



MAEER'S
MAHARASHTRA INSTITUTE OF DENTAL
SCIENCES & RESEARCH (DENTAL COLLEGE)



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NEEDLE STICK INJURY RECORD

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STANDARD OPERATING PROCEDURE (SOP) FOR NEEDLESTICK INJURY

Introduction:

Dental professionals are routinely exposed to microorganisms from patients' oral fluid, blood and tissues. So, they are at increased risk of exposure to blood-borne pathogens, including Hepatitis B, Hepatitis C, and HIV.

Local anaesthetic injection is required while performing most of dental procedures so chances of needlestick injury are more. The estimated transmission rates for HBV, HCV and HIV, after a needlestick injury from a dental needle are 6-30%, 2.7-10% and 0.1- 0.3% respectively. Injuries from sharps remain a concern in contemporary dental practice because of the underlying possibility of transmission of blood-borne diseases.

The purpose of this SOP is to institutionalize the effective system to prevent the occupational exposure to HBV, HCV, HIV among dental professionals.

Devices with which needle Stick Injury takes often:

Any sharp dental instruments like needle, Small bore hallow syringe, Burs, Suture needles, Scalpel, Periodontal Scaler, Elevators, Explorer, Wire, Retractors, Endodontic file, etc.

Circumstances for needle stick injuries:

- Recapping of the needle, bending or removing an uncapped needle.
- Unexpected movement or jerk by the patient or a work colleague and a momentary lack of concentration can result in an injury.
- Picking up sharp instrument during clean up procedures either by hands or from sterilization bags, from which contaminated sharp instruments may have protruded.
- Handling or disposal of used needles i.e. needle disassembly.
- Accidental injury by a colleague.
- During suturing with suture needles.
- During treatment of fractures by wires.
- While giving local anaesthesia with syringe, injury to the hand which is retracting the tissues.
- Patient grabbing dentist's hand during procedure.
- During changing of the burs.
- During scaling, when scaler slips off the teeth
- During examination of teeth with an explorer.
- While reaching out for one instrument, inadvertently touching another instrument.
- Leaving a sharp in an unusual location.
- Wiping the instrument during Procedure.

Needle or sharp instruments management and disposal.

- Make sure sharps container is nearby every time a needle is used.
- If a needle or sharp instrument has to be carried some distance to a sharps container, use a puncture resistant dish or tray; do not carry it in your hand.


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- Never pass needles or sharp instruments to another worker by hand – use a puncture resistant tray.
- Never bend needles contaminated with blood or body substance.
- Never force needles into a sharps container i.e. never overfill a sharps container.
- Let falling needles or sharp objects fall.
- Don't try and catch them or break their fall.
- Develop a slow, safe handling technique when using sharp instruments.
- Seek assistance for confused or uncooperative patients.
- Store sharp instruments safely and dispose the needles correctly.

Directions to avoid needle stick injury-

1. During injecting inferior alveolar nerve block, one should use mouth mirror instead of finger for retraction of cheek while administering the local anaesthetic injection to avoid injury.
2. To reduce the injuries from burs in handpiece it should be placed in downward position with the bur facing the dental cart.
3. Dental health care workers are encouraged to wear two layers of gloves when cleaning instruments.
4. Use a one-handed procedure to recap needles.
5. Not to put the used needle back in its original cover and should be put in a specially designed, rigid, puncture-proof needle container.
6. Needle should be promptly disposed only in needle burners.
7. Avoid recapping needles.

Post exposure measures for accidental needlestick injury:

First aid measures

1. Stop all the procedures.
2. Assess the injury that is the depth of the injury, if the device is contaminated with blood, if the needle entered the patient's blood vessel and if the wound bleeding or not.
3. Wash with water and soap or a disinfectant for several minutes (10% iodine solution or chloride compounds), do not scrub the affected area since this may inoculate the virus into the tissues, do not suck the affected area, encourage bleeding in the area of puncture wound by gentle squeezing above wound to increase venous back pressure. For mucous membrane exposure copious irrigation with tap water, sterile saline or sterile water should be done for several minutes. This reduces the bioburden below the threshold of an infectious dose because of dilution with water.
4. Do not swallow water used for rinsing the mouth.
5. Assess patient's risk factors.

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6. Identify the dentist's immune status for HBV.

A. Protected :anti-HBs antibody titre > 100 IU/L or 10- 99 IU/L if last vaccine dose was within 2 years.

B. Incomplete Protection : Anti-HBs antibody titre 10-99 IU/L if last dose > 2 years. No antibody checks after full primary course or results are unavailable after full primary course. Recommendation : Booster dose of HBV and follow up.

C. Unprotected : No history of immunization with HBV vaccine. Failure to reach greater than 10 IU/L antibody titre. Incomplete primary course of HBV. Recommendation : Booster dose of HBV, give HB immunoglobulin and follow up.

If blood or body substance accidentally gets into the eye it should be irrigated gently and thoroughly with water, without the use of soap.

If blood or body substance accidently gets into the mouth then it should be spitted and mouth rinsed several times with water, spitting out after every rinse.

HIV Post Exposure Prophylaxis (PEP)

- It is a short term for anti-retroviral treatment to reduce the likelihood of HIV infection after potential exposure where Post means after, Exposure means a situation where HIV has a chance to get into someone's bloodstream, prophylaxis means a treatment to stop an infection happening.
- Practical problems and inconvenience involved restrict the dentist from seeking expert advice following needlestick injury.
- The Centers for Disease Control and Preventions (CDC) PEP guidelines call for treatment with antiviral medications.
- Time is important and the prophylaxis should start within an hour of exposure.
- Biological rationale of PEP relies on the time interval required for uptake of the virus, processing and incorporation after initial inoculation.
- PEP cannot prevent the infection but it can prevent the incorporation of the viral DNA into host DNA.
- Evidence support the use of antiretroviral drugs in PEP.
- Currently triple combination regimen is employed; usually recommending zidovudine, lamivudine and indinavir for four weeks is used and is believed to be as effective.
- Antiretroviral drugs have side effects like nausea, vomiting, anaemia, fatigue, insomnia and renal stone formation.
- Also if the virus has already integrated with the host genome then they are ineffective.
- If the source patient has significant risk factors it is generally appropriate to commence combination ant- retroviral treatment prior to result of HIV test.
- If the exposure is low but the risk is non negligible, PEP should be given.
- Initiation of PEP should be the responsibility of an expert in HIV disease and be based upon details provided by the dentist about the type of injury and nature of the source patient.

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Patient Details

Name - Sarika Chavan
 Age - 38 Sex - female
 OPD No - 190965
 Date - 30/10/18

Needle stick Injury Report

Name of staff / student -> Dr. Fatima (PA)
 Date - time - 30/10/18 11am
 Type of injury - Needle stick injury - white gear
 Department - Periodontics

Patient Pre-op Investigation.

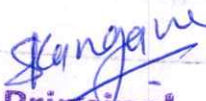
	Yes	No
Case history	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Blood Investigations -
 (HBsAg & Tridot) Negative

Post Exposure Prophylaxis.


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Patient Details :-

Name - Gavlan munde
Age - 40ys
Sex - female
OPD No - 92681
Date - 27/05/19

Needle stick Injury Report -

Name of Staff / student :- Dr. Kanishka (pa)
Date & time -> 27/05/19 2:30pm
Type of Injury -> During - LA
Department - periodontics

Patient pre-operative Investigations

	Yes	No
Care history	Recorded ✓	
Blood Investigation (HBsAg & Tri dot)	Done ✓	Negative

Post Exposure Prophylaxis.

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Kanishka

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Patient Details

Name — Anant Mahaling Dorkde
 Age — 28yrs
 Sex — male
 OPD No — 241191
 Date — 15/10/19

Needle Stick Injury Report

Name of staff / student — Dr. Kharbu B
 Date & Time — 15/10/19
 Type of Injury — while giving LA → Needle
 Department — periodontics

Patient Preoperative Investigations —

Yes No

Clinical History

Recorded

Blood Investigation

✓

(ABSG & Troidot)

Negative

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GUIDELINES FOR PATIENTS SAFETY MEASURE

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Dentists, auxiliaries as well as patients undergoing dental procedures are at high risk of cross infection. Most dental procedures require close contact with the patient's oral cavity, saliva, blood and respiratory tract secretions. There are many patients who seem asymptomatic but may be shedding the virus hence all patients visiting dental clinic must be considered as potential source of infection and dental professionals must follow appropriate infection prevention control guidelines.

1. At least one individual with training in infection prevention (infection prevention coordinator) who will be responsible for the written infection prevention policies and procedures based on evidence-based guidelines, regulations and standards is allotted to each department in the dental college.
2. Duty of infection prevention coordinator is to supply hand hygiene products, masks, gloves and personal protective equipment. And maintain communication with all staff members to address specific issues.
3. Infection prevention and occupational health programme arrangement.
4. Development of written infection prevention procedures.
5. Facility for management of potentially infectious person at the initial stage of infection detection.
6. Guidelines regarding infection prevention are published.
7. CCTV camera provision on each floor to record all events.
8. Differently abled patients are provided with assistants for help.
9. For differently abled patients separate tracks are made other than staircase.
10. Patient management and their proper seating and maintenance of social distancing will be managed by the department clerk.
11. Hand sanitization and wearing of mask at the entrance of department will be made compulsory for all patients and attendants.

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12. Inside the pre-screening area only one patient at a time is allowed to enter.
For differently abled patients and senior citizens who need help with such patients only 1 attendant will be allowed to enter alongside the patient.
13. While entering inside the department the personal possessions like **bags, purse and mobiles** will be **prohibited**.
14. Display of Banners and Placards in concern with **Patients Education** on Hand Sanitization, Social Distancing and Cough etiquette.
15. Natural ventilation sources and/or mechanical ventilation source such as fans and exhaust will be used to maintain good air ventilation. (6 air exchanges per hour minimum)
16. Structural obstacles (Physical barrier) like Acrylic or Polycarbonate partitions or plexiglass shields are considered on reception desk. This lowers the risk of spreading cough or sneeze droplets.
17. **PPE Requirements:** Head Cap, Gloves, Surgical Mask (to be changed every 2-3 hrs) for clerk and staff attending the patients at reception desk.
18. Taking every precaution possible to minimize the spread of infection, including proper hygiene, frequent cleaning, and disinfection of surfaces and sterilization of dental instruments.
19. Dentists and staff must wear scrubs or protective gowns while treating the patient.
20. Laundry bins or containers must be lined with a garbage bags to prevent cross contamination during storage and transportation.
21. Working Staffs are instructed to wash their hands frequently with alcohol based rub or with soap specifically before and after any contact with patients, touching frequently touched equipment and surfaces, and after removing their PPE.
22. Single entrance door to limit points of entry to the clinical departments.

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23. Dental appointments to the patient must be spaced out to limit face-to-face interactions between patients and staff.
24. Office and clinical departments (operatories) must be thoroughly cleaned and disinfected. (fumigation)
25. Newspapers, magazines and other non-essential items are removed from offices and reception desk and from other operatories.
26. Sign boards are displayed in common room and waiting area that shows the steps in hand sanitization, maintaining physical distance and wearing mask.
27. Display of banners and placards that shows the signs and symptoms of infectious diseases, and how to take precaution against them.
28. Before scheduling an appointment, dentist must see to it that patients are screened for COVID-19.
29. Patients who tested positive for the virus must not be treated in-person (except if its an emergency)
30. Patients who have COVID-19 should be advised to self-isolate and to contact a healthcare provider.
31. Every person who's about to enter the office must be screened before entering in the office and department.
32. Assisting staffs are advised to wear PPE for the dental procedure.
33. Training programme for all the staff regarding wearing of PPE.
34. Disinfection of clinical departments between appointments.
35. Dentist should wait about 15-30 minutes after an aerosole generating procedure. This allows the droplets to ettle down and not to travel elsewhere in the operatory.
36. General housekeeping involving cleaning and disinfection must be performed twice per day after the completion of last patient.

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37. Cleaning of frequently touched surfaces including doorknobs, desks, counters, chairs, plexiglass barriers.

GUIDELINES FOR HIV and HBV POSITIVE PATIENT :

1. Use of PPE kit is compulsory for the operator and assistant staff.
2. Patients with HIV & HBV are appointed at the end of all other patients.
3. Visits are minimised for HIV&HBV patients.
4. After treatment operatory is disinfected with medical grade disinfectant.
5. Use of rubberdams made compulsory while treating the HIV & HBV patient.
6. Plastic Instruments that comes in contact with oral tissue are discarded after use.
7. Instruments or equipments that are difficult to clean are covered with Backed paper, tin foil or clear plastic wrap.
8. Impressions and bite record are disinfected before sending to the lab.
9. Use of medically grade disinfectants are made compulsory

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HOSPITAL WASTE MANAGEMENT:

1. Bio medical waste generated in the hospital is managed as per the Bio Medical Waste Management Rules.
2. To protect the health care workers and general public waste is divided into four categories according to the type of waste.
3. Colour coded bags are provided for different types of waste.
4. Incinerators are provided for medicinal waste, cytotoxic waste.

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