

Penn State University College of Medicine

Blood Borne Pathogen Infection Policy for Medical Students

This policy closely complies with the most current evidence contained within the SHEA (Society for Healthcare Epidemiology of America) guideline and CDC (Centers for Disease Control) Recommendations for Management of Medical Students Who are Infected with Hepatitis B Virus, Hepatitis C Virus and/or Human Immunodeficiency Virus.

Purpose

To promote patient safety while providing risk management and practice guidance to blood borne pathogen infected medical students.

Students are;

1. required to comply with College of Medicine Hepatitis B and Blood Borne Pathogen Policies and Requirements.
2. aware that they will be required to participate in the care of patients with various communicable diseases or infections including Hepatitis, HIV and AIDS.
3. ethically responsible for knowing their serological status with respect to blood borne pathogens and must report a positive test the Associate Dean for Clinical Education who will inform the Clerkship Director if indicated. Confidentiality concerning the Student's state of health will be maintained to the greatest extent possible. An Expert Review Panel may be consulted for guidance, keeping the name of the student confidential if possible. Disclosure may be necessary if there is reason to believe that the infected individual has declined or has failed to follow the provisions of this policy in regards to personal notification of appropriate personnel or fails to respond within a reasonable amount of time to a recommendation that he/she personally notify the person in charge of a particular clinic or department.
4. expected to be in a state of health such that they may participate in the academic programs, including patient care, without posing a risk to themselves or others.
5. obligated to comply with Hepatitis B immunization policies and requirements as outlined by the College of Medicine and Student Health Department. This policy requires that all students receive the hepatitis B vaccine and test positive on the subsequent quantitative serology titer. Further testing is provided for those students who still do not respond to a second series of the vaccine.

6. mandated to comply with the Communicable Disease Protocol as outlined by the College of Medicine according to the most current CDC recommendations. Hepatitis C and HIV testing for high risk students will be performed at the request of Student Health. Repeat testing will be done, if necessary, and the Review Panel will evaluate if indicated. All students may have testing done at their request.
7. required to use Standard Precautions and Additional Practices in order to prevent the spread of blood borne pathogens and other infections. These practices are reviewed annually with all students under the Infection Control Procedures.
8. required to disclose, as per school policy, if they are potentially exposed to a blood borne pathogen in a clinical setting and provide a blood specimen if indicated. This information is reviewed annually under the Invasive Incident Policy.

The Medical School Faculty will:

1. provide education and training to all students in appropriate methods to prevent the transmission of communicable diseases, including blood borne pathogens, that is consistent with the CDC'S guidelines for standard and additional precautions. This infection control training will be reviewed during the student's initial orientation and annually thereafter.
2. maintain confidentiality to the greatest extent possible regarding information disclosed by students concerning their serological status and disclose relevant information only with appropriate consent.

The Expert Review Panel will;

1. advise the student to apply for ADA (disability) status based on their medical condition which then allows the Panel to design accommodations to prevent these students from participating in Exposure Prone Procedures (EPPs), such as those encountered in Surgery or OB/GYN, without jeopardizing their medical education.
2. designate contact personnel in departments that perform EPPs. Such personnel will be notified by the student of his/her disease status, if appropriate, and any applicable restrictions that may apply as recommended by the Review Panel according to the CDC Guidelines.
3. develop a plan of counseling and advice to assist the student regarding clinical practice and career choices. This information will be discussed with the student by the Associate Dean of Student Affairs and/or the Director of Student Health.
4. evaluate the student's status and continued testing and/or treatment as indicated in the guidelines outlined in this policy.

Medical Students Infected with Blood Borne Pathogens:

1. are professionally and ethically obligated to inform the Associate Dean for Student Affairs and Admissions of any blood borne infection.
2. may pursue their studies only as long as their continued involvement does not pose a health or safety hazard to themselves or others; it is expected that all students can be accommodated as needed with some modification to their program of study to reduce the risks of blood borne pathogen transmission;
3. will have their condition reviewed and monitored by an Expert Review Panel at the request of the Associate Dean for Student Affairs and Admissions. The members of the Review Panel may be selected from , but not necessarily limited to, the Associate Dean , an infectious disease and hospital epidemiology specialist, liver disease specialist (gastroenterologist / hepatologist) with expertise in blood borne pathogens and their infectivity, the Student Health Director, a person with Bioethics experience and legal counsel.
4. may have clinical duties or clinical exposure modified, limited or abbreviated based on recommendations from an Expert Review Panel as outlined in the CDC guidelines – particularly as it relates to the performance of exposure prone procedures and the status of the blood borne infection (i.e. viral loads etc.);
5. required to immediately disclose if he/she accidentally exposes a patient to their blood borne pathogen in a clinical setting; pre-notification to patients is not suggested.
6. must be offered advice and counseling that will assist him or her regarding clinical practice and career choices; and
7. have the right to appeal decisions made by the Associate Dean or Expert Panel by submitting, in writing or in person, a proposed amendment to the decision and the rationale supporting such amendment. The student may submit additional documentation from his/her personal physician or other healthcare provider in support of their appeal. In the case where the student's appeal is denied by the Associate Dean of Student Affairs or Expert Panel, the student may engage in the Student Appeal Procedure of his/her University to submit any additional appeals.

Medical Students who are potentially exposed to a Blood Borne Pathogen are:

1. required to seek medical attention as soon as possible after the event as per the School's Policy for HIV rapid testing and post exposure prophylaxis if indicated;
2. Required to report and document occurrence as per the Student Health Policy;
3. Required to follow post exposure testing and treatment. This information, including testing of the source patient, is outlined in the Student Health Invasive Incident Policy and reviewed annually with students.

Definitions:

1. **Blood borne disease:** a disease caused by a microbial agent capable of being transmitted via contact with the blood of an infected individual. Most notably, this includes the human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV).
2. **Exposure prone procedures:** Invasive procedures where there is the potential for direct contact between the skin (usually a finger or thumb) of the student and sharp instruments, needle tips, or sharp tissues (spicules of bone) in body cavities, wounds, or in poorly visualized, confined anatomical sites.
3. **Non – Exposure prone procedures (NEPP):** Procedures where hands and fingers of the student are visible and outside of the body at all times and procedures or internal examinations that do not involve possible injury to the health-care person's hand by sharp instruments and/or tissues are considered NEPP, provided routine infection prevention using Standard Precautions are adhered to at all times.

Examples of such NEPPs :

1. the drawing of blood
2. setting up and maintaining intravenous lines or central lines provided that there has been no skin tunneling and the procedure is performed in a non – exposure prone manner
3. routine oral, vaginal or rectal examinations
4. minor suturing on surface of body
5. the incision of external abscesses or similar lesions

General Recommendations

1. Students should not be prohibited from participating in patient care activities solely on the basis of their blood borne pathogen infection. Viral load burden may determine if a student should be restricted from performing certain exposure prone procedures.
2. Using Standard Precautions, the infected student may perform routine physical examinations provided there is no evidence of open or healing wounds, or eczema on the student's hands.
3. If the skin of the hands is intact, and there are no wounds or skin lesions, then in examining a body orifice, whether oral, vaginal or rectal, the student must wear gloves as per Standard Precautions.
4. If the skin of the hands is not intact, whether from a healing laceration, or from any skin condition interfering with the normal protection afforded by intact skin, or cannot be covered with an appropriate barrier, then the affected student should not provide direct contact until they have received effective treatment and the condition is resolved.
5. A decision as to whether an affected student should continue to perform a procedure which in itself is not exposure prone should take into consideration the risk of complications arising which might necessitate the performance of an exposure prone procedure.
6. It is recognized that infection control precautions are not perfect. However, based on the nature of NEPPs and agent specific guidelines outlined in this document, it is expected that the risk of transmission event occurring is low and if an event were to occur, remedial action can further minimize the risk to the patient.

Summary of Recommendations for Managing Medical Students Infected with Hepatitis B (HBV), Hepatitis C (HCV), and/or Human Immunodeficiency Virus (HIV) as indicated by current SHEA Guidelines and CDC Recommendations.

Virus, Circulating Viral Burden	Categories of Clinical Activities	Recommendations	Testing Activities
HBV			
<10 ⁴ GE/ml	Categories I, II, and III	No Restrictions	Twice per Year
≥10 ⁴ GE/ml	Categories I and II	No Restrictions	1*
≥10 ⁴ GE/ml	Category III	Restricted	1*
HCV			
<10 ⁴ GE/ml	Categories I, II and III	No Restrictions	Twice per Year
≥10 ⁴ GE/ml	Categories I and II	No Restrictions	1*
≥10 ⁴ GE/ml	Category III	Restricted	1*
HIV			
<5x10 ² GE/ml	Categories I, II and III	No Restrictions	Twice per Year
≥5x10 ² GE/ml	Categories I and II	No Restrictions	1*
≥5x10 ² GE/ml	Category III	Restricted	1*

GE= genome equivalents

1*= As determined by expert provider

Infected Students may conduct exposure prone procedures if a low or undetectable viral load is documented by regular testing by the provider monitoring his/her disease status at least every 6 months unless higher levels require more frequent testing; for example, as drug therapy is added or modified or testing is repeated to determine if elevations above a threshold are transient. Anonymous Viral load testing results should be submitted to the Review Panel by the monitoring provider in order to ensure confidentiality for the Student. Restrictions and subsequent monitoring, if warranted, will be recommended by the Review Panel in accordance with the guidelines outlined in this policy and the information will be conveyed to the student by the Associate Dean and /or the monitoring provider.

These recommendations provide a framework within which to consider such cases; however, each case is sufficiently complex that each should be independently considered in context by the Expert Review Panel.

No restrictions are recommended so long as the Infected Student;

1. is not detected as having transmitted infection to patients;
2. obtains advice from the Expert Review Panel about continued practice;
3. undergoes follow-up care routinely by a provider who has expertise in the management of his/her infection, (e.g. Infectious Disease physician or Hepatologist), and allows his/her provider to communicate with the Expert Review Panel about his/her clinical status, and undergoes testing every 6 months to demonstrate the maintenance of a viral burden of less than the recommended threshold;
4. practices optimal infection control precautions and strictly adheres to the recommended practices, including the routine use of double-gloving for category II and III procedures and frequent glove changes , particularly if performing technical tasks known to compromise glove integrity such as placing sternal wires.

Categorization of Health Care Associated Procedures According to Level of Risk for Blood Borne Pathogen Transmission as Outlined in the Current SHEA Guidelines and CDC Recommendations:

Category I: Procedures with minimal risk:

1. Regular history taking and/or physical, including routine gloved oral, vaginal or rectal examinations;
2. Minor surface suturing;
3. Elective peripheral phlebotomy^a;
4. Lower gastrointestinal tract endoscopic procedures, such as sigmoidoscopy and colonoscopy;
5. Hands-Off supervision during surgical procedures and computer-aided remote robotic surgical procedures; and
6. Psychiatric evaluations^b

Category II; Procedures for which bloodborne virus transmission is theoretically possible but unlikely:

1. Locally anesthetized ophthalmologic surgery;
2. Locally anesthetized operative and prosthetic procedures;
3. Minor local procedures (e.g., skin excision, abscess drainage, biopsy, and use of laser) under local anesthesia, often under bloodless conditions;
4. Percutaneous cardiac procedures (e.g., angiography and catherization);
5. Percutaneous and other minor orthopedic procedures;
6. Subcutaneous pacemaker implantation;
7. Bronchoscopy;
8. Insertion and maintenance of epidural and spinal anesthesia lines;
9. Minor gynecological procedures (e.g. dilation and curettage, suction abortion, colposcopy, insertion and removal of contraceptive devices and implants, and collection of ova);
10. Male urological procedures, excluding transabdominal intrapelvic procedures;
11. Minor vascular procedures (embolectomy and vein stripping);
12. Amputations, including major limbs (e.g. hemipelvectomy and amputation of legs or arms) and minor amputations of fingers, toes, hands or feet;
13. Breast augmentation or reduction;

14. Minimum exposure plastic surgical procedures (e.g., liposuction, minor skin resection for reshaping, face lift, brow lift, blepharoplasty, and otoplasty) total and subtotal Thyroidectomy and/or biopsy;
15. Endoscopic ear, nose and throat surgery and simple ear and nasal procedures such as stapedectomy, stapedotomy, and insertion of tympanotomy tubes;
16. Ophthalmic surgery;
17. Assistance with uncomplicated vaginal delivery^c;
18. Laparoscopic procedures;
19. Thoracoscopic procedures^d;
20. Nasal endoscopic procedures^e;
21. Routine arthroscopic procedures^f;
22. Plastic surgery^g;
23. Insertion of, maintenance of and drug administration into arterial and central venous lines;
24. Endotracheal intubation and use of laryngeal mask; and
25. Obtainment and use of venous and arterial access devices that occur under complete antiseptic technique, using Standard Precautions, “no sharp” technique, and newly gloved hands.

Category III; Procedures for which there is definite risk of blood borne virus transmission or that have been classified previously as “exposure prone”:

1. General surgery, including nephrectomy, small bowel obstruction, cholecystectomy, subtotal thyroidectomy and elective abdominal surgery;
2. Cardiothoracic surgery, including valve replacement, coronary artery bypass grafting, other bypass surgery, heart transplantation, repair of congenital heart defects, thymectomy and open lung biopsy;
3. Open extensive head and neck surgery involving bones, including oncological procedures;
4. Neurosurgery, including craniotomy, other intracranial procedures, and open-spine surgery;
5. Non-elective procedures performed in the emergency department, including open resuscitation efforts, deep suturing to arrest hemorrhage, and internal cardiac massage;
6. Obstetrical/gynecological surgery, including cesarean section delivery, forceps delivery, hysterectomy, episiotomy, cone biopsy, ovarian cyst removal and other transvaginal obstetrical procedures involving hand - guided sharps;

7. Orthopedic procedures, including total knee arthroplasty, total hip arthroplasty, major joint replacement surgery, open spine surgery and open pelvic surgery;
8. Extensive plastic surgery, including extensive cosmetic procedures (e.g. abdominoplasty and thoracoplasty);
9. Transplantation surgery, except skin and corneal transplantation;
10. Trauma surgery, including open head injuries, facial and jaw fracture reductions, extensive soft tissue trauma and ophthalmic trauma;
11. Interactions with patients in situations during which the risk of the patient biting the Student is significant; for example, interactions with violent patients or patients experiencing an epileptic seizure; and
12. Any open surgical procedure with a duration of more than 3 hours, probably necessitating glove changes.

Note:

- a. If done emergently such as during trauma or resuscitation efforts, peripheral phlebotomy is classified as a category III procedure.
- b. If there is no risk present of biting or violent behavior.
- c. Making and suturing an episiotomy is classified as Category III.
- d. If unexpected circumstances require moving to an open procedure (e.g. laparotomy or thoracotomy), as some of these procedures will become Category III.
- e. If moving to an open procedure is required, these procedures will be classified as Category III.
- f. If opening a joint is indicated and/or use of power instruments (e.g. drills, etc.) is necessary, this procedure will then be a Category III.
- g. A procedure involving bones, major vasculature, and/or deep body cavities will be classified as Category III.

Resources:

1. CDC recommendations for the Management of Hepatitis B Virus Infected Providers and Students. MMWR / Vol. 61 / No. 3 July 6. 2012
2. Updated U.S. PHS Guidelines for Management of Occupational Exposures to HBV, HCV and HIV Recommendations for Postexposure Prophylaxis MMWR / Vol. 50 (RR-11)
3. SHEA Guideline for Management of Healthcare Workers Who are Infected with Hepatitis B Virus, Hepatitis C Virus and/or HIV Virus. *Infection Control and Hospital Epidemiology*. Vol. 31 / No. 3 / 203-232

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