

BLOOD BORNE PATHOGEN INFECTION POLICY

Tilman J. Fertitta Family College of Medicine University of Houston

SUBJECT: Blood Borne Pathogen Infection Policy for Medical Students

I. PURPOSE AND SCOPE

The purpose of this Tilman J. Fertitta Family College of Medicine (TJFFCOM) Policy and Procedure is to promote patient safety while providing risk management, educational and practice guidance to blood borne pathogen infected medical students.

II. POLICY/PROCEDURE

General: This policy complies with the most current evidence contained within the Society for Healthcare Epidemiology of America (SHEA) and Centers for Disease Control and Prevention (CDC) guidelines and recommendations for management of health care providers and students infected with hepatitis B virus (HBV), hepatitis C virus (HCV), and/or human immunodeficiency virus (HIV).

III. DEFINITIONS

- A. 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 infection with HIV, HBV, and HCV.
- B. Exposure prone procedures (EPP): 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 (i.e., spicules of bone) in body cavities, wounds, or in poorly visualized, confined anatomical sites.
- C. Non-exposure prone procedures (NEPP): Provided routine infection prevention using standard precautions are adhered to at all times, 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. Examples of such NEPPs:
 - 1. Drawing blood.
 - 2. Setting up and maintaining intravenous lines or central lines provided 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. Incision of external abscesses or similar lesions.

IV. EXPECTATION OF STUDENTS

- A. Students are required to comply with University of Houston Environmental Health and Safety UH Biological Safety Manual found at <https://uh.edu/ehs/manuals/files/biological-safety-manual.pdf>
- B. Students are expected to be aware they will be required to participate in the care of patients with various communicable and infectious diseases including hepatitis, HIV and acquired immune deficiency syndrome(AIDS).
- C. Students are ethically responsible to know their serological status with respect to blood borne pathogens. Students should report a positive HIV, Hepatitis C or Hepatitis B antigen test to the Technical Advisory Board through the Director of Academic Support. The Director of Academic Support will inform appropriate TJFFCOM personnel based on a "need to know" basis, and as outlined in this policy.
- D. Students are expected to competently fulfill TJFFCOM curricular requirements, including patient care duties, without posing a risk to themselves or others.
- E. Students are obligated to comply with HBV immunization policies and other immunization requirements as outlined by the TJFFCOM .
- F. Students are required to receive the HBV vaccine series and test positive for Hepatitis B surface antibody on subsequent quantitative serology titer. Further testing will be required for students who

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do not respond to a second series of the vaccine.

- G. Students are required to comply with any HBV, HCV, and/or HIV testing reasonably requested by the Environmental Health and Safety (EHS) and/or the Technical Advisory Board (defined in paragraph VII).
- H. Students are required to use standard precautions (and additional precautions as appropriate) when engaging in the clinical care of patients.
- I. Students are required to report any potential exposure to a blood borne pathogen. Within 24 hours of the incident, not later than the next business day, students must contact UH Environmental Health & Safety at ehs@uh.edu to report the incident, and complete a UH Student/Visitor Accident Incident Form <https://uh.edu/risk-management/forms/> and submit a (1) copy to UH Environmental Health & Safety,
- J. Students are responsible for the financial cost of testing and treatment for any exposure.

V. EXPECTATIONS OF COLLEGE OF MEDICINE.

- A. The TJFFCOM will provide education and training to all students regarding appropriate methods to prevent the transmission of communicable diseases, including blood borne pathogens, consistent with the CDC guidelines for standard precautions.
- B. The TJFFCOM will maintain confidentiality to the greatest extent possible regarding information disclosed by students concerning their serological status and disclose relevant student specific information only with appropriate consent or as otherwise outlined in this policy, required for patient safety or by law.

VI. MEDICAL STUDENTS POTENTIALLY EXPOSED TO A BLOOD BORNE PATHOGEN

- A. Medical students who are potentially exposed to a blood borne pathogen (potentially exposed medical students) are required to seek medical attention as soon as possible after the event as per EHS protocol.
- B. Potentially exposed medical students are required to report and document the potential exposure event as described in IV.I. above.
- C. Potentially exposed medical students are required to follow post-exposure testing and treatment. This information, including testing of the source patient, is outlined in UH Biological Safety Manual and reviewed annually with students.

VII. TECHNICAL ADVISORY BOARD

- A. Technical Advisory Board (TAB) may be convened to review, make recommendations, and monitor the status of a student infected with a blood borne pathogen. The members of the board will be appointed by the Dean or designee.
- B. A student infected with a blood borne pathogen should register with the Justin Dart Jr. Student Accessibility Center. The TAB will assist Justin Dart Jr. Student Accessibility Center by making recommendations regarding reasonable academic accommodations. The TAB will utilize CDC and SHEA guidelines regarding appropriate alterations to the learning environment necessary to prevent the student from participating in EPPs, such as those encountered on clinical rotations that involve surgery or other invasive procedures, without jeopardizing the students' medical education. Clinical departments that perform EPPs will also be consulted when determining reasonable accommodations.
- C. Once a letter of accommodations that details the student's restrictions has been prepared by Justin Dart Jr. Student Accessibility Center a copy will be sent to the student and the Director of Academic Support. The Director of Academic Support will transmit the accommodations to the pertinent Clerkship Director.
- D. The TAB will develop a plan of counseling and advice to assist an infected student
- E. The TAB will evaluate the student's status and continued testing and/or treatment as indicated in the guidelines outlined in this policy.

VIII. MEDICAL STUDENTS INFECTED WITH BLOOD BORNE PATHOGENS

- A. Medical students infected with a blood borne pathogen (infected medical students) are professionally and ethically obligated to inform the school through the process described above.

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- B. Infected medical students may pursue their studies only if their continued involvement in the curriculum does not pose a health or safety hazard to themselves or others.
- C. Infected medical students may have their clinical duties or clinical exposure modified, limited, or abbreviated based on recommendations from the TAB and as outlined in CDC guidelines, particularly as clinical duties may relate to the performance of exposure prone procedures and/or based on the status of the student's blood borne infection (i.e., viral loads, etc.).
- D. Infected medical students are required to immediately disclose through an incident report at the clinical affiliate if he/she exposes a patient to their blood borne pathogen in a clinical setting. Pre-notification to patients is not required.

VIII. Appeal process

- A. Infected medical students have the right to appeal recommendations made by the TAB by submitting, in writing, a proposed amendment to the recommendations and the rationale(s) supporting such amendment(s). The student may submit additional documentation from his/her personal physician or other healthcare provider(s) in support of their appeal.
 - 1. Appeals must be submitted to the Student Disability Services Director/Manager within five (5) business days of the student receiving written notification of their letter of accommodations. The Student Disability Services Director/Manager may consult with the TAB on the appeal. A response to an appeal will be forwarded to the student within five (5) business days of receipt of the written appeal.
 - 2. If a student disagrees with the Student Disability Services Director/Manager's decision, they may file a written appeal with the University's ADA/504 Coordinator as described in SAM 01.D.09 (https://uhsystem.edu/compliance-ethics/_docs/sam/01/1d9.pdf)

IX. GENERAL GUIDELINES FOR MEDICAL STUDENTS INFECTED WITH BLOOD BORNE PATHOGENS

- A. Students should not be prohibited from participating in patient care activities solely based on their blood borne pathogen infection. Viral load burden may determine if a student should be restricted from performing certain exposure prone procedures (see paragraph 10).
- B. Using standard precautions, an infected medical student may perform routine physical examinations provided there is no evidence of open or healing wounds, or eczema on the student's hands.
- C. If the skin of the hands is intact and there are no wounds or skin lesions, then in examining a body orifice (oral, vaginal, or rectal), an infected medical student must wear gloves as per standard precautions.
- D. 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, the infected student should not provide direct patient contact until he/she receives effective treatment and the condition is resolved.
- E. Infected students may conduct EPPs if a low or undetectable viral load is documented through regular testing by the provider monitoring the student's disease status at least every six (6) months, unless higher viral levels or other health circumstance requires more frequent testing (e.g., addition or modification of drug therapy testing). Viral load testing results should be submitted to the TAB by the monitoring provider. Learning environment adjustments, restrictions, and subsequent monitoring, if warranted, will be recommended by the TAB in accordance with the guidelines outlined in this policy and that information will be conveyed to the student and/or the monitoring provider.
- F. No additional restrictions are recommended for infected medical students under the following circumstances (other than those outlined herein):
 - 1. The infected medical student follows the policies and procedures outlined by the TJFFCOM regarding clinical practice.
 - 2. The infected medical student maintains regular follow-up care and treatment as directed by a provider who has expertise in the management of his/her infection, (e.g. infectious disease physician or hepatologist), authorizes his/her provider to communicate with the TAB about the

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student's health status, and undergoes testing every six (6) months or as otherwise prescribed to demonstrate the maintenance of a viral burden of less than the recommended threshold.

3. The infected student practices optimal infection control precautions and strictly adheres to the recommended practices, including the routine use of double-gloving for Category II and Category III procedures and frequent glove changes every three (3) hours, particularly if performing technical tasks known to compromise glove integrity.

X. SUMMARY OF RECOMMENDATIONS FOR MANAGING MEDICAL STUDENT INFECTED WITH HBV, HCV, AND/OR HIV AS INDICATED BY CURRENT SHEA GUIDELINES AND CDC RECOMMENDATION

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	Per expert provider
≥10 ⁴ GE/ml	Category III	Restricted	Per expert provider
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	Per expert provider
≥10 ⁴ GE/ml	Category III	Restricted	Per expert provider
HIV			
<5x10 ²	Categories I, II and III	No Restrictions	Twice per Year
≥5x10 ² GE/ml	Categories I and II	No Restrictions	Per expert provider
≥5x10 ² GE/ml	Category III	Restricted	Per expert provider
GE= genome equivalents			

XI. 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

A. Category I: Procedures with minimal risk.

1. Regular history taking and/or physical exam, including routine gloved oral, vaginal, or rectal examinations.
2. Minor surface suturing.
3. Elective peripheral phlebotomy.
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.
6. Psychiatric evaluations.

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- B. Category II: Procedures for which blood borne 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 catheterization).
 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 tympanostomy tubes.
 16. Ophthalmic surgery.
 17. Assistance with uncomplicated vaginal delivery.
 18. Laparoscopic procedures.
 19. Thoracoscopic procedures.
 20. Nasal endoscopic procedures.
 21. Routine arthroscopic procedures.
 22. Plastic surgery.
 23. Insertion, maintenance, and drug administration into arterial and central venous lines.
 24. Endotracheal intubation and use of laryngeal mask.
 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.
- C. 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 (includes making and suturing an episiotomy).
 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

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tissue trauma and ophthalmic trauma.

11. Interactions with patients in situations during which the risk of the patient biting the student is significant (e.g., interaction with violent patients or patients experiencing an epileptic seizure).
12. Any open surgical procedure with a duration of more than three (3) hours, probably necessitating glove changes.

D. Special Circumstances.

1. If done emergently, such as during trauma or resuscitation efforts, peripheral phlebotomy is classified as a Category III procedure.
2. If unexpected circumstances require converting to an open procedure (e.g., laparotomy or thoracotomy), the procedure becomes a Category III.
3. If opening a joint is indicated and/or use of power instruments (e.g., drills, etc.) is necessary, the procedure will then be a Category III.
4. Any procedure involving bones, major vasculature, and/or deep body cavities will be classified as Category III.
5. A decision as to whether an infected student should continue to perform a procedure that is not exposure prone should take into consideration the potential 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 a transmission event occurring is low, and if an event were to occur remedial action can further minimize the risk to patients.

XII. RESOURCES.

- A. CDC recommendations for the Management of Hepatitis B Virus Infected Providers and Students. MMWR / Vol. 61 / No. 3 July 6, 2012
- B. Updated U.S. PHS Guidelines for Management of Occupational Exposures to HBV, HCV, and HIV Recommendations for Post exposure Prophylaxis MMWR / Vol. 50 (RR-11)
- C. 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 March 2010
- D. The Center for HIV Law and Policy. March 2008

Approval History	
<i>Approver</i>	<i>Status</i> <i>Date</i>
Curriculum Committee	Approved February 20, 2023
UH Office of General Counsel	Approved November 10, 2021
Document History	
Date Created	August 2019
Date Last Modified	January 10, 2023
Responsible Office	Office of Student Affairs
Next Scheduled Review Date	February 2025
Stakeholder Communication Method and Date	
Revision History/Purpose	March 24, 2020: structural modifications only