# EAST CAROLINA UNIVERSITY

## INFECTION CONTROL POLICY

<table>
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<tr>
<th>Prospective Health Employee Occupational Health Program for Healthcare Workers</th>
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Approved By:

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Director, Prospective Health

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Chairman, Infection Control Committee

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Infection Control Nurse
The Office of Prospective Health operates the Employee Health Program at East Carolina University. All ECU employees may receive services from Prospective Health; some services will be billed to the requesting department. Prospective Health is responsible for the Bloodborne Pathogens and Tuberculosis Programs required by OSHA regulations, the Infection Control Programs required by North Carolina Administration Code and the CDC recommended preventive services for healthcare personnel.

All new employees at the ECU Health Sciences Campus complete a Health History in conjunction with attendance at New Employee Orientation. All clinical employees who work in direct contact (3 feet or less) are screened for tuberculosis when hired. Healthcare workers at ECU are immunized per the recommendations of the ECU Infection Control Committee, based on CDC recommendations. College of Nursing and Allied Health healthcare personnel may receive services that are OSHA-mandated to meet requirements for credentialing. Other services will be billed to the departments.

An annual Employee Health update is scheduled for each clinical department on the ECU Health Science Campus. Content of the update include tuberculosis surveillance, determining sensitivity to latex or other allergies, updating change in health status, respirator fit testing as indicated and/or immunization updates. College of Nursing and Allied Health healthcare employees will receive annual updates for OSHA-required services by means of in-services given in their department.

Health histories of animal users are obtained at the times of the Animal User Initial class and triennial refresher classes. During non-training years, animal users are asked to revise their health history if changes have occurred. Employee Health services are provided to the Department of Comparative Medicine and to ECU animal users to meet AAALAC accreditation requirements. Primate workers may require TB surveillance at 6-month intervals.

Individual health records for each ECU Health Science employee are maintained in the Office of Prospective Health. This record is the sole repository of employee health information; employee health information should not be kept in departmental personnel files. Other ECU employees will have a health record generated if needed. Medical Records generated to meet OSHA requirements will be retained for duration of employment plus 30 years.

Medical student pre-matriculation health records are maintained in the Office of Student Affairs. If seen or treated at Prospective Health, another record is generated and retained at PH. Student workers in BSOM healthcare or research facilities will have a medical record in PH if they attend new employee orientation or require preventative or treatment
services related to their work. All other student records are maintained at the Student Health Service.

I. Tuberculosis
   A. Screening
      1. All clinical employees will be screened for tuberculosis at new employee orientation.
   B. Tuberculosis Surveillance
      1. All health-care employees who are at risk for exposure (as defined by current OSHA regulations) to pulmonary tuberculosis through official university duties will receive a PPD skin test initially if they never had a past positive TB skin test.
         Employees who are past positive will:
            a. Complete an initial health history
            b. Provide recent chest x-ray report or have an x-ray performed
            c. Complete an annual questionnaire regarding symptoms of possible active TB
      2. New employees who will be followed in the OSHA TB annual surveillance program are given 2-step PPD skin testing if they have not had a PPD in the prior 12 months.
      3. Employees/students who had prior vaccination with BCG are PPD skin tested unless a previously severe/ulcerative reaction has been documented. BCG reactions get smaller with time and an increase of >10 mm indicates recent exposure.
      4. Tuberculin skin tests are given by Prospective Health and read within 48-72 hours as specified in the CDC guidelines and enforced by OSHA. Results are most specific at 72 hours post placement. Results are read as follows (transverse measurement):
         0 - 4mm negative reactors
         5 - 9mm positive in the following groups:
         Persons who have recent contact with a person with tuberculosis.
         Persons who have chest radiographs with fibrotic lesions likely to represent old healed tuberculosis.
         Persons with HIV Disease
         >10mm positive in the following groups
         Healthcare workers
         Immigrant in last 5 years from high prevalence country
Individuals with a history of diabetes, renal failure, silicosis, malignancy jejunoileal bypass or gastrectomy ≥15mm positive for all others and non-health care workers including newly hired personnel not previously in healthcare

5. Change ≥10mm in 1 year is considered a conversion.
6. Employees who have a PPD skin test of 5 – 9mm (equivocal) will have their PPD skin test repeated in 12 weeks.
7. A Quantiferon or similar blood test of *Mycobacterium tuberculosis* will be used in cases of ambiguous reactions as clinically indicated.

C. Routine Chest x-rays

1. Chest x-rays are performed initially on all individuals with known past positive PPD reactions unless a recent chest x-ray report (within 12-24 months) is available. X-ray is then repeated only if the employee develops symptoms of tuberculosis.
2. A chest x-ray will be obtained at the time of a new PPD skin test conversion.
3. If a new PPD convertor does not take prophylactic anti-tuberculosis medication(s), a chest x-ray is repeated in one year or sooner if symptoms develop.
4. If an employee with a past positive PPD becomes symptomatic for tuberculosis, a chest x-ray will be obtained immediately to rule out active pulmonary TB.

D. Tuberculin Converters

1. A brief health and exposure history is obtained from an employee who converts from a negative to a positive tuberculin skin test. A chest x-ray is obtained
   a. If chest x-ray suggests active disease the employee will be
      1) Referred for treatment for active disease
      2) Removed from work until treated and non-infectious
      3) Reported to Public Health
   b. If the chest x-ray suggests latent infection, the employee will be evaluated for treatment.
      1) If occupational exposure is suspected/documentted, the employee will be treated by ECU Prospective Health.
      2) If a non-occupational exposure, the employee is referred to their personal physician or the county Public Health Center of residence to be treated.
         i. The latest CDC guidelines for medication will be followed.
ii. Treated employees will be followed clinically every month for development of liver problems. Liver function tests will be performed at 1-2 months for employees with risk factors for hepatic problems (pregnant, postpartum, HIV-infected, regular alcohol used) or who develop liver symptoms.

II. Immunization Surveillance – Healthcare Workers
   A. Proof of immunity or vaccination for rubella, measles, and mumps are required for each healthcare worker employee/student. Vaccination records are required. If documentation is not available, titers will be drawn. If titers are negative, vaccines will be given.
   B. A history of chickenpox is documented or a varicella titer is done. If the results are negative, the employee will receive two (2) doses of varicella vaccine, given four (4) to eight (8) weeks apart. (Contraindications include pregnancy, immunosuppressive condition in self or household, or allergy to vaccine components.) Employees born after 1980 must have 2 doses of varicella vaccine to be considered immune.
   C. Hepatitis B Vaccine is offered to employees who have potential for exposure to blood or other potentially infectious material exposure at no cost to the employee. Employees who decline must sign a waiver per OSHA requirements.
   D. Influenza vaccine is offered annually and required for all health care personnel at BSOM.
   E. Regardless of tetanus status, a one-time Tetanus, Diphtheria and Acellular Pertussis (Tdap) booster will be offered to healthcare personnel if there is not one on record. There is no age restriction.

III. Immunization Surveillance - Research or Lab workers
   A. Tetanus and diphtheria immunization records, booster every 10 years.
   B. Chicken pox and MMR if indicated based on patient or animal exposure.
   C. Hepatitis B vaccine is offered to employees who have potential for exposure to human blood or other potentially infectious material (including viral cultures or animals infected with Hepatitis or HIV). Employees who decline must sign an OSHA waiver.
   D. TB skin test for those who work in Comparative Medicine or with other primates, once or twice yearly.
   E. Influenza vaccine is required annually to those who work in comparative medicine or with primates/poultry.
   F. Other immunizations may be provided as indicated following Biological Safety Committee review of hazards.

IV. Investigations and follow up of occupational infectious exposure.
The Office of Prospective Health investigates and provides follow-up for employees exposed to communicable diseases in the clinical or research settings. ECU students will be evaluated/treated by Student Health Services. Source patient data will be obtained by Prospective Health for ECU Physician’s outpatients. BSOM Medical students or BSOM graduate students may be evaluated and treated by Prospective Health for all curricular infectious exposures or use Student Health Services.

A. Tuberculosis Exposure

1. Employees exposed to active pulmonary tuberculosis are identified and counseled.
2. Exposed employees who are past negative reactors:
   a. A baseline PPD is given (if one has not been given within past three months) unless greater than 2 weeks has elapsed since exposure.
   b. A follow-up PPD is given in nine weeks.
   c. Chest x-rays are done on PPD converters.
   d. Converters are treated for latent TB by PH.
   e. Cases of active disease are referred to Infectious Disease for treatment; employee is removed from work until released/cleared by Infectious Disease to return.
3. Exposed employees who are past positive reactors
   a. The employee is surveyed for current symptoms and counseled regarding symptoms of tuberculosis.
   b. Chest x-rays are done only if employee becomes symptomatic. ECU employees who participate in ECU sponsored outreach activities, or ECU students who participate in curricular activities in an international setting which increases their risk of exposure to TB should immediately contact PH (employees) or SHS (ECU students) if symptoms such as fever, cough, or weight loss develop.

B. Blood and Other Potentially Infectious Material Exposure

1. If an employee or student has an exposure as defined in the Blood and Other Potentially Infectious Materials Exposure policy, he/she should be evaluated according to the protocol outlined in the Bloodborne Pathogens Exposure Control Plan. (See Algorithm in Appendix A).
2. Non-employees who are exposed to blood or body fluid at ECU due to receipt of healthcare services or participation in research projects should be evaluated similarly. (See Exposure Control Plan for details).
   a. Non-employees who are contract workers at ECU will be advised to contact their employing agency to implement their evaluation.
b. Non-ECU faculty who are assigned by their home institution to clinical or research activities at ECU will be handled as an ECU employee whole on site. Long-term care and follow-ups will be transferred to the in-home institution when their assignment ends. Anonymous information on the source patient risk factors will be provided to the licensed healthcare professional used by their agency to complete the evaluation.

c. Students from other institutions will follow their institutional policy for exposures.

d. BSOM patient exposures to blood or other infectious material during their care may be evaluated by PH as a courtesy.

3. Reporting


b. Contact Prospective Health for advice.

c. For patient exposures notify Risk Management (BSOM) Counsel and obtain baseline serology on exposed person, with consent as required.

d. Initiate targeted surveillance if the source is infected with a bloodborne pathogen.

e. If the source is negative, reassure the exposed party and consider HIV surveillance for 6 months.

4. Source Patient Work-up (for exposure in healthcare settings).

a. The source patient’s history will be reviewed by Prospective Health. (See Exposure Control Plan for additional details)

b. If done within the previous three months and documented in the patient’s medical record, the following labs need not be repeated.

   1) HIV Antibody. Phone Vidant laboratory and label request as “Blood Exposure Panel”.

   2) Hepatitis B Surface Antigen, Hepatitis B Anti-Core, and Hepatitis B Surface Antibody

   3) Hepatitis C Antibody

c. If laboratory testing has not been done within the previous three months, physician will order “blood exposure testing” as listed above, counsel the patient regarding the implications of the testing, and order the testing at no cost to the patient.

d. If the source patient is an infant under 15-18 months of age, the mother will be tested, assuming the child has no independent risk factors for bloodborne pathogens.

5. Exposed person workup:
a. The following laboratory tests will be drawn initially on the exposed person.
   1) HIV Antibody
   2) Hepatitis B Surface Antigen
   3) Hepatitis B Surface Antibody
   4) Hepatitis C Antibody
   5) Tests will be repeated as indicated for up to 6 months (See Exposure Control Plan).

C. Hepatitis A
   1. If it is determined that an employee/student has had a direct fecal-oral exposure from a source patient testing positive for hepatitis A, the employee will be given Immune Globulin 0.02 cc/kg of body weight.

D. Meningococcal Disease
   1. Transmission of Neisseria Meningitidis to the healthcare worker
      a. Healthcare personnel are rarely at risk even when caring for infected patients.
      b. Intimate exposure to nasopharyngeal secretions (e.g. as in mouth to mouth resuscitation, or intubation and suction without PPE) warrants prophylaxis
      c. Activities such as starting an IV or performing a chest x-ray without PPE are not considered indications for prophylaxis.
      d. Other exposures not listed may be considered on a case by case basis for healthcare workers providing care without PPE within 3-6 feet of an actively coughing patient.
   2. If a health care worker has intimate respiratory contact with a source patient documented to have untreated meningococcal infection, prophylactic antibiotic treatment may be provided if:
      a. Exposure to nasopharyngeal secretions is verified.
      b. No personal protective equipment/mask was worn
      c. Prophylaxis is begun preferably within 48-72 hours (although may be considered for up to 14 days for high-risk exposure.)
      d. Prophylaxis medications may include one of the following:
         1) Rifampin 600 mg orally, bid x 2 days
         2) Ceftriaxone 250 mg IM x 1 dose
         3) Others as medically necessary
   3. Use of respirator protection is strongly advised for health care personnel evaluating any patients suspected to have meningitis.

E. Pertussis Exposures
   1. A healthcare worker (employee or student) who has unprotected close contact with a symptomatic patient, who has a positive culture or positive
DFA for pertussis, will be evaluated for prophylaxis. Unprotected, close contact is defined as no mask and within 3 feet of patient if they ARE NOT actively coughing, or no mask and within 6 feet of patient if they ARE actively coughing.

a. Occupationally exposed to Pediatric patients.
   1) If the employee is symptomatic:
      i. The employee will be evaluated by Prospective Health
      ii. If symptoms are consistent with possible pertussis, a naso-pharyngeal swab for culture will be obtained. (This step should be omitted if the employee has been on antibiotic therapy x 2 or more days).
      iii. Antibiotic regimen will be:
           a) Azithromycin 500 mg. po x 1 day **and** 250 mg. po x 4 days **or**
           b) Biaxin 500 mg. po, bid x 7 days **or**
           c) Erythromycin 500 mg. po qid x 4 days **or**
           d) Bactrim DS 1 po, bod x 14 days
      iv. The employee will be removed from work.
      v. The employee may return to work after 5 days of treatment if asymptomatic. Return to PH for release to work.

   2) If the employee is asymptomatic:
      i. Prophylaxis will begin ASAP (preferably within 7 days, but within 14 days post exposure. See treatment schedule below)
      ii. The employee may continue to work
      iii. If symptoms develop consistent with possible pertussis (cough, runny nose, watery eyes, etc.) the employee will be evaluated by Prospective Health and cultured.

b. Employee exposure to adult patient
   1) If the employee is asymptomatic:
      i. The employee may continue to work.
      ii. If symptoms develop consistent with possible pertussis, the employee will be evaluated by PH.

   2) If employee is symptomatic
      i. See 1) above.

C. Co-worker to co-worker exposure
   1) If the employee is asymptomatic:
i. No follow-up is indicated

2) If the employee is symptomatic:
   i. Instruct the employee to follow-up with Personal Physician. (Pertussis is endemic in the community as a constant reservoir of infection).
   ii. Implement work restriction policy for healthcare employees

d. Receipt of adult pertussis vaccine is recommended for all healthcare personnel providing direct patient care.

F. Varicella (chickenpox) Exposure
   1. If an immune employee is exposed, no action is necessary.
   2. An effective vaccine is available to immunize healthcare workers. If a non-immune worker refuses to be immunized and requires repeated administrative leave for chickenpox exposure, the following policy is proposed:
      a. The first work removal will be covered under administrative leave.
      b. Subsequent work removal will be considered personal leave time if contraindication to receipt of the vaccine.
   3. If a non-immune healthcare worker comes into contact with a patient with chickenpox in the course of their work, they are taken out of work in patient contact from days 10 through day 21 post exposure as they maybe incubating the disease, and to prevent transmission prior to manifesting the rash. The work removal is considered administrative leave, not personal leave time.

V. HIV/Hepatitis B Infected Healthcare Worker
   A. If an employee/student if HIV positive or HBV surface antigen positive on baseline post exposure evaluation, or converts to HIV positive or chronic (greater than 6 months) HBV surface antigen positive after an exposure, they will be counseled.
   B. If the employee is a healthcare worker who performs high risk surgical or obstetrical procedures, or “dental procedures”, or assists with “surgical” or “obstetrical procedures” or “dental procedures” as outlined in NCAC (15A NCAC 19A.0207), they will be referred to the State Health Director, who may impose practice limitations. (Refer to the ECU Infection Control Policy “HIV and/or Hepatitis B Infected Healthcare Worker” for more information).
   C. If a healthcare student is infected, they will be referred to the State Health Director who may impose practice limitations. A curricular review will be performed and possible limitations consistent with NCAC will be implemented by their school/department to comply with the directions of the State Health Director.
Exposure to blood, infectious body fluid, serum or unfixed tissue by sharps stick, cut or splash onto mucous membrane or non intact skin

Did exposure occur during regular work hours?

Did exposure occur at Vidant?

Did exposure occur at Vidant?

Contact ECU Prospective Health 744-2070 or 744-3545

Source patient workup

PEP started ASAP at Vidant with ID consult

Contact Prospective Health during work hours for followup/surveillance

Surveillance or treatment as needed for Hep B or C

Followup for up to 6 months

Not a Blood Borne Pathogen Exposure

Notify ECU

Source HIV+?

HIV positive by history or test?

Refer to ED for post exposure prophylaxis ASAP

PEP started ASAP with ID consult