



TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER™

School of Medicine

Operating Policy and Procedure

SOM OP: 40.08, **Blood Borne Pathogen Infection Policy for Medical Students**

PURPOSE: The purpose of this School of Medicine (SOM) Policy and Procedure is to promote patient safety while providing risk management and practice guidance to blood borne pathogen infected medical students.

REVIEW: This SOM Policy and Procedure will be reviewed within each even-numbered fiscal year by the Student Affairs Committee. Revisions will be forwarded to the Office of the Dean for publication.

POLICY/PROCEDURE:

1. **General.** This policy complies with the most current evidence contained within the SHEA (Society for Healthcare Epidemiology of America) and Centers for Disease Control (CDC) guidelines and recommendations for management of health care providers and students infected with Hepatitis B Virus, Hepatitis C Virus, and/or Human Immunodeficiency Virus.
2. **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 the human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (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 (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.
3. **Expectations of Students.**
 - a. Students are required to comply with Texas Tech University Health Sciences Center (TTUHSC) OP 40.01, Health Surveillance Program for TTUHSC.

- 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 AIDS.
- c. Students are ethically responsible to know their serological status with respect to blood borne pathogens and report a positive test to the TTUHSC Office of Institutional Health.
 - 1) Confidentiality regarding a student's health status will be maintained to the greatest extent possible. An Expert Review Panel (defined in paragraph 6) may be consulted for guidance.
 - 2) Disclosure of student's health status may be necessary if there is reason to believe the infected student has declined or failed to follow the provisions of this policy with respect to notification of appropriate personnel or otherwise fails to respond within a reasonable amount of time to a SOM recommendation in accordance with this policy.
- d. Students are expected to be in a state of health such that they may competently fulfill SOM curricular requirements, including patient care duties, without posing a risk to themselves or others.
- e. Students should comply with Hepatitis B immunization policies and other immunization guidelines as outlined by the TTUHSC Office of Institutional Health. These guidelines are in place to meet the needs of SOM Clinical Affiliate requirements necessary for completion of the MD degree program.

Students should receive the Hepatitis B vaccine series and test positive on subsequent quantitative serology titer. Further testing will be provided for students who do not respond to a second series of the vaccine.
- f. It is necessary for students to follow the guidelines for any Hepatitis B, Hepatitis C and/or HIV testing reasonably requested by the TTUHSC Office of Institutional Health and/or the Expert Review Panel (defined in paragraph 6), these guidelines are in place based on SOM Clinical Affiliate requirements.
- g. Students are required to use Standard Precautions (and additional precautions as appropriate) when engaging in the clinical care of patients.
- h. Students are required to disclose any instance in which they are potentially exposed to a blood borne pathogen in a clinical setting and provide a blood specimen if indicated.

4. Expectations of the School of Medicine.

- a. The SOM 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 Centers for Disease Control guidelines for standard precautions. Additional precaution procedures will be reviewed with individual students by the Office of Institutional Health on an as needed and case by case basis.
- b. The TTUHSC Office of Institutional Health 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.

5. 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 TTUHSC OP 40.01, Health Surveillance Program for TTUHSC.
- b. Potentially exposed medical students are required to report and document the potential exposure event as per TTUHSC OP 40.01.
- 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 TTUHSC OP 40.01 and reviewed annually with students.

6. Expert Review Panel.

- a. An Expert Review Panel will be convened to review, make recommendations, and monitor the status of a student infected with a blood borne pathogen. The members of the Expert Review Panel may be selected from, but not necessarily limited to, an infectious disease and/or hospital epidemiology specialist, liver disease specialist (e.g., gastroenterologist/hepatologist) with expertise in blood borne pathogens and their infectivity, the Director of the TTUHSC Office of Institutional Health, a person with Bioethics experience, and TTUHSC legal counsel.
- b. A student infected with a blood borne pathogen shall apply for Americans with Disabilities (ADA) status based on their medical condition, in accordance with TTUHSC OP 77.14, Establishing Reasonable Accommodations for Students with Disabilities. The Expert Review Panel will assist in making recommendations regarding appropriate alterations to the learning environment necessary to prevent the student from participating in Exposure Prone Procedures (EPPs), such as those encountered on clinical rotations that involve surgery or other invasive procedures, without jeopardizing the students' medical education.
- c. The Expert Review Panel will designate contact personnel in clinical departments that perform EPPs. As appropriate, students will be directed to notify such personnel of his/her disease status, and any applicable restrictions that were recommended by the Expert Review Panel according to the CDC and SHEA guidelines.
- d. If a student with a communicable blood borne infection fails to notify the appropriate designated department personnel in a timely fashion, and the student's participation in educational activities in that department are imminent, the TTUHSC Office of Institutional Health will proceed with disclosure of a student's health status to ensure appropriate clinical environment and patient safety procedures are followed.
- e. The Expert Review Panel will develop a plan of counseling and advice to assist an infected student regarding clinical practice and career choices. This information will be discussed with the student by the Director of the TTUHSC Office of Institutional Health.
- f. The Expert Review Panel will evaluate the student's status and continued testing and/or treatment as indicated in the guidelines outlined in this policy.

7. 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 Office of Institutional Health of any blood borne infection.

- b. Infected medical students may pursue their studies only as long as their continued involvement in the curriculum does not pose a health or safety hazard to themselves or others.
- c. Infected medical students will have their condition reviewed and monitored by an Expert Review Panel at the request of the TTUHSC Office of Institutional Health.
- d. Infected medical students are required to immediately disclose if he/she exposes a patient to their blood borne pathogen in a clinical setting. Pre-notification to patients is not required.
- e. Infected medical students may have their clinical duties or clinical exposure modified, limited, or abbreviated based on recommendations from the Expert Review Panel 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 infected medical student's blood borne infection (i.e., viral loads, etc.).
- f. There is no right of appeal for an infected medical student of the recommendations made by the Expert Review Panel regarding modifications, limitations, or abbreviations of clinical duties or clinical exposures particularly as clinical duties may relate to the performance of exposure prone procedures and/or based on the status of the infected medical student's blood borne infection (i.e., viral loads, etc.).
- g. An infected medical student who declines to comply with the recommendations of the Expert Review Panel will be expected to sign a declaration acknowledging: a) they may not be able to complete all SOM degree program clinical education requirements due to not being able to be placed at affiliated Clinical Affiliate sites for required MD program clinical training; and b) a student who does not meet all SOM curricular requirements (including didactic and clinical components) will not graduate from the TTUHSC SOM MD degree program.

8. General guidelines for medical students infected with blood borne pathogens.

- a. 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 (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 received effective treatment and the condition is resolved.
- e. Infected students may conduct exposure prone procedures (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 Expert Review Panel by the monitoring provider. Learning environment adjustments, restrictions, and subsequent

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monitoring, if warranted, will be recommended by the Expert Review Panel in accordance with the guidelines outlined in this policy and that information will be conveyed to the student by the Associate Dean of Student Affairs 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 SOM 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), allows his/her provider to communicate with the Expert Review Panel about the 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.

9. 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 Clinical Activities	of Recommendations	Testing Activities
HBV			
<10 ³ GE/ml	Categories I, II, and III	No Restrictions	Twice per Year
≥10 ³ GE/ml	Categories I and II	No Restrictions	Per expert provider
≥10 ³ GE/ml	Category III	Case Review	Per expert provider
HCV			
<10 ³ GE/ml	Categories I, II and III	No Restrictions	Twice per Year
≥10 ³ GE/ml	Categories I and II	No Restrictions	Per expert provider
≥10 ³ GE/ml	Category III	Case Review	Per expert provider
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	Per expert provider
≥5x10 ² GE/ml	Category III	Case Review	Per expert provider

GE= genome equivalents

10. 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.
- 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 tympanosotomy 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 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. interactions with violent patients or patients experiencing an epileptic seizure).
- 12) Any open surgical procedure with a duration of more than 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 which in itself 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. Based on the nature of NEPPs and agent specific guidelines outlined in this document, however, 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 the patient.

11. 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 Postexposure Prophylaxis MMWR / Vol. 50 (RR-11)
- c. SHEA White Paper Management of healthcare personnel living with hepatitis B, hepatitis C, or human immunodeficiency virus in US healthcare institutions. Infection Control and Hospital Epidemiology. (2022), 43, 147-155.
- d. The Center for HIV Law and Policy. March 2008