth rinse:

- **6.1.6.1.** Use of non-antimicrobial mouth rinses allows the oral microorganisms to return to their original levels before most dental procedures are completed, thus having little infection control value.
- **6.1.6.2.** Although a pre-procedure mouth rinse can be used before any dental procedure, it may be most beneficial before a prophylaxis using a prophylaxis cup or ultrasonic scaler.
- **6.1.6.3.** The mouth rinsing may be the only approach to minimizing contamination from aerosols and spatter during such procedures.

### 6.1.7.Use of Disposables:

- **6.1.7.1.** The disposable item prevents the transfer of microorganisms from one patient to another.
- **6.1.7.2.** Another advantage is that the reusable counterpart may be difficult to clean and sterilize adequately (e.g., the lumen of a needle or the inside of the air/water syringe tip), thus increasing the risk of patient-to-patient cross-contamination.

### 6.1.8. Housekeeping and cleaning:

6.1.8.1. Cleaning:

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- A. Consider dust covers for operatory and sterilizing room surfaces over the weekend or during vacation periods.
- **B.** Clean mops and cloths after use and allow them to dry before reuse, or use single-use, disposable mop heads or cloths.
- C. Prepare the mop water fresh at least daily.
- **D.** The filters in air vents and furnaces require frequent changing to avoid dust buildup.
- E. Pay particular attention to the waiting room, which offers the first impression about cleanliness of the settings. Vacuum the carpet frequently.
- F. Make sure the chair arms, door knobs, feel clean and are not sticky.

# 6.1.9. Flooring, Carpeting, and Upholstery:

- **6.1.9.1.** A smooth-surface floor rather than carpeting is more appropriate for patient-care areas because of its cleanability and lesser likelihood of accumulating dust and dirt.
- **6.1.9.2.** Avoid using carpeting and cloth upholstered furnishings in the dental operatory, laboratory, or instrument-processing areas.

# 6.1.10. Aseptic Distribution of Dental Supplies:

**6.1.10.1.** There are two approaches to ensure the aseptic distribution of dental supplies, these include: aseptic retrieval and unit dosing.

# 6.1.10.2. Aseptic Retrieval:

- A. If the supply items will be stored in bulk, such as a container of cotton rolls, use an aseptic retrieval system (rather than saliva-coated gloved fingers) to avoid contamination of unused items in the container.
- **B.** Providing sterile forceps (to retrieve the supply item) with the instruments needed for each patient is one approach to this problem.
- C. Storing supplies (or instruments) in drawers at chairside lends itself to cross-contamination of the drawer handle (if not covered or precleaned and disinfected) or of bulk items inside (if aseptic retrieval is not used).

# 6.1.10.3. Unit Dosing:

- A. Many types of disposable supplies can be unit dosed, which means that the different supply items are distributed or packaged in small numbers sufficient for treatment of just one patient and are placed at chairside before treatment begins.
- **B.** For example, a package may contain four cotton rolls, three cotton balls, two gauze pads, articulating paper, or whatever one anticipates for a single patient.
- C. Whatever is not used with a patient is likely contaminated and is discarded.

### 7. References:

7.1. CDC guidelines for infection control in dental settings, 2013.

# 8. Appendices:

8.1. None.

Policy Title: Single-Use (Disposable) Devices	Policy Number: GDIPC-IPP-DN-22
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of single-use (disposable) devices in dental practice.

# 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of single-use (disposable) devices.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

# 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

### 5. Definitions / Abbreviations:

- **5.1. Single-use disposable item:** a device intended to be used on one patient and then discarded appropriately; these items are not intended to be reprocessed (cleaned, disinfected, or sterilized) and used on another patient.
- **5.2. Unit dose:** the amount of material that is sufficient to accomplish a particular procedure to prevent cross-contamination. The material is dispensed before patient contact, and any excess is discarded at completion.

# 6. Procedure:

## 6.1. General recommendations:

- **6.1.1.** Use single-use devices for one patient only and dispose of them appropriately.
- **6.1.2.**Single-use devices in dentistry (e.g., needles, prophylaxis cups and brushes, and plastic orthodontic brackets.) are not heat-tolerant and cannot be reliably cleaned.
- **6.1.3.**Certain items (e.g., prophylaxis angles, saliva ejectors, high-volume evacuator tips, and air/water syringe tips) are commonly available in a disposable form and should be disposed of appropriately after each use.
- **6.1.4.** Handle disposable items aseptically. (Refer to policy number: GDIPC-IPP-DN-21)
- **6.1.5.**If an item is stored in a bulk container or package, use an aseptic technique when retrieving it (e.g., use sterile cotton pliers to retrieve an item for use).
- **6.1.6.**Dispense disposable items in small amounts (i.e., unit dose) sufficient for care of one patient before treatment begins and discard whatever is not used.
- **6.1.7.** Any single-use device or item (e.g., cotton rolls, gauze, and irrigating syringes) used during oral surgical procedures should be sterile at the time of use.

## 7. References:

7.1. CDC guidelines of infection control in dental settings, 2013.

## 8. Appendix:

8.1. None.

Policy Title: Dental Handpieces and other intra	Policy Number: GDIPC-IPP-DN-23
oral devices attached to air or waterlines	
Effective Date: November 11, 2018	Revision Due: November 11, 2021

1.1. This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of handpieces and other intra oral devices attached to air or waterlines.

# 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of handpieces and other intra oral devices attached to air or waterlines.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

## 5. Definitions / Abbreviations:

- **5.1. CSSD:** Central Services Sterile Department.
- **5.2. Handpiece:** a small, high / low speed drill used during dental procedures.

### 6. Procedure:

# 6.1. Handpieces:

- **6.1.1.**Dental handpieces and other intra oral devices attached to air or waterlines should be sterilized between patients.
- **6.1.2.**The only effective way of cleaning the lumen of a dental hand-piece is to process it through a washer-disinfector with each lumen connected to a flushing system.
- **6.1.3.** Surface disinfection or immersion in high-level disinfectants is insufficient to adequately and safely process such devices.
- **6.1.4.**Furthermore, restricted physical access to the internal surfaces of the handpiece limits sterilization with chemicals; therefore, handpieces must be heat sterilized (autoclaved) between patients.
- **6.1.5.** Handpieces that cannot be sterilized should not be used.
- **6.1.6.**The manufacturer's instructions for cleaning, lubrication, and sterilization of handpieces and reusable prophylaxis angles should be followed to ensure effective sterilization and longevity of the instruments.
- **6.1.7.**Run high-speed handpieces to discharge water and air for a minimum of 20 to 30 seconds after use on each patient. If possible, use an enclosed container or high-velocity evacuation during discharge procedures to minimize the spread of spray, spatter, and aerosols.
- **6.1.8.**Remove handpieces and allow water lines to run and discharge water for several minutes to reduce overnight microbial accumulation at the beginning of each clinic day.

Policy Title: Dental Handpieces and other intra	Policy Number: GDIPC-IPP-DN-23
oral devices attached to air or waterlines	
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# 6.2. Reusable intraoral instruments attached to, but removable from, the dental unit air or water lines:

- **6.2.1.**Clean and sterilize reusable intraoral instruments attached to, but removable from, the dental unit air or water lines (e.g., ultrasonic scaler tips and their component parts and air/water syringe tips) in the same manner as hand pieces after treatment of each patient. Follow the manufacturer's instructions for reprocessing.
- 6.3. Heat sensitive instruments or permanently attached to dental unit water lines:
  - **6.3.1.**Some dental instruments have components that are heat sensitive or are permanently attached to dental unit water lines. Other instruments (e.g., handles or dental unit attachments of saliva ejectors, high-speed air evacuators, and air/water syringes) that do not enter the patient's mouth can become contaminated whit oral fluids during treatment procedures.
  - **6.3.2.**These instruments should be covered with impervious barriers that are changed after each use or, if possible, clean and then disinfect them with a "hospital disinfectant".
- 6.4. Preparation of Handpieces, Motors, and Couplings:
  - **6.4.1.**New handpieces (including scalers) should be sterilized before being used for patient treatment for the first time.
- 7. References:
  - 7.1. Guidelines for Infection Control in Dental Health-Care Settings (2016).
- 8. Appendices:
  - 8.1. None.

Policy Title: Oral Surgical Procedures	Policy Number: GDIPC-IPP-DN-24
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of infection control in oral surgery.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of infection control in oral surgery.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

### 5. Definitions / Abbreviations:

- **5.1. Oral surgical procedures:** involve the incision, excision, or reflection of tissue that exposes the normally sterile areas of the oral cavity. Examples include biopsy, periodontal surgery, apical surgery, implant surgery, and surgical extractions of teeth (e.g., removal of tooth requiring elevation of mucoperiosteal flap, removal of bone or section of tooth, and suturing if needed).
- 5.2. Sterile water: water that is sterilized and contains no antimicrobial agents.

#### 6. Procedure:

- **6.1.1.** Perform surgical hand antisepsis should be by using an antimicrobial product (e.g., antimicrobial soap and water, or soap and water followed by alcohol-based hand scrub with persistent activity) before donning sterile surgeon's gloves.
- **6.1.2.** Wear sterile surgeon's gloves when performing oral surgical procedures.
- **6.1.3.** Wearing two pairs of gloves during surgical procedures is not recommended.
- **6.1.4.** The fluid used for irrigation of surgical wounds and during surgical procedures should be sterile water or saline solution.
- **6.1.5.** Furthermore, the maximum acceptable level of endotoxins in sterile water used for irrigation is 0.25 EU /mL, and for airborne endotoxins is 50 EU/m3.
- **6.1.6.** Use devices specifically designed for delivering sterile irrigating fluids (e.g. single-use disposable products).
- **6.1.7.** When sterile irrigating solutions are used, the date of opening of the water bottle must be noted on the bottle. The bottle should no longer be considered sterile at the end of the day, or sooner if contamination is suspected.

#### 7. References:

7.1. CDC Guidelines for Infection Control in Dental Health-Care Settings (2016).

#### 8. Appendices:

Policy Title: Clinical Asepsis	Policy Number: GDIPC-IPP-DN-25
Effective Date: November 11 ,2018	Revision Due: November 11,2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of Clinical Asepsis.

### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- 2.2. To promote awareness for each dental personnel in the importance of Clinical Asepsis.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

**5.1.** None.

#### 6. Procedure:

#### 6.1. Before seating the patient:

- **6.1.1.**Put on protective clothing, protective eyewear, mask and gloves and clean and disinfect the surfaces that may be touched during patient treatment and which will not be protected by surface covers. Theses surfaces include the following:
  - **6.1.1.1.** Countertops.
  - **6.1.1.2.** Drawer pulls and to edges of drawers that may be used.
  - 6.1.1.3. Sink faucet handles.
  - **6.1.1.4.** Handpieces connectors.
- **6.1.2.**Clean and disinfect items brought into the area to be used during patient procedures (e.g.: articulators, casts, dies custom impression trays, fixed and removable prosthesis and face-bows). Disinfection procedure is as follow:
- **6.1.3.**Clean the surface by vigorously wiping the paper towels or gauze.
- **6.1.4.** Disinfect the pre-cleaned surface by re-spraying it and letting it air dry or by wiping it dry if it is still wet after the prescribed contact time.
- **6.1.5.**Alternatively wipe with a disinfectant towelette, discard towel, wipe with a second fresh towel and let dry.
- **6.1.6.**Remove and discard mask and gloves and perform hang hygiene. Follow the procedures for removing the gloves.
- **6.1.7.**Obtain surface covers, supplies and sterile instruments and other equipment from the supply area.

### 6.1.8. Cover the following surfaces with the appropriate cover:

- 6.1.8.1. Head rest.
- **6.1.8.2.** Control buttons on side of chair.
- 6.1.8.3. Light handles.
- 6.1.8.4. Unit light switch.

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- **6.1.8.5.** Air / water syringe buttons/ handle.
- **6.1.8.6.** High-volume evacuator control.
- **6.1.8.7.** Unit control switches and hand-pieces and high volume evacuation holders.
- 6.1.8.8. Saliva ejector, hand piece, and air/water syringe hoses.
- **6.1.8.9.** Any other surface that may be touched during patient treatment.
- **6.1.9.**Remove all items not used during patient treatment from countertops (e.g.: Datebooks, articulator boxes and card board and plastic boxes).
- 6.1.10. Make sure a sharp container is available at chair side.

# 6.2. After seating the patient:

- 6.2.1. Open instrument packages or tray without touching the instruments.
- 6.2.2. Perform hand hygiene (preferably in view of patient).
- 6.2.3. Put on appropriate personal protective equipment.
- **6.2.4.**Connect sterile handpieces and sterile or disposable air water syringe tip, high volume evacuation tip, and saliva ejector tip.

#### 6.3. During patient treatment:

- 6.3.1. Restrict spread of microorganisms from patient` mouth.
- 6.3.2. Use rubber dam (if indicated)
- 6.3.3. Use high volume evacuation.
- **6.3.4.**Touch as few surfaces as possible with saliva coated fingers.
- **6.3.5.**Keep gloved hands out of hair, and do not rub eyes or bare skin or adjust mask or glasses.
- **6.3.6.**If leaving chair side during treatment is necessary, remove and discard the gloves. Wash hands or use alcohol hand rub and re-glove with fresh gloves on return.
- **6.3.7.**Do not wear protective clothing in lunchrooms, restrooms or outside the building; changes protective clothing if visibly soiled.
- **6.3.8.**Do not use items dropped on the floor or on other non-sterile surfaces. Obtain sterile replacement. Remove and replace gives, preferably in view or the patient.
- **6.3.9.**If gloves are torn during treatment, remove, discard, wash hands and re-glove with fresh gloves.
- 6.3.10. Do not recap needles by hands.
- **6.3.11.** Do not pass syringes with uncapped needles to someone else.
- **6.3.12.** Look first before reaching for a sharp instrument.
- **6.3.13.** When placing sharp instruments back on the instrument tray, make sure tips are not pointed up and make sure they are placed in a stable position.
- **6.3.14.** If equipment is brought to a chair side (e.g.: light curing apparatus, make sure it is protected with a surface cover or has been disinfected before use.
- **6.3.15.** Disinfect contaminated items before sending to the dental laboratory.
- **6.3.16.** Do not handle files with contaminated gloves. Use an over glove or remove gloves and perform hand hygiene.
- **6.3.17.** If exposed to a patient` blood or saliva, immediately contact the appropriate person to institute a post exposure medical evaluation.

#### 6.4. After patient treatment:

**6.4.1.** Anyone who will be cleaning contaminated instruments must wear heavy utility gloves, protective clothing a mask and a face shield or protective eyewear.

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- 6.4.2. Remove gloves and then the mask.
- **6.4.3.**Put on fresh gloves and mask.
- **6.4.4.**Place all the instruments back in the tray.
- **6.4.5.** Place all the disposable sharps directly onto the sharp container.
- 6.4.6. Place non sharp disposable items in the plastic lined waste container at the unit.
- **6.4.7.**Flush the air/water syringe, high speed hand piece, and ultrasonic scaler into the sink, cuspidor or container for 20-30 seconds.
- **6.4.8.**Remove the entire surface covers (without touching the underlying surface) and discard in plastic-lined waste container at the unit.
- 6.4.9. Take/send instruments and handpieces to the decontamination/sterilization area.
- **6.4.10.** Remove and dispose of the disposable gown (if used) in the plastic –lined waste container.
- **6.4.11.** Remove gloves and discard them in the plastic –lined waste container.
- 6.4.12. Perform hand hygiene.
- 7. References:
  - 7.1. CDC guidelines for infection control in dental settings, 2013.
- 8. Appendices:
  - 8.1. None.

Policy Title: Tuberculosis Considerations in Dental Settings	Policy Number: GDIPC-IPP-DN-26
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of tuberculosis considerations in dental settings.

# 2. Purpose:

- **2.1.** To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of infection control aspects in management of M. tuberculosis patients.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

# 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1. Tuberculosis (TB):** is an infectious disease caused by the bacterium Mycobacterium tuberculosis.
- 5.2. DHCP: Dental Healthcare Personnel.

#### 6. Procedure:

# 6.1. General Recommendations:

- **6.1.1.**Patients with a medical history or symptoms indicative of undiagnosed active TB should be referred promptly for medical evaluation to determine possible infectiousness. Such patients should not remain in the dental-care facility any longer than required to evaluate their dental condition and arrange a referral.
- 6.1.2. While in the dental health-care facility, the patient should be:
  - **6.1.2.1.** Isolated from other patients and DHCP,
  - 6.1.2.2. wear a surgical mask when not being evaluated, or
  - **6.1.2.3.** Be instructed to cover their mouth and nose when coughing or sneezing.
- **6.1.3.**Elective dental treatment should be deferred until a physician confirms that a patient does not have infectious TB, or if the patient is diagnosed with active TB disease, until confirmed the patient is no longer infectious.
- **6.1.4.**If urgent dental care is provided for a patient who has, or is suspected of having active TB disease, the care should be provided in a facility (e.g., hospital) that provides airborne infection isolation.
- **6.1.5.**Standard surgical face masks do not protect against TB transmission; DHCP should use respiratory protection (e.g., fit tested, disposable N-95 respirators).

# 7. References:

7.1. CDC Guidelines for Infection Control in Dental Health-Care Settings (2016).

#### 8. Appendices: None.

Policy Title: Transmission-Based Precautions	Policy Number: GDIPC-IPP-DN-27
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of transmission-based precautions.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- 2.2. to promote awareness for each dental personnel in the importance of
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

5.1. Transmission-based precautions: are additional infection control precautions in health care, and the latest routine infection prevention and control practices applied for patients who are known or suspected to be infected or colonized with infectious agents, including certain epidemiologically important pathogens.

## 6. Procedure:

- **6.1.** In addition to Standard Precautions used for all patients, Transmission-based Precautions are used for patients with specific diseases or pathogens.
- **6.2.** Transmission-based Precautions are used alone or in combination and include the following set of precautions, which are recommended to contain highly transmissible and/or epidemiologically important agents and are based on the mode of transmission of the specific pathogen:

#### 6.2.1.Contact Precautions:

- **A.** Contact Precautions are used for diseases transmitted by contact with the patient or the patient's environment.
- B. Diseases caused by organisms that have been demonstrated to cause heavy environmental contamination, such as vancomycin-resistant Enterococcus (VRE), methicillin-resistant Staphylococcus aureus (MRSA), Clostridium difficile, or respiratory syncytial virus (RSV) in infants, children, and immunocompromised adults, require gowns and gloves on room entry.

### 1) Patient Placement:

- a) A single room is preferred; however, patients with the same disease or organism may share a room. Avoid placing immunocompromised patients or other patients who may have adverse outcomes from infection with a patient on Contact Precautions.
- 2) Personal Protective Equipment (PPE):

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a) Wear a gown and gloves on room entry. Change the gown and gloves between patients even if both patients share a room and both are on Contact Precautions.

# 3) Patient Transport:

- a) Limit patient transport outside the room to medically necessary purposes. Inform the receiving department of the Isolation Precautions status of the patient. Cover or contain potentially infectious body fluids before transport.
- b) The transporter should discard contaminated PPE before transport.
- c) Don clean PPE to handle the patient at the destination.

# 4) Ambulatory Settings and Long-term Care Settings:

- a) Place patients on Contact Precautions in examination rooms as soon as possible.
- b) In long-term care settings, patient placement should be handled on a case-by-case basis.
- c) Each facility should make decisions on the basis of infection risks to other patients in the facility.

#### 5) Environmental Measures:

- a) Clean daily with a focus on high touch areas, patient bathrooms, and areas close to the patient.
- b) Environmental service workers should don gown and gloves before room entry to clean the patient's room. Meticulous environmental cleaning and use of products with a C. difficile inactivation label claim combined with strict hand hygiene and good laundry practices are recommended to decrease transmission of C. difficile.
- c) Some viruses and spore-forming organisms are resistant to traditional disinfectants, and use of a 1:10 dilution of bleach solution is recommended.
- d) For patients with organisms that are resistant to traditional cleaning methods, bleach may be used as an adjunct to cleaning or as a final wipe down of the frequently touched surfaces.
- e) It is important to realize that control of resistant pathogens is achieved by implementing a combination of procedures, not just an individual disinfecting product.
- f) Processes for room disinfection should be audited, especially in outbreak scenarios, to ensure compliance.

#### 6) Discontinue Contact Precautions:

a) Generally, Contact Precautions are discontinued when signs and symptoms of the infection have resolved or according to pathogen-specific recommendations.

#### **6.2.2.Droplet Precautions:**

A. Droplet Precautions prevent transmission of diseases caused by large respiratory droplets that are generated by coughing, sneezing, or talking.

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Diseases transmitted by the droplet route include, but are not limited to, influenza, mumps, and bacterial meningitis due to Neisseria meningitidis.

### B. Patient Placement:

- 1) Single rooms are preferred; however, patients with the same disease may share a room. Patients must be spatially separated by at least 3 feet. Draw privacy curtains between patients.
- 2) Avoid placing immunocompromised patients with patients who are on Droplet Precautions especially if those patients may have adverse outcomes from infection.

# C. Personal Protective Equipment:

1) Wear a surgical mask on room entry. Handle items contaminated with respiratory secretions with gloves. Change PPE between patients.

# D. Patient Transport:

- 1) Limit patient transport outside the room to medically necessary purposes.
- 2) If the patient must leave the room, instruct the patient to wear a surgical mask and follow respiratory hygiene and cough etiquette.
- Once the patient is masked, the patient transporter does not need to wear a surgical mask. Notify the receiving department of the Isolation Precautions status.

# E. Ambulatory Settings:

 Place patients requiring Droplet Precautions in an examination room as soon as possible. Mask the patient or have healthcare workers don surgical masks on room entry.

#### F. Long-term Care:

1) Make decisions on patient placement on a case-by-case basis after considering all options.

# G. Environmental Measures:

 Daily cleaning with hospital-approved disinfectant of the high touch surfaces. Environmental Services workers should don a surgical mask before room entry.

#### H. Discontinue Droplet Precautions:

1) Discontinue Droplet Precautions after signs and symptoms have resolved or according to pathogen-specific guidelines.

#### **6.2.3.Airborne Precautions:**

- **A.** Airborne Precautions are used to prevent transmission of infectious organisms that remain suspended in the air and travel great distances.
- **B.** These diseases include measles, smallpox, chickenpox, pulmonary tuberculosis, avian influenza, and possibly severe acute respiratory syndrome (SARS)-associated coronavirus.

# C. Patient Placement:

1) In acute care and long-term care settings, place patients in an airborne infection isolation room (AIIR) with negative air pressure relative to the corridor and at least 6 to 12 air exchanges with direct exhaust of air to the outside.

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2) Monitor the air pressure daily with visual indicators (e.g., smoke tubes, flutter strips). Keep the door shut.

# D. Personal Protective Equipment:

- Wear a fit-tested approved N-95 or higher level respirator for respiratory protection when the patient has suspected or confirmed pulmonary tuberculosis or is undergoing procedures where infectious tuberculosis skin lesions would be aerosolized.
- 2) Respiratory protection is also recommended for all healthcare workers whether vaccinated or unvaccinated against smallpox because of the possibility of genetically altered smallpox virus.

# E. Patient Transport:

- 1) Limit transport of patients to essential medical purposes. If transport out of the AIIR is necessary, place a surgical mask on the patient and instruct him/her to observe respiratory hygiene and cough etiquette.
- 2) Cover patient skin lesions with clean bandages and/or clean linens.
- Transport personnel do not need to wear respiratory protection during transport if the patient is masked and the skin lesions are covered.

# F. Ambulatory Settings:

- Develop systems to identify patients with known or suspected airborne infections.
- 2) Place the patient requiring Airborne Precautions in an AIIR as soon as possible or in an examination room with a portable high-efficiency particulate air (HEPA) filter if available.

#### G. Environmental Measures:

- 1) Routine cleaning of high touch surfaces is standard. Environmental Services personnel wear the N-95 respirator on room entry.
- 2) After the patient has left the examination room or the patient room, the room should remain unoccupied for enough time to allow for complete air exchange to occur.

## H. Personnel Restrictions:

 Restrict susceptible healthcare workers from entering rooms of patients known or suspected to have measles (Rubeola), chickenpox or disseminated zoster (varicella zoster virus), and smallpox if other immune healthcare workers are available.

#### I. Discontinue Airborne Precautions:

1) Discontinue Airborne Precautions according to pathogen-specific recommendations in the guideline. State and local health departments may offer further guidance on discontinuing Isolation Precautions measures for patients with known or suspected pulmonary tuberculosis.

#### 7. References:

7.1. CDC Guideline for Isolation Precautions (2007).

#### 8. Appendices:

Policy	Title:	Immunizations	for	Dental	Policy Number: GDIPC-IPP-DN-28
Healthc	are Pers	sonnel			
Effective	Effective Date: November 11, 2018				Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of immunizations for dental healthcare personnel.

#### 2. Purpose:

- **2.1.** To prevent/minimize the risk of infection in dental settings.
- 2.2. To promote awareness for each dental personnel in the importance of immunizations.
- **2.3.** To provide a framework for the education of dental healthcare personnel in preventing transmission of blood borne pathogens.

### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1.** Attenuated (live) vaccines: preparations derived from live, wild-type, disease-causing microorganisms.
- **5.2. Immunization:** the act of artificially inducing immunity or providing protection against a disease.
- **5.3. Vaccine:** an administered immunologic preparation that stimulates the body's immune system to produce protective humoral immunity (antibodies) or cell-mediated immunity (sensitized T lymphocytes), or both against a disease.

#### 6. Procedure:

#### 6.1. Recommended Vaccines for Healthcare Personnel:

#### 6.1.1. Hepatitis B recombinant vaccine:

- **6.1.1.1. Dose Schedule:** Three-dose schedule administered intramuscularly in the deltoid; second dose administered 1 month after first dose; third dose administered 4 months after second dose.
- **6.1.1.2. Indications:** DHCP at risk for exposure to blood and body fluids.

## 6.1.1.3. Major Precautions and Contraindications:

a) History of anaphylactic reaction to common baker's yeast.

# 6.1.1.4. Special Considerations:

- a) No therapeutic or adverse effects on HBV-infected persons.
- b) DHCP who have ongoing contact with patients or blood should be tested 1-2 months after completing the vaccination series to determine serologic response.
- c) If vaccination does not induce adequate antibodies to hepatitis B surface antigen (>10mIU/mL), a second vaccine series should be administered.

# 6.1.2.Influenza vaccine (inactivated):

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Healthc	are Pers	sonnel			
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- **6.1.2.1. Dose Schedule:** Annual single-dose vaccination intramuscularly.
- 6.1.2.2. Indications:
  - a) DHCP who have contact with patients at high risk or who work in chronic-care facilities.
  - b) DHCP aged ≥50 years or who have high-risk medical conditions.
- **6.1.2.3. Major Precautions and Contraindications:** History of anaphylactic hypersensitivity to eggs or to other components of the vaccine.

#### 6.1.3. Measles live-virus vaccine:

- **6.1.3.1. Dose Schedule:** One dose administered subcutaneously (SC); second dose ≥4 weeks later.
- **6.1.3.2. Indications:** DHCP who have no proof of immunity.
- 6.1.3.3. Major Precautions and Contraindications:
  - a) Pregnancy.
  - b) Immune-compromised state.
  - c) History of anaphylactic reactions after gelatin ingestion.
  - d) Recent receipt of antibody-containing blood products.
- **6.1.3.4. Special Considerations:** Measles, mumps, rubella is the recommended vaccine if recipients are likely to be susceptible to rubella or mumps.

#### 6.1.4. Mumps live-virus vaccine:

- **6.1.4.1. Dose Schedule:** One dose subcutaneously.
- **6.1.4.2. Indications:** DHCP believed susceptible can be vaccinated.
- 6.1.4.3. Major Precautions and Contraindications:
  - a) Pregnancy.
  - b) Immunocompromised state (including human immunodeficiency virusinfected persons with severe immunosuppression).
  - c) History of anaphylactic reaction after gelatin ingestion.
- **6.1.4.4. Special Considerations:** Measles, mumps, rubella (MMR) is the recommended vaccine.

#### 6.1.5. Varicella-zoster live-virus vaccine:

- **6.1.5.1. Dose Schedule:** Two 0.5-mL doses SC 4-8 weeks apart if aged ≥13 years.
- **6.1.5.2. Indications:** DHCP without reliable history of varicella or laboratory evidence of varicella immunity.
- 6.1.5.3. Major Precautions and Contraindications:
  - a) Pregnancy;
  - b) Immunocompromised state;
  - c) History of anaphylactic reaction after receipt of neomycin or gelatin;
  - d) Recent receipt of antibody-containing blood products.

#### 7. References:

7.1. CDC guidelines for infection control in dental settings, 2016.

# 8. Appendices:

Policy Title: Management of Occupational Exposures to Blood and other Body Fluids	Policy Number: GDIPC-IPP-DN-29
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of management of occupational exposures to blood and other body fluids in dental practice.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of Management of Occupational Exposures to Blood and other Body Fluids.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

# 3. Scope:

**3.1.** This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions / Abbreviations:

- **5.1. Bloodborne pathogens:** disease-producing microorganisms spread by contact with blood or other body fluids contaminated with blood from an infected person. Examples include HBV, HCV, and HIV.
- **5.2.** Hepatitis B immune globulin (HBIG): a product available for prophylaxis against HBV infection. HBIG is prepared from plasma containing high titers of anti-HBs and provides short-term protection (3-6 months).
- **5.3.** Occupational-exposure incident: Defined as a percutaneous injury (e.g., needlestick or cut with a sharp object) or contact of mucous membrane or nonintact skin (e.g., exposed skin that is chapped, abraded, or afflicted with dermatitis) with potentially infectious blood, saliva, tissue, or other body fluids that may result from the performance of an employee's duties.
- **5.4. Percutaneous injury:** an injury that penetrates the skin (e.g., needlestick, or cut with a sharp object).
- **5.5. Post-Exposure Prophylaxis (PEP):** the administration of medications following an occupational exposure in an attempt to prevent infection.

#### 6. Procedure:

# 6.1. Provide immediate care to the exposure site:

- **6.1.1.** Percutaneous Injuries (Needlestick/ Sharp Injury)
  - A. Wash wounds and skin with soap and water
  - B. Flush mucous membranes with water
  - C. Irrigate eyes with clean water, saline, or sterile irrigant
  - **D.** Do not squeeze wounds or use antiseptics or caustic agents (e.g., bleach).

# 6.1.2. Mucocutaneous Exposures (Body Fluid Exposure)

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- A. Remove contaminated clothing (if necessary).
- B. Irrigate affected area with copious amounts of water (10 minutes).

#### 6.2. Reporting of Exposures:

- **6.2.1.** All percutaneous injuries and mucocutaneous exposures must be reported. The incident report should include:
  - A. The date and time of exposure.
  - **B.** Details of the procedure being performed, including where and how the exposure occurred and whether the exposure involved a sharp device, the type and brand of device, and how and when during its handling the exposure occurred.
  - C. Details of the exposure, including its severity and the type and amount of fluid or material. The severity of a percutaneous injury, for example, might be measured by the depth of the wound, gauge of the needle, and whether fluid was injected. For skin or mucous-membrane exposure, the estimated volume of material, duration of contact, and condition of skin should be noted. Other considerations involve noting whether the skin was chapped, abraded, or intact.
  - D. Details regarding whether the source material was known to contain HIV or other BBPs, and, if the source was infected with HIV, the stage of disease, history of antiretroviral therapy, and viral load, if known.
  - **E.** Details regarding the exposed person (e.g., HB vaccination and vaccine-response status).
  - F. Details regarding counseling, post exposure management, and follow-up.
  - **G.** Exposed personnel should attend the employee health clinic (EHC) during normal working hours or the emergency room (ER) after hours.
- **6.2.2.** It is the responsibility of the Employee Health physician to take the history from the DHCP and document the details. **History to include:** 
  - A. Mechanism of injury.
  - B. Site of injury.
  - **C.** Amount and type of blood/body fluid, and an indication of the severity of the exposure e.g. degree of penetration of the needle, inoculation.
  - D. Immediate action taken (first aid).
  - E. Source patient serology status.
- **6.2.3.** It is the responsibility of the EHC/ER physician to request the following baseline lab investigations (as required) on the DHCP after obtaining consent and/or counseling:
  - A. HBsAg
  - B. Anti-HBs
  - C. Anti-HCV
  - D. Anti-HIV.
- **6.2.4.** The incident report should be taken for physician documentation.
- **6.2.5.** The injury should be reported within 24 hours of the incident for risk assessment and prophylaxis where indicated. Since documentation of any exposure

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management is essential to support future compensation claims, notification must be made within 72 hours.

**6.2.6.** All DHCP should report to the employee health clinic despite attendance at emergency room, as the EHC physician is responsible for determining the need and type of follow-up.

# 6.3. Evaluating The Exposure:

- **6.3.1.** Each occupational exposure should be evaluated individually.
- 6.3.2. This evaluation should be based on:
  - A. the type and amount of body substance involved;
  - **B.** the type of exposure (e.g. percutaneous injury, exposure of mucous membranes or non-intact skin, bites resulting in blood exposure to either person involved);
  - C. The infection status of the source; and
  - **D.** The susceptibility of the exposed person.
- **6.3.3.** In the event the source individual cannot be identified because of certain types of accidents, such as an employee being injured while cleaning instruments from multiple patient appointments, or if the source cannot be tested, the circumstances of the exposure incident should be assessed by the qualified health professional to determine the likelihood of transmission of HBV, HCV, or HIV.
- **6.3.4.** Decisions regarding appropriate management should be handled on a case-by-case basis.
- **6.3.5.** Certain situations, as well as the type of exposure, may suggest an increased or decreased transmission risk. For example, it is helpful to know:

#### A. Where and under what circumstances did the accident occur?

1) Exposure to a visibly bloody device would obviously suggest a higherrisk exposure than exposure to an instrument that has been processed through a washer-disinfector.

#### B. What is the prevalence of HBV, HCV, or HIV in the population?

- An exposure that occurs in a geographic area where injectable-drug use is prevalent, or in an AIDS unit, would be considered epidemiologically to have a higher risk for transmission than one that occurs in a facility where no known HIV-infected patients are present.
- **6.3.6.** Testing of needles and other sharp instruments implicated in an exposure, regardless of whether the source is known or unknown, is not recommended. The reliability and interpretation of findings in such circumstances are unknown, and testing might be hazardous to individuals handling the contaminated sharp instrument.

#### **6.4.** Prophylactic Treatment:

**6.4.1.** When prophylactic treatment with drugs, vaccines, or immune globulins is necessary, it should be offered and personnel should be informed of risk of infection, alternative means of prophylaxis, degree of protection provided by the therapy, and potential side-effects.

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- **6.4.2.** Hepatitis B (HBV) prophylaxis, when indicated, should be initiated within 48 hours of the exposure incident and no later than 7 days.
- **6.4.3.** No post exposure prophylaxis or vaccination is available for Hepatitis C (HCV).
- **6.4.4.** HIV prophylaxis when indicated should be initiated as soon as possible following exposure and no later than 24 hours.

# 6.4.5. Recommendation of drugs as a component of a post exposure management plan:

# A. HBV:

- 1) Table 9 provides a summary of the recommendations for PEP following an exposure to HBV.
- 2) Hepatitis B immune globulin (HBIG) and/or the HB vaccine may be recommended depending on the source person's infection status, the exposed person's vaccination status, and (if vaccinated) his/her response to the vaccine. Post exposure treatment should begin as soon as possible after exposure, preferably within 24 hours and no later than 7 days.

#### B. HCV:

- 1) There is no post exposure treatment that will prevent HCV infection. However, its recommended to do the following:
- 2) Perform testing for anti-HCV and certain liver enzymes 4-6 months after exposure.
- 3) Perform HCV RNA testing at 4-6 weeks if an earlier diagnosis of HCV infection is desired.
- 4) Confirm repeatedly reactive anti-HCV enzyme immunoassays with supplemental tests.

# C. HIV:

- 1) Table 10 provides a summary of the recommendations for PEP following an exposure to HIV.
- 2) Treatment should be started as soon as possible, preferably within hours (as opposed to days) after the exposure.
- 3) Starting treatment after a longer period, such as 1 week, may be considered for exposures that represent an increased risk of transmission.
- 4) The exposed person should be reevaluated within (72) hours so that drug regimens can be altered as additional information becomes available. If a source patient is determined to be HIV-negative, PEP should be discontinued.

#### 6.4.6. Perform follow-up testing and provide counseling:

A. Advice exposed persons to seek medical evaluation for any acute illness occurring during follow-up.

#### B. HBV exposures:

1) Test for anti-HBs 1-2 months after last dose of vaccine series or vaccine booster.

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2) Follow-up not needed if exposed person immune to hepatitis B or received HBIG PEP.

# C. HCV exposures:

- 1) Perform testing for anti-HCV and ALT 4-6 months after exposure.
- 2) Perform HCV RNA testing at 4-6 weeks if earlier diagnosis of HCV infection desired.
- 3) Confirm repeatedly reactive anti-HCV EIAs with supplemental tests

### D. HIV exposures:

- 1) Evaluate exposed persons taking PEP within 72 hours after exposure and monitor for drug toxicity for at least 2 weeks.
- 2) Perform HIV-antibody testing for at least 6 months' post-exposure (e.g., at baseline, 6 weeks, 3 months, and 6 months).
- 3) Perform HIV antibody testing for illness compatible with an acute retroviral syndrome.
- 4) Advice exposed persons to use precautions to prevent secondary transmission during the follow-up period.

#### 6.4.7. Documentation:

7. The incidence should be properly documented in the confidential medical records of the DHCP.

# 8. References:

**8.1.** GCC manual for infection prevention and control, 2017.

# 9. Appendices:

- 9.1. Table (10): Recommended post exposure prophylaxis (PEP) for exposure to HBV.
- 9.2. Table (11): Recommended post exposure prophylaxis (PEP) for exposure to HIV.
- 9.3. Needle stick & Sharp Object Injury Report.
- 9.4. Blood and Body Fluid Exposure Report.
- 9.5. Post Exposure Follow-Up form.

Table 10: Recommended post exposure prophylaxis (PEP) for exposure to HBV						
Vaccination and antibody response status of exposed workers	Source HBsAg positive	Source HBsAg negative	Source unknown or not available for testing			
Unvaccinated HBIG and initiate HB vaccine series Ini		Initiate HB vaccine series	Initiate HB vaccine series			
Previously vaccinated	Previously vaccinated					
Known responder	No treatment	No treatment	No treatment			
Known non-responder	HBIG × 1 and initiate revaccination or HBIG × 2	No treatment	If known high-risk source, treat as if source were HBsAg-positive			
Antibody response unknown	Test exposed person for anti-HBs  1. If adequate, no treatment is necessary  2. If inadequate, administer HBIG × 1 and vaccine booster	No treatment	Test exposed person for anti-HBs  1. If adequate, no treatment is necessary  2. If inadequate, administer vaccine booster and recheck titer in 1-2 months			

Table 11: Recommended post exposure prophylaxis (PEP) for exposure to HIV							
	Infection status of source						
Exposure Type	HIV-positive, class 1	HIV-positive, class 2	Source of unknown HIV status	Unknown source	HIV- negative		
Less severe	Recommended basic 2-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP for source with HIV risk factors.	Generally, no PEP warranted; however, consider basic 2-drug PEP in settings in which exposure to HIV-infected persons is likely.	No PEP warranted		
More severe	Recommended expanded 3-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP for source with HIV risk factors.	Generally, no PEP warranted; however, consider basic 2-drug PEP in settings in which exposure to HIV-infected persons is likely.	No PEP warranted		

# Needlestick & Sharp Object Injury Report

Last I	Name: F	irst Name:			
Injury	ID: (for office use only) <b>S</b> Facility ID: (for office use only)	fice use only)	_ Completed E	By:	FOR MICROSOFT®ACCESS
1)	Date of Injury:	2) Tim	e of Injury:	ΠП	EXPOSURE PREVENTION► Information network►
3)	Department where Incident Occurred:				EPINet is a trademark of the University of Virginia. Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.
4)	Home Department:				Operates in Windows 95 and Windows 98 Environments. © 2000 Becton, Dickinson and Company. V1.2/US 3/2001
<b>E</b> \	What is the Joh Cotogony of the Injured W	autou (abaak	one how only)		
5)	What is the Job Category of the Injured W  1 Doctor (attending/staff); specify specialty _			Clinical Labor	atory Worker
	2 Doctor (intern/resident/fellow) specify specify			Technologist	•
	3 Medical Student			Dentist	
	4 Nurse: specify — □ 1 RN		□ 13	Dental Hygier	nist
	5 Nursing Student □ 2 LPN			Housekeeper	
	18 CNA/HHA			Laundry Work	ker
	6 Respiratory Therapist			Security	
	<ul><li>7 Surgery Attendant</li><li>8 Other Attendant</li><li>5 Midwife</li></ul>			Paramedic Other Student	<b>t</b>
	9 Phlebotomist/Venipuncture/IV Team				De:
c)	Where Did the Injury Occur? (check one b	ov only)			
6) □	1 Patient Room	ox orliy)	□ 9	Dialysis Facili	ty (hemodialysis and peritoneal dialysis)
	2 Outside Patient Room (hallway, nurses sta	ation, etc.)	□ 10		oom (x-ray, EKG,etc)
	3 Emergency Department		□ 11	Clinical Labor	atories
	4 Intensive/Critical Care unit: specify type: _			Autopsy/Path	0,
	5 Operating Room/Recovery				(laundry,central supply,loading dock,etc)
	6 Outpatient Clinic/Office			Labor and De	livery Room
	<ul><li>7 Blood Bank</li><li>8 Venipuncture Center</li></ul>			Home-care Other, describ	pe:
8) 9)	Was the Injured Worker the Original User 1 Yes	<ul><li>3 Unkn</li><li>or contaminate</li></ul>	own d equipment) =	□ 4 Not A  was the	
10)	For What Purpose was the Sharp Item Original	ginally Used?	(check one box	conly)	
	1 Unknown/Not Applicable	, , , , , , , , , , , , , , , , , , , ,	,	• /	Arterial /Central Line
	2 Injection, Intra-muscular/Subcutaneous, or	Other Injection	າ □ 9		Body Fluid or Tissue Sample
	through the Skin (syringe)			•	mniotic fluid/other fluid, biopsy)
Ц	3 Heparin or Saline Flush (syringe)	inication site or		Finger stick/H	leel Stick
	4 Other Injection into <i>(or aspiration from)</i> IV IV Port <i>(syringe)</i>	injection site or		Suturing Cutting	
	5 To Connect IV line (intermittent IV/piggyba	ck/IV infusion/		Drilling	
	IV line connection)	0.0.7		Electrocauter	V
	6 To Start IV or Set up Heparin Lock (IV cath	heter or winged	/ set- □ 14	To Contain a	Specimen or Pharmaceutical (glass item)
	type needle) 7 To Draw Venous Blood Sample ————		□ 15	Other; Descril	be
		if used to dra	w blood was i	? Direct s	stick?   Draw from a Line?
11)	Did the Injury Occur? (check one box only)				
· ·,	1 Before Use of Item (item broke/slipped, as		e etc.) □ 16	Device Left or	n Floor, Table, Bed or Other Inappropriate Plac
	<ul><li>During Use of Item (item slipped, patient ja</li></ul>				se-Before Disposal (in transit to trash, cleaning,
	15 Restraining patient	,,		sorting, etc.)	
	3 Between Steps of a Multi-step Procedure	(between increr	mental 🗆 9		ft On or Near Disposal Container
	injections, passing instruments, etc.)		□ 10	While putting	Item into Disposal Container
	4 Disassembling Device or Equipment			•	I, Stuck by Item Protruding from Opening of
	5 In Preparation for Reuse of Reusable Instr	ument (sorting,		Disposal Con	
	fecting, sterilizing, etc.)				Side of Disposal Container
	<ul><li>6 While Recapping Used Needle</li><li>7 Withdrawing a Needle from Rubber or Oth</li></ul>	er Resistant Me			I, Item Protruded from Trash Bag or Waste Container
	(rubber stopper, IV port, etc.)	o. I toolotalit ivid		Other: Descril	

12)	What Type of Device Caused the Injury? (check one box only)		Needle-Hollow Bore
			Surgical
			Glass
Which	Device Caused the Injury? (check one box from one of the three s	ections	s only)
Needle	<u>es (</u> for suture needles see " <b>surgical instruments</b> ")		
	1 Disposable Syringe	□ 8	Vacuum tube blood collection holder/needle (includes
	□ a Insulin □ e 22-gauge needle		Vacutainer™ *–type device)
	□ b Tuberculin □ f 21-gauge needle	□ 9	Spinal or Epidural Needle
	□ c 24/25-gauge needle □ g 20-gauge needle	□ 10	O Unattached hypodermic needle
	□ d 23-gauge needle □ h "Other"	□ 11	Arterial catheter introducer needle
	2 Pre-filled cartridge syringe (includes Tubex™ *, Carpuject ™* -	□ 12	2 Central line catheter needle (cardiac, etc.)
	type syringes)	□ 13	3 Drum catheter needle
	3 Blood gas syringe (ABG)	□ 14	4 Other vascular catheter needle (cardiac, etc.)
	4 Syringe, other type	□ 15	5 Other non-vascular catheter needle (ophthalmology, etc.)
	5 Needle on IV line (includes piggybacks & IV line connectors)		
	6 Winged steel needle (includes winged-set type devices)	□ 28	Needle, not sure what kind
	7 IV catheter stylet	□ 29	Other needle, please describe:
	cal Instrument or Other Sharp Items (for glass items see "glass")		-
	30 Lancet (finger or heel sticks)	□ 43	3 Specimen/Test tube (plastic)
	31 Suture needle		Fingernails/Teeth
	32 Scalpel, reusable (scalpel, disposable code is 45)		5 Scalpel, disposable
	33 Razor	□ 46	Retractors, skin/bone hooks
	34 Pipette (plastic)		7 Staples/Steel sutures
	35 Scissors		B Wire (suture/fixation/guide wire
	36 Electro-cautery device		9 Pin (fixation, guide pin)
	37 Bone cutter		Drill bit/bur
	38 Bone chip	□ 51	1 Pickups/Forceps/Hemostats/Clamps
	39 Towel clip		
	40 Microtome blade		
	41 Trocar	□ 58	3 Sharp item, not sure what kind
	42 Vacuum tube (plastic)		Other sharp item: Describe:
Glass	(1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1		
	60 Medication ampule	□ 66	6 Capillary tube
	61 Medication vial (small volume with rubber stopper)	□ 67	7 Glass slide
	62 Medication/IV bottle <i>(large volume)</i>		
	62 Medication/IV bottle (large volume) 63 Pipette (glass)		
	63 Pipette (glass)	□ 78	B Glass item, not sure what kind
	63 Pipette (glass) 64 Vacuum tube (glass)		·
	63 Pipette (glass)		3 Glass item, not sure what kind 9 Other glass item: Describe:
	63 Pipette (glass) 64 Vacuum tube (glass)	□ 79	Other glass item: Describe:
12a) 12b)	<ul> <li>63 Pipette (glass)</li> <li>64 Vacuum tube (glass)</li> <li>65 Specimen/Test tube (glass)</li> <li>Brand/Manufacturer of Product: (e.g. ABC Medical Company)</li> <li>Model:</li> </ul>	□ 79	Other glass item: Describe:
12a) 12b)	<ul> <li>63 Pipette (glass)</li> <li>64 Vacuum tube (glass)</li> <li>65 Specimen/Test tube (glass)</li> <li>Brand/Manufacturer of Product: (e.g. ABC Medical Company)</li> <li>Model:</li> </ul>	□ 79	Other glass item: Describe:
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12a) 12b)	63 Pipette (glass) 64 Vacuum tube (glass) 65 Specimen/Test tube (glass)  Brand/Manufacturer of Product: (e.g. ABC Medical Company) Model: 98 Please Specify: = 99  If the Item Causing the Injury was a Needle or Sharp	□ 79  Unkr  13a)	Other glass item: Describe:  nown  Was the Protective Mechanism Activated?
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12a) 12b) 13)	63 Pipette (glass) 64 Vacuum tube (glass) 65 Specimen/Test tube (glass)  Brand/Manufacturer of Product: (e.g. ABC Medical Company) Model: 98 Please Specify: 99  If the Item Causing the Injury was a Needle or Sharp Medical Device, Was it a" Safety Design" with a Shielded, Recessed, Retractable, or Blunted Needle or Blade?  1 Yes 2 No	☐ 79 ☐ Unkr ☐ 13a) ☐ 1 ☐ 2	Other glass item: Describe:
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15) 	Was the Injury?  1 Superficial (little or no bleeding)  2 Moderate (skin punctured, some bleeding)  3 Severe (deep stick/cut, or profuse bleeding)	
16)	If Injury was to the hand, did the Sharp Item Penetrate?  Single pair of gloves  Double pair of gloves  No gloves	
17) 	Dominant Hand of the Injured Worker: 1 Right-handed 2 Left-handed	
18)	Describe the Circumstances Leading to this Injury (please note if a device malfunction was involved):	
19)	For Injured Healthcare Worker: If the Sharp had no Integral Safety Feature, Do you have an Opinion that such a Feature could hat prevented the Injury?   1 Yes 2 No 3 Unknown  Describe:	ve
20)	For Injured Healthcare Worker: Do you have an Opinion that any other Engineering Control, Administrative or Work Practice control have prevented the Injury?   1 Yes 2 No 3 Unknown  Describe:	blı
Cost	Lab charges (Hb, HCV, HIV, other)  Healthcare Worker Source Treatment Prophylaxis (HBIG, Hb vaccine, tetanus, other) Healthcare Worker Source Service Charges (Emergency Dept, Employee Health, other) Other Costs (Worker's Comp, surgery, other) TOTAL (round to nearest dollar)	
Is th	Incident OSHA reportable?	
	this incident meet the FDA medical device reporting criteria? (Yes if a device defect caused serious injury necessitating medical or surgention, or death occurred within 10 works days of incident.)  1 Yes (If Yes, follow FDA reporting protocol.)  2 No	ical

<sup>\*</sup> Tubex™ is a trademark of Wyeth Ayers; Carpuject™ is a trademark of Sanofi Winthrop; VACUTAINER™ is a trademark of Becton Dickinson. Identification of these products does not imply endorsement of these specific brands.

Policy Title: Patient Screening and Evaluation	Policy Number: GDIPC-IPP-DN-30
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of patient screening and evaluation in dental practice.

#### 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of patient screening and evaluation.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### Scope:

3.1. This policy applies to all dental healthcare personnel.

#### 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

### 5. Definitions / Abbreviations:

- **5.1. Patient screening:** a process for evaluating the possible presence of a particular health problem.
- **5.2. Evaluation:** a process for defining the nature of that problem, determining a diagnosis, and developing specific treatment recommendations for addressing the problem or diagnosis.

# 6. Procedure:

#### 6.1. General recommendations:

- **6.1.1.** Screening and evaluation processes are the first steps in providing appropriate patient care.
- **6.1.2.**The goals of patient evaluation and screening are to reduce the potential of serious complications either during or as a result of dental treatment and identify a previously undiagnosed medical problem or one for which the patient is not receiving appropriate medical care.
- **6.1.3.**A thorough head, neck, and oral examination can often identify patients with oral ulcerations, lesions, infections, or neoplasia.
- **6.1.4.**Examination may indicate a need for medical referral for the patient (i.e., for diagnosis of active tuberculosis or head and neck cancer).
- **6.1.5.**Obtaining, reviewing, and updating the patient health history at subsequent appointments can alert practitioners to medical problems that, in conjunction with dental treatment, could adversely affect the patient.

#### 6.2. Essential elements of a medical history that help the clinician include the following:

- 6.2.1. Identify the patient.
- 6.2.2. Establish the chief complaint.
- **6.2.3.**Record experiential dental history.
- 6.2.4. Determine the current health status of the patient.
- **6.2.5.** Provide a record of major hospitalizations.
- **6.2.6.**Record history of childhood and adult illnesses.

Policy Title: Patient Screening and Evaluation	Policy Number: GDIPC-IPP-DN-30
Effective Date: November 11, 2018	Revision Due: November 11, 2021

- 6.2.7.List medications the patient may be using.
- 6.2.8. Record evidence of allergies.
- 6.2.9. Identify pertinent familial and social histories.
- 6.2.10. Obtain a review of major organ systems.

#### 6.3. Note:

- **6.3.1.**The medical history does not identify all infectious patients; it should not be used to identify the "infectious disease risk" of a patient.
- **6.4.** Patients may not know their infectious status or may not be willing to disclose pertinent infection information in their medical history, and many infectious patients do not manifest classic symptoms.
- **6.5.** Standard precautions as defined in policy number GDIPC-IPP-DN-01 must be implemented when providing care to all patients.
- 6.6. The medical history can alert DHCP to patient problems and complaints resulting from previous dental office visits. Hypersensitivity reactions to latex-containing products (e.g., latex gloves, latex dental dam, latex prophylaxis cups) or hypersensitivity or other adverse reactions to dental medicaments or restorative materials may be identified

#### 7. References:

7.1. APIC text of infection prevention and control, dental services, chapter 53.

# 8. Appendix:

Policy Title: Infection Control Team in The Dental Center	Policy Number: GDIPC-IPP-DN-31
Effective Date: November 11, 2018	Revision Due: November 11, 2021

**1.1.** This policy is a guide for all dental healthcare personnel to ensure full understanding on the best practice of Infection Control Team in dental practice.

# 2. Purpose:

- 2.1. To prevent/minimize the risk of infection in dental settings.
- **2.2.** To promote awareness for each dental personnel in the importance of Infection Control Team.
- **2.3.** To provide a framework for the education of dental healthcare personnel in the infection prevention and control.

#### 3. Scope:

3.1. This policy applies to all dental healthcare personnel.

# 4. Roles and Responsibilities:

- **4.1.** All healthcare workers have responsibility to conform and respect all aspects of this policy.
- **4.2.** Managers/ department heads have a key responsibility to ensure their department functions within the parameters of the policy and that staff are trained and assessed in these issues.

#### 5. Definitions/ Abbreviations:

5.1. DCHP: Dental Healthcare Personnel.

#### 6. Procedure:

#### 6.1. Infection control team:

- 6.1.1.Each dental center/ department should assign a designated team or an individual who will be responsible for implementing the infection control program in the center.
- 6.1.2.The number of the team members is determined by the total number of clinics and the work load in the center, with a minimum number of one staff for small dental centers.

# 6.2. The infection control team in the dental center have the following roles and responsibilities:

- **6.2.1.**To develop and implement the infection control program in the dental center with clear action plan.
- **6.2.2.**To develop and implement annual plan for infection control with clearly defined objectives.
- **6.2.3.**To ensure that current copies of infection control policies, procedures, and plans are available and accessible to all dental healthcare personnel (DHCP).
- **6.2.4.**To provide initial, annual, and "as per need" infection control training to all dental healthcare personnel and to contract employees, such as housekeeping services
- 6.2.5. To determine appropriate DHCP immunizations.
- **6.2.6.**To prepare work-related injury/illness reporting forms (e.g., exposure incident and accident reports.
- **6.2.7.**To monitor compliance to infection control standards through auidts, checklists and other methods.
- 6.2.8.To evaluate and implement safer dental devices (e.g.: self-sheathing needles).
- 6.2.9.To ensure availability of supplies and equipment needed for infection control.

Policy Title: Infection Control Team in The Dental Center	Policy Number: GDIPC-IPP-DN-31
Effective Date: November 11, 2018	Revision Due: November 11, 2021

- **6.2.10.** To ensure compliance to infection control aspects regarding waste management.
- **6.2.11.** To perform other job-related duties assigned.
- 6.3. Education and Training:
  - 6.3.1.The infection control team of the center should Provide DHCP basic infection control training:
    - **6.3.1.1.** on initial employment,
    - **6.3.1.2.** when new tasks or procedures affect the employee's occupational exposure, and
  - **6.3.2.** At a minimum, annually, with education and training regarding occupational exposure to potentially infectious agents and infection-control procedures appropriate for and specific to their assigned duties
  - **6.3.3.**Provide educational information appropriate in content and vocabulary to the educational level, literacy, and language of DHCP.
- 7. References:
  - 7.1. GDIPC Manual for Job Descriptions, 2017.
  - 7.2. APIC text of infection prevention and control, dental services, chapter 53.
- 8. Appendix:
  - 8.1. None.