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PROJECT PRAKASH
PRogrammed Approach to Knowledge And Sensitisation on Hepatitis

VIRAL HEPATITIS IN DENTISTRY

Spreading Smiles Not Hepatitis

Phyisicians Handbook

VIRAL HEPATITIS IN DENTISTRY

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FOREWORD

The global response to viral hepatitis entered a new phase in 2015, when the UN General Assembly adopted the 2030 Agenda for Sustainable Development, which called on the international community to combat hepatitis. The following year, the World Health Assembly adopted WHO's first "Global Health Sector Strategy on viral hepatitis", with elimination as its overarching vision. Also, The National Viral Hepatitis Control Program has been launched by Ministry of Health and Family Welfare, Government of India on the occasion of the World Hepatitis Day, 28th July 2018.

Viral hepatitis is a major public health challenge that requires an urgent response. The disease caused 1.34 million deaths in 2015, a number comparable to annual deaths caused by tuberculosis and higher than those caused by HIV. In India too, each year, 1.5 lakh people die of hepatitis B & C, which affects almost 60 million Indians.

Taking cognizance of this, Institute of Liver and Biliary Sciences and Cipla Foundation has joined hands to address the challenge through a set of comprehensive efforts. Project PRAKASH stands for PRogrammed Approach to Knowledge And Sensitization on Viral Hepatitis & aims for baseline assessment of existing capacity of healthcare delivery system in management of Viral Hepatitis and to build the capacity of existing healthcare workforce in Viral hepatitis management.

And to create awareness amongst dental professionals regarding dental treatment of patients with viral hepatitis & liver diseases, we are to oranise one day workshops's "Viral Hepatitis in Dentistry" under the umbrella of Project PRAKASH. It is an integrated initiative for the prevention and control of viral hepatitis in India which would further contribute to achieve Sustainable Development Goal (SDG) 3.3 which aims to ending viral hepatitis by 2030.

It gives me immense pleasure to share that in a span of one and half year only we have been successful in training more than 6000 healthcare professionals under the project in more than 11 states of the country.

Prevention is an important aspect in controlling the spread of this viral infection as an epidemic. Knowing facts, having proper awareness, and proper behavior and attitude toward clinical aspects of the infection and toward the patients are critical to prevent the spread of these infections. This handbook for dental professional's is an effort to enable dentists to safeguard themselves and to prevent cross-infection.

I am certain that these efforts will go a long way in addressing this public health challenge & building the capacity of existing healthcare workforce in management of viral hepatitis.

Dr. S.K. Sarin
Director, ILBS

ACKNOWLEDGEMENT

We would like to express our gratitude to the Director, ILBS; Dr. Shiv Kumar Sarin for being a wonderful and tremendous mentor for us. Thank you for encouraging us and providing your invaluable support.

We would also like to thanks all the **ILBS faculty and all the speakers** for your continuous support to the project. The success of the project would not have been possible without the knowledge, enthusiasm, zeal and cooperation that we always receive from you. Project PRAKASH has been successfully able to establish Hepatitis Induction Program and is conducting training programs for Doctors, Nurses and Lab Technicians on regular basis.

Special thanks to the **Head, Admin, ILBS Dr. Anil Agarwal** for your guidance and extensive support for the growth of the project.

The preparation of module on Viral Hepatitis in Dentistry consumed huge amount of work, research and dedication which would not have been possible without the dedication of Dr. Sapna Chauhan, Program Co-ordinator, Project PRAKASH. Therefore, we would like to extend our sincere gratitude to her.

Sincere thanks to the **Project Staff, METMU ILBS** that devoted their time and skills in the development of the module and successful implementation of the project.

ILBS AS AN INSTITUTION

Our Vision: To be the premier provider of health care and centre of excellence in competency-based training, skill development and cutting-edge research in Liver, Biliary and Allied Science. The Institute envisions to become a leading Liver University par-excellence.

Our Mission: With patient care as first, our mission is to continuously strive forward for developing a liver care facility second to none internationally, inculcating the best of clinical practices, and ethics, in diagnosis and treatment of liver and related organs.

A centre of excellence for diagnosis, cure and prevention of liver and biliary diseases and a leading university

To achieve this the main goal is to strive and maintain the highest standards of healthcare with state-of-the-art facility, a resource centre for specialized education, training and dedicated translational research to find new cures for liver and biliary disease. The institute continuously strives forward to be torchbearer of not only healthcare and education but also to actively participate in policy making and reaching out to masses at the grassroot for prevention of liver diseases.

ILBS started in 2010 as an autonomous institution with a generous support from the Government of National Capitol Territory of Delhi (GNCTD) as teaching hospital with a monothematic theme of liver and Biliary Sciences. Despite the odds it faced, in a short span of 8 years, the Institute of Liver and Biliary Science has achieved a national status of not only a specialized referral centre much sought after for best of the liver care treatment, but also a preferred destination of students to get advanced training in areas of liver and allied sciences. In fact, ILBS is a unique amalgamation of medical university with a hospital system management of corporate style.

Pillars of Liver Care: The four pillars of ILBS are

1. patient care,
2. teaching,
3. training and
4. research.

Our Values:

1. **Integrity**
2. **Dedication**
3. **Excellence**
4. **Team Work**
5. **Focused**

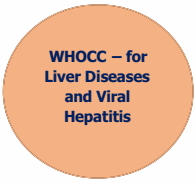
With a dedicated best of the clinical minds in field of hepatology, it is the only hospital in nation that has a dedicated paediatric hepatology department caring for the children affected with familial liver diseases. ILBS is one of the first in nation to specialize in GI bleed, hepatic coma, liver failure, liver dialysis unit and dedicated team in liver nutrition. The hepatic hemodynamic, trans jugular liver biopsies and hepatobiliary EUS procedures done in ILBS are amongst the highest in country. From a humble beginning of few transplants, ILBS has crossed a milestone of doing almost 100 transplants in a year.

For those awaiting transplant, the Institute has dedicated unit on artificial liver support system and ray of hope for patients are the specialized protocols on GCSF+erythropientin treatment and faecal microbiome transplant. Liver care will remain neglected without the kidney care and ILBS is proud of its Liver-Kidney critical care and kidney transplant unit. The Institute has got both the NABH and NABL accreditation.

Governance System: The Institute practices a closely-knit system of intra-departmental "inclusive and ethical governance" which has immensely benefited the organization in quick decision making and translation into meaningful and timely implementation, which is highly essential for the holistic growth of this Organization.

ILBS has achieved the distinction of being a **World Health Organization Collaborating Centre (WHOCC) on liver disease and second on viral hepatitis.**

The collaboration between ILBS and WHO would enable systematic collection and analysis of community and hospital-based data on hepatitis A, B, C and E, including various aspects of transmission, prevention, and treatment specific to low resource settings in India. Such data would help WHO in developing guidelines and recommendations on these aspects of diseases and formulate policies accordingly. The collaborating centre will also serve as a resource center for training of different categories of healthcare workers in relation to viral hepatitis and liver diseases.



1. Generate data, evidence-based policies
2. Capacity through quality training
3. Prevent transmission,
4. Increased access to treatment

PROJECT PRAKASH

There are many challenges to prevent and eradicate viral hepatitis from the country. Health professionals in the country needs to join hands towards achieving the target of viral hepatitis elimination by 2030, a global call for action by WHO.

The above can only be achieved by building capacity in the existing healthcare delivery system by imparting knowledge of screening, diagnosis, and management for treatment of viral hepatitis amongst healthcare providers.

It is being felt that the knowledge of viral hepatitis, especially B and C is necessary for our doctors, nurses and lab technicians for better discharge of their duties to protect the patients and themselves from these infections.

Project PRAKASH has been conceptualised and a delivery mechanism has been formalised so that comprehensive knowledge sharing among technical experts from ILBS and healthcare professionals across India could be done at a common platform.

What is Project PRAKASH:

Project PRAKASH stands for (PRogrammed Approach to Knowledge And Sensitization on Hepatitis), is a training program for primary care physicians, and paramedical professionals to provide comprehensive training in screening, diagnostic and therapeutic services for Viral Hepatitis to general and high-risk population of the country.

The program was initiated in August 2017 with an aim to increase the knowledge of health care professionals and to better train them in treating patients with viral hepatitis. In a short span, the project has successfully trained more than 5,000 healthcare professionals across the country reaching out to more than 8,000 individuals from 250 hospitals and institutes.

OBJECTIVES: Three main purposes/objective of the project are:

1. To help create a model of awareness and training for healthcare providers.
2. To train primary care physicians and paramedical professionals in treatment and management of viral hepatitis
3. To conduct a quick baseline assessment of existing knowledge, attitude, practices (KAP Study) and capacity of health care delivery system in management of viral hepatitis

COMPONENTS: The project has two components:

HIP (Hepatitis Induction Program), is a one-day training program conducted for healthcare professionals. Especially designed programs are conducted for doctors, nurses and lab technician's basis the knowledge required in VH testing, treatment and management. Didactics lectures on Viral Hepatitis by experts. Some of the topics are Epidemiology, diagnostic approach, treatment, precaution and management of VH, Counselling of patients and Family, NSI and live demonstrations on (Injection safety, Laboratory, Fibro scan procedure, Hemo-dynamic lab etc. Hands on training for technicians on ELISA, CLIA etc.

'Certificate of Participation' is provided to all the participants at the end of session.

HUP (Hepatitis Update Program), a continued e-learning program to track the progress made on the training imparted through HIP and to create a model towards a continued and advanced training on viral hepatitis and other liver ailments.

The HUP is conducted through elms (e-learning management system) consisting of didactic lecture videos by expert, self-learning module, and SAQs at the end of each module. The advantage of elms is that it is not time bound to a date. Participant can attend the session at their own pace.
A 'Certificate of Completion' based on attendance and final assessment will be provided to all the participants.

In a span of 18 months we have successfully trained more than 3500 participants (doctors, nurses and lab technicians) under the project training them in management of patients with viral hepatitis.

CORE TEAM

Dr. S.K.Sarin,
Director, ILBS

Dr. Anil Agarwal,
Head, Admin, ILBS

Arun Prakash,
Asst. Manager, Admin, ILBS

Ms. Akanksha Bansal,
Manager (Projects), ECHO & PRAKASH

Dr. Sapna Chauhan,
Program Coordinator, ECHO & PRAKASH

Vinay Kumar,
Asst. Admin, ECHO & PRAKASH

Ashish Kumar,
Asst. Admin, ECHO & PRAKASH

HEPCARE APP
VIRAL HEPATITIS: FINDING THE MISSING MILLIONS

Knowledge and awareness about hepatitis B and hepatitis C are lacking in members of the public and, most important, in members of specific at-risk populations. Lack of knowledge and awareness about hepatitis B and hepatitis C in the community often leads to misinformation, missing of opportunities for prevention and treatment, and stigmatization of infected populations. The consequences for members of at-risk communities are important in that missing opportunities for prevention can lead to infection of additional people with HBV and HCV. Once infected, they frequently are unaware of their infection and so run the risk of unknowingly infecting others and of not receiving appropriate medical management. Although there have been no large-scale, population-based, controlled studies of community knowledge about hepatitis B and hepatitis C, all published surveys have shown that knowledge about these diseases is sparse.

To overcome this lack of knowledge and to provide accurate information regarding viral hepatitis to general and high-risk population; HepCare App was conceptualised and launched on 28th July 2018 i.e. World Hepatitis Day.

Some of the features of the app are:

1. The app can be used as a ***ready reference material*** by the healthcare professionals to educate the patients and general public on VH (diagnostic and treatment related information)
2. The app can be directly used by general public as information portal on VH.
3. Accessible to all (healthcare professionals, patients and general public)
4. ***Risk Assessment Survey form*** is built in the app for a quick assessment to analyse whether the individual is at risk for getting VH or not.

The app is available on google apps and can be easily downloaded on any smart phone.

BACKGROUND

Dentists are among the most at high risk of exposure of Hepatitis B virus. Reusing local anaesthetics syringes following recapping, and cleaning instruments were the two most important causes of needlestick injuries in dental students and dental hygienists. Currently, vaccination is the most important method of preventing HBV infection. The number of vaccinated dentists is increasing constantly. Unvaccinated dentists are five times more likely to be infected than vaccinated dentists. Transmission of blood-borne pathogens following an exposure depends on the concentration of virus in the blood or body fluid, the volume of infective material inoculated, the loss of infectivity during transfer of inoculate and the port of entry.

Dental professionals are exposed to a wide variety of microorganisms in the blood and saliva of patients. These microorganisms may cause infectious diseases such as the common cold, pneumonia, tuberculosis, herpes, hepatitis B, and acquired immune deficiency syndrome (AIDS)
Hepatitis A, B, C & D viruses are responsible for most infectious hepatic diseases.

IMPORTANCE OF PREVENTION IN DENTISTRY & INFECTION TO DENTISTS & PATIENTS

IMPORTANCE OF PREVENTION IN DENTISTRY

The recommendation to use universal, precaution systems form a necessity for treating all patients, as though they are infected with HIV, HCV, or HBV. Thus, additional precautions for infected patients are unnecessary. Dental surgeons, who wear glasses and work with ultrasonic and rotary instruments, are aware of the amount of droplet spread of saliva, blood and water because of deposits on their glasses. Blood-borne infections such as HBV have an occupational risk of a percutaneous exposure to HBV as estimated to be 2% for HBeAg- negative and about 30% for HBeAg-positive blood.

Since dentists who perform oral surgical procedures are exposed to blood and saliva, the dental surgery team should wear barriers to protect from contaminating any open wounds on hands and any exposed mucosal surfaces. This includes wearing of gloves, face mask, and eyeglasses, during surgery. The dental staff should continue to wear these protective devices when cleaning instruments and when handling impressions, casts, or specimens from patients. The current climate in today's society regarding infectious diseases, in particular herpes, hepatitis, and HIV infections, dictates that the dental profession must close the door to any possible transmission of infection in the dental surgery and incorporate within their practices accepted infection control techniques.

INFECTIONS TO DENTISTS AND PATIENT'S

The acquisition of Hepatitis B virus infection by health service staffs or from patients is an occupational hazard, which can be estimated by comparing infection rates in health service staff with the general population. During normal dental practice, dentists are at risk of infection from micro-organisms carried by patients. Injuries in dental offices happen because of a confined space, the frequent patient movement and the variety of sharp dental instruments used in normal dental practice.

Universal precautions of infection control apply to blood, other body fluids containing visible blood, semen, and vaginal secretions.

Patient's attendance in dental clinics exposes them to two risks:

First: The probability of cross-infection from one patient to another from an infected dental instrument.

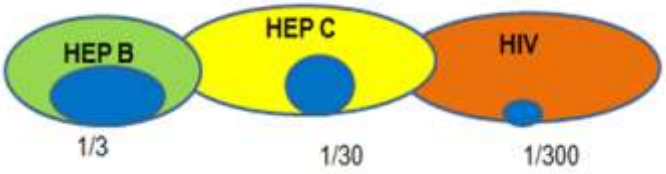
Second: The potential hazard of an infected dentist, whereby the pathogen can be transmitted from the operator to the patient.

CALL TO ACTION

A Call to Action

- Injection practices & Invasive procedures should not provide a pathway for transmission of life threatening infections
- Injection safety is every providers responsibility
- Safe injection practices should be discussed and reviewed frequently

BLOOD BORNE VIRUSES & NSI



- NSIs are **common** and to an extent **inevitable** in health-care workers (HCWs) during execution of their patient care services.
- These events are of concern because of the risk to transmit blood-borne diseases through the passage of the
  - hepatitis B virus (HBV)
  - the hepatitis C virus (HCV), and
  - the Human Immunodeficiency Virus (HIV)
- **Due to NSIs, the risk of infections ranges from as low as 0.2–0.5% for HIV to as high as 3–10% for HCV and 40% for HBV**

Unsafe Injection Practices can Lead to Transmission of Life–Threatening Infections

STANDARD PRECAUTIONS

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. These practices are designed to both protect DHCP and prevent DHCP from spreading infections among patients. Standard Precautions include —

1. Hand hygiene.
2. Use of personal protective equipment (e.g., gloves, masks, eyewear).
3. Respiratory hygiene / cough etiquette.
4. Sharps safety (engineering and work practice controls).
5. Safe injection practices (i.e., aseptic technique for parenteral medications).
6. Sterile instruments and devices.
7. Clean and disinfected environmental surfaces.

Key HAND HYGIENE For Dental Settings

1. Perform hand hygiene -
    a. When hands are visibly soiled.
    b. After barehanded touching of instruments, equipment, materials, and other objects likely to be contaminated by blood, saliva, or respiratory secretions.
    c. Before and after treating each patient.
    d. Before putting on gloves and again immediately after removing gloves.
2. Use soap and water when hands are visibly soiled (e.g., blood, body fluids); otherwise, an alcohol-based hand rub may be used.

Personal Protective Equipment(PPE):

Personal protective equipment refers to wearable equipment that is designed to protect DHCP from exposure to or contact with infectious agents.

These include gloves, face masks, protective eye wear, face shields, and protective clothing (e.g., reusable or disposable gown, jacket, laboratory coat). Examples of appropriate use of PPE for adherence to Standard Precautions include—

- Use of gloves in situations involving possible contact with blood or body fluids, mucous membranes, non-intact skin (e.g., exposed skin that is chapped, abraded, or with dermatitis).
- Use of protective clothing to protect skin and clothing during procedures or activities where contact with blood or body fluids is anticipated.

- Use of mouth, nose, and eye protection during procedures that are likely to generate splashes or sprays of blood or other body fluids.

Hand hygiene is always the final step after removing and disposing of PPE. Training should also stress preventing further spread of contamination while wearing PPE by:

- Keeping hands away from face.
- Limiting surfaces touched.
- Removing PPE when leaving work areas.
- Performing hand hygiene.

Key Recommendations for PERSONAL PROTECTIVE EQUIPMENT (PPE) in Dental Settings:

1. Provide sufficient and appropriate PPE and ensure it is accessible to DHCP.
2. Educate all DHCP on proper selection and use of PPE.
3. Wear gloves whenever there is potential for contact with blood, body fluids, mucous membranes, non-intact skin or contaminated equipment.

- Do not wear the same pair of gloves for the care of more than one patient.
- Do not wash gloves. Gloves cannot be reused.
- Perform hand hygiene immediately after removing gloves.

4. Wear protective clothing that covers skin and personal clothing during procedures or activities where contact with blood, saliva.
5. Wear mouth, nose, and eye protection during procedures that are likely to generate splashes or spattering of blood or other body fluids.
6. Remove PPE before leaving the work area.

To help minimize the risk for cross-contamination, PPE should always be donned (put on) and doffed (removed) in the following sequence:	
DONNING	**DOFFING**
Gown/protective apparel	Gloves
Face mask or respirator	Protective eyewear or faceshield
Protective eyewear or faceshield	Gown or protective apparel
Gloves	Face mask or respirator

Key Recommendations for RESPIRATORY HYGIENE/COUGH ETIQUETTE in Dental Settings:

1. Implement measures to contain respiratory secretions in patients and accompanying individuals who have signs and symptoms of a respiratory infection, beginning at point of entry to the facility and continuing throughout the visit.
    a. Post signs at entrances with instructions to patients with symptoms of respiratory infection to—
        i. Cover their mouths/noses when coughing or sneezing.
        ii. Use and dispose of tissues.
        iii. Perform hand hygiene after hands have been in contact with respiratory secretions.
    b. Provide tissues and no-touch receptacles (tweezer) for disposal of tissues.
    c. Provide resources for performing hand hygiene in or near waiting areas.
    d. Offer masks to coughing patients and other symptomatic persons when they enter the dental setting.
    e. Provide space and encourage persons with symptoms of respiratory infections to sit as far away from others as possible. If available, facilities may wish to place these patients in a separate area while waiting for care.

Key Recommendations for SHARPS SAFETY in Dental Settings :

1. Consider sharp items (e.g., needles, scalers, burs, lab knives, and wires) that are contaminated with patient blood and saliva as potentially infective and establish engineering controls and work practices to prevent injuries.

2. Do not recap used needles by using both hands or any other technique that involves directing the point of a needle toward any part of the body.

3. Use either a one-handed scoop technique or a mechanical device designed for holding the needle cap when recapping needles (e.g., between multiple injections and before removing from a non-disposable aspirating syringe).

4. Place used disposable syringes and needles, scalpel blades, and other sharp items in appropriate puncture-resistant containers located as close as possible to the area where the items are used.

When Needle-stick Injuries Occur?

- **Needle-stick injuries are most often associated with the following activities**
  - Sudden patient movement during the injection
  - Recapping needles
  - Transferring body fluid between containers
  - Failing to dispose off used needles properly in a puncture-proof safety box

Key Recommendations for SAFE INJECTION PRACTICES in Dental Settings:

1. Prepare injections using aseptic technique2 in a clean area.

2. Disinfect the rubber septum on a medication vial with alcohol before piercing.

3. Do not use needles or syringes* for more than one patient (this includes manufactured prefilled syringes and other devices such as insulin pens).

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.

5. Use single-dose vials for parenteral medications when possible.

6. Do not use single-dose (single-use) medication vials, ampules, and bags or bottles of intravenous solution for more than one patient.

7. Do not combine the leftover contents of single-use vials for later use.

8. The following apply if multidose vials are used-

   a. Dedicate multidose vials to a single patient whenever possible.
   b. 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.

c. If a multidose vial enters the immediate patient treatment area, it should be dedicated for single-patient use and discarded immediately after use.
d. Date multidose vials when first opened and discard within 28 days, unless the manufacturer specifies a shorter or longer date for that opened vial.

9. Do not use fluid infusion or administration sets (e.g., IV bags, tubing's, connections) for more than one patient.

How Can You Protect Yourself?

- WHO recommends that all HCWs should be vaccinated against hepatitis B.
- Plan safe handling and disposal of needles before using them
- Never re-cap needles.
- Never open a safety box/Puncture proof container.
- Store it in a safe and secure place until it is ready for final disposal
- Never fill a safety box more than three-quarters full.

How Can We Protect Others ?

- Ensure that all staff in your area are educated on the risks of needle-stick injuries and given appropriate training. (housekeeping and sanitation workers)
- Take time to explain risks, especially if you observe risky or dangerous procedures or behaviors among your colleagues.
- Ensure waste is disposed off properly within the facility.

Key Recommendations for ENVIRONMENTAL INFECTION PREVENTION AND CONTROL in Dental Settings:

1. Establish policies and procedures for routine cleaning and disinfection of environmental surfaces in dental health care settings.
   a. Use surface barriers to protect clinical contact surfaces, particularly those that are difficult to clean (e.g., switches on dental chairs, computer equipment) and change surface barriers between patients.

   b. Clean and disinfect clinical contact surfaces that are not barrier-protected with an EPA-registered hospital disinfectant after each patient. Use an intermediate-level disinfectant (i.e., tuberculocidal claim) if visibly contaminated with blood.

2. Select EPA-registered disinfectants or detergents / disinfectants with label claims for use in health care settings.

3. Follow manufacturer instructions for use of cleaners and EPA-registered disinfectants (e.g., amount, dilution, contact time, safe use, disposal)

DISINFECTION OF DENTAL UNIT AND ENVIRONMENTAL SURFACES

Clinical Contact Surfaces **House Keeping Surfaces**

CRITICAL INSTRUMENTS

- Penetrate MUCOUS MEMBRANES OR CONTACT BONE, BLOODSTREAM, or other normally sterile tissues
- Heat sterilization between uses or use sterile single use, Disposable devices
- Examples include Surgical instruments, surgical blades, periodontal scalers and surgical dental burs

SEMI-CRITICAL INSTRUMENTS

- Contact MUCOUS MEMBRANES but do NOT PENETRATE SOFT TISSUE
- **HEAT STERILIZE or HIGH-LEVEL DISINFECT**
- Examples: **DENTAL MOUTH MIRRORS, AMALGAM CONDENSERS, &**

DENTAL HANDPIECES
NONCRITICAL INSTRUMENTS AND DEVICES

- Contact intact SKIN
- Clean and disinfect using a LOW TO INTERMEDIATE LEVEL DISINFECTANT
- Examples: X-RAY HEADS, FACEBOWS, PULSE-OXIMETER, BLOOD PRESSURE CUFF

Prevent environmental contamination

All procedures and manipulation of potentially infective materials should be performed carefully to minimize droplets, splatters and aerosols

BLOODBORNE PATHOGENS & AEROSOLS

In dentistry, the diseases we are most concerned about are those caused by bloodborne pathogens (BBP). Examples are hepatitis B and C and human immunodeficiency virus (HIV). Transmission may occur from a patient to a dental health care provider (DHCP), from a DHCP to a patient, or from one patient to another patient. The best way to prevent the transmission of BBP is adherence to Standard Precautions.

What constitutes an occupational exposure in dentistry?

Occupational exposures can occur through needlesticks or cuts from other sharp instruments contaminated with an infected patient's blood (including blood contaminated saliva) or through contact of the eye, nose, mouth, or skin with a patient's blood.

DO'S & DON'TS OF NSI

Do's - When NSI Occur

- Remove gloves, if appropriate.
- Wash wound site thoroughly with running water and soap.
- Irrigate thoroughly with running water or distilled water if splashes have gone into the eye or mouth.
- Spit out any fluid - rinse the mouth with water and spit it out again.
- Immediately seek medical evaluation from a qualified health care professional1 because, in some cases, postexposure treatment may be recommended and should be started as soon as possible.

Don'ts - When NSI Occur

- Do not panic!
- Do not reflexively place pricked finger into mouth.
- Do not squeeze blood from wound, this cause trauma and inflammation, increasing risk of infection transmission
- Do not apply alcohol, betadine or any other chemical on the wound surface as this may further increase trauma.

How can occupational exposures be prevented?

Use of sharp instruments and needles:

- All sharp instrument should be disposed of in designated puncture resistant containers.
- Orthodontics wire and bands are also considered sharps, and disposed off accordingly.
- Unsheathed needles should not remain on the instrument tray or in operating.

POST EXPOSURE PROPHYLAXIS

PEP (First Aid treatment)

Contaminated wound	Contaminated Intact Skin
DO NOT squeeze Encourage bleeding from the skin wound and wash injured area with soap and water	Wash the area under running water with soap
Contaminated Eyes	**Contaminated Mouth**
Gently rinse the eyes wide open with distilled water.	Spit out any fluid - rinse the mouth with water and spit it out again.

Baseline Blood Testing

Exposure	Anti HIV 1 & 2	HBsAg	Anti HCV
Health care Worker	To be done if source is positive	To be done if source is positive	To be done if source is positive
Source	To be repeated if results are more than 3 month old	To be repeated if results are more than 3 month old	To be repeated if results are more than 3 months old
Other tests that can be done: HIV viral load, HCV viral load, Serum ALT levels, HBV viral load, Anti HBS titer.			

Post Exposure Prophylaxis for HIV
· Risk after needle stick: Ranges from 0.2 – 0.5% depending on mechanism of injury · A 28-day course of a combination of three antiretroviral drugs determined on a case-by-case basis · Act as quickly as possible, preferably within hours to initiate prophylaxis. ❖ **Drug Regimen** · For adults and adolescents: Fixed Dose Combination of Tenofovir (300 mg) +Lamivudine (300 mg) + Efavirenz (600mg) for 4 weeks (NACO) · Tenofovir disoproxil fumarate + Emtricitabine plus either Raltegravir or Dolutegravir (WHO)

PEP for Hep B

Exposed Person	Treatment when source is found to be		
	HBsAg- positive	**HBsAg-negative**	**Source not tested or unknown**
Unvaccinated	HBIG X 1* & initiate Hepatitis B vaccine	Initiate HB vaccine	Initiate Hepatitis-B vaccine
Previously vaccinated known responder	Test for anti-HBs 1. If adequate, no treatment 2. If inadequate, HB vaccine booster dose	No treatment	No treatment
Previously vaccinated known non responder	HBIG x 2 or HBIG X 1 plus 1 dose of HB vaccine	No treatment	If known high-risk source, may treat as if source were HBsAg-positive
Response Unknown	Test for anti-HBs 1.If inadequate, HBIG X 1 plus Hepatitis-B vaccine booster dose 2. If adequate, no treatment	No treatment	Test for anti-HBs 1 If inadequate, Hepatitis-B vaccine booster dose 2. If adequate, no treatment

Post Exposure Prophylaxis for Hep C

- No prophylaxis available
- In case source is HCV positive test of HCW is recommended for Anti HCV antibodies and baseline serum ALT test.
- Follow up recommended at 1, 6 months and one year by Anti HCV antibody test.
- Refer to a Hepatologist.

SUMMARY

- Get Vaccinated against Hepatitis B & get your AntiHBs Titres checked.
- Treat all patients as potentially infectious.
- Follow safe injection practices and infection control protocol.
- Don't ignore if any NSI occur.
- Handle the sharps with extra caution.
- Spread awareness about Viral Hepatitis.

REFERENCES

PATIENT SECURITY AND COPYRIGHT ISSUES

Acknowledgement and Disclosure Statement

The authors sincerely appreciate the kind cooperation and expertise of all involved universities, institutions and organizations. We extend special thanks to Cipla Foundation who has provided financial grant through their charitable donation program. The grant is used only for the purpose of education, training and fulfilment of our research and educational activities. There are no conflicts of interest or financial ties to disclose. We express our gratitude and appreciation to all the staff at various departments at ILBS who could only make this project PRAKASH so special.

Patient Security & Copyright Issues

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PROJECT PRAKASH

Institute of Liver and Biliary Sciences

An Autonomous Society Under Govt. Of NCT of Delhi

D-1, Vasant Kunj, New Delhi-110070

Tel.: + 91 11 46300000, Extn: 16017,16501

Liver Helpline: 1 800 11 5354, Web: www.ilbs.in