

**EAST CAROLINA UNIVERSITY**  
**INFECTION CONTROL POLICY**

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Human Performance Laboratory, Department of Exercise and Sport Science

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Approved by:

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Chairman, Infection Control Committee

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Infection Control Nurse

I. Purpose:

The Infection Control policy is established to help safeguard research subjects and personnel from the transmission of infection between subject and personnel during research projects. All ECU personnel, students and other healthcare workers are to comply with all infection control policies.

II. Personnel:

ECU employees and paid graduate students that utilize the lab space at the Brody & East Carolina Heart Institute buildings will comply with employment screening as outlined in the Prospective Health policy. Prospective Health will maintain all these employees' records.

Graduate and undergraduate students will have their health records maintained at ECU Student Health Center.

Graduate students that work with biological samples must complete Bloodborne Pathogen training annually. In the training, risks associated with accidental exposure are thoroughly explained. Students are encouraged, at their expense, to get the hepatitis B vaccine. The vaccine is not required, but strongly encouraged.

Undergraduates that work on research projects where the potential for a biological exposure exists are required to complete Bloodborne Pathogen training and obtain or provide documentation of hepatitis B vaccination. The student is responsible for all costs associated with hepatitis B vaccination.

Exposure for graduate and undergraduate students:

In the event of an exposure, the student will immediately notify either Dr. Joseph Houmard (Director of the Human Performance Laboratory). At that time the lab director or associate will request to obtain a blood sample from the source. The director or associate will explain to the source that their blood will be analyzed for hepatitis B and C, HIV antibodies, and STS. The blood sample, with a code, will be sent to ECU Student Health Services (ECU SHS) for analysis. In the event that an exposure occurs after hours, on weekends or holidays, student will immediately notify the HPL director or the associate. The director or associate will contact the source and make arrangements for obtaining a blood sample to be analyzed. The student will go to ECU SHS during regular hours of operation for counseling and analysis of blood sample. Refer to **Appendix B** for procedures following an exposure.

The student receiving the exposure will go to the ECU SHS for counseling and to have their blood analyzed for hepatitis B and C, HIV antibodies, and STS. Their blood will be tested following a proscribed format. See **Appendix B**.

Given the type of research performed in the HPL, the risk of working with known HIV research subjects, or at-risk individuals is small. However, all blood samples are considered to be contaminated thus requiring the students to follow guidelines provided in the

Bloodborne Pathogen training provided by personnel from the Department of Prospective Health.

In the event of an exposure occurring outside of Greenville, the student will follow the format described. The HPL director and the associate will attempt to obtain the necessary blood sample for the source. See **Appendix B**.

The HPL will be responsible for payment for testing antibodies in the blood from the source and student. The HPL will be responsible for costs incurred by the student. The pay out by the HPL will consist of paying for all medication and tests not covered by the student's health insurance policy. The aggregate paid by the HPL will not exceed \$1,000.00.

All incidents will be reported on **Appendix C** to the HPL director and/or the associate, and the action taken by the director and/or associate and the student.

Faculty and staff that have an exposure will be referred to the Department of Prospective Health. All evaluations and medications, if necessary, will be taken care of through the Department of Prospective Health. All incidents will be reported on **Appendix D**.

The ECU contract physician or co-investigator physician from the Brody School of Medicine is the HPL's consulting physician and will write the necessary orders for testing the source.

Questions regarding exposure, risk etc. will be directed to designated persons in the ECU SHS and/or in Prospective Health.

Students, graduate and undergraduate, that are exposed to chemical or radiation contamination will notify the director or associate and complete all the necessary paperwork. If appropriate, the students will be referred to the ECU SHS for medical management for the exposure.

Faculty and staff that are exposed to chemical or radiation will notify the director and/or associate and complete all the necessary paperwork, **Appendix C**. If appropriate, they will be referred to Prospective Health for medical management for the exposure.

Faculty, staff and students will complete Bloodborne Pathogen training annually, or upon entering the program. Documentation of attendance is required to participate in the research projects supported by the HPL. Faculty, students and staff that work with radioactive materials will attend a radiation safety training.

Working with staff from Prospective Health and the student health center, the director and associate will evaluate their infection control policy every three years or as needed

### III Physical Layout

The Human Performance Laboratory (HPL) is located within the Ward Sport Medicine Building. The HPL occupies 5000 square feet of the sports medicine building. Within the lab there are eight faculty offices, a reception area, a file room, a room for graduate students, a biochemistry laboratory, and a research laboratory.

The HPL also has laboratory space in the Brody Building, ECHI and the FITT facility. Rooms in use by the HPL in Brody include: 3N43, 3N76, 3N78, 3W40, and 3W40b; in ECHI include: ECDOI 4<sup>th</sup> floor shared labs; in the FITT facility include: exercise space and exam room. In all of these lab spaces, tissue and/or blood are obtained or analyzed.

#### IV. Procedures:

Hand washing should be done with an antimicrobial soap and water immediately before and after each patient and/or specimen contact. Handwashing facilities in the HPL are located in the biochemistry lab, the testing lab, examination room, and the research lab. At all stations antimicrobial soap and disposable paper towels are available. Additionally, hand-washing facilities are available in all lab space utilized by the HPL at the Brody School of Medicine and ECHI

For all of the procedures performed in the HPL, FITT and ECHI, aseptic techniques are adhered to. Procedures routinely performed are venous blood draws, micro dialysis, punch needle biopsies, spirometry. All supplies are disposed of in clearly marked biohazard bags and sharps containers.

Standard precautions will be observed on all research subjects. Gloves and lab coats are worn if hands and clothing may be exposed to blood and other potentially infectious materials. Protective mask and eyewear or face shield are worn if facial splashing is likely.

When obtaining blood samples, gloves are worn by the technician. For multiple blood draws in a session, all supplies are disposed of (gloves, gauze, needle, etc.) and new supplies are used. Between draws, hands are washed with antimicrobial soap. When working with samples in the biochemistry lab, all personnel wear lab coats. No open toe shoes, shorts, or food are allowed in the biochemistry labs.

Needles should be handled with extreme caution. When possible, engineered safety brands are utilized. Needles should not be bent or broken. Needles should not be resheathed unless absolutely necessary. If needles must be resheathed, it must be done with a mechanical device or with a one-handed technique.

Health care workers who have exudative lesions or weeping dermatitis shall refrain from handling patient care equipment and devices used performing invasive procedures and from all direct patient contact until the condition resolves. Open wounds or sores should be covered with a protective dressing.

This policy will be adhered to when obtaining blood and tissue samples and when

performing microdialysis procedures.

Procedures performed in the department include:

- Obtaining venous blood samples
- Punch needle biopsies
- Micro-dialysis
- Finger sticks for glucose and blood lactate
- Heat studies that include obtaining rectal temperatures
- Various analyses of blood and tissue samples
- Tissue collection for primary cell cultures

All areas that subjects use are cleaned with a 10% chlorine solution prepared daily or other approved sanitizers. These areas include vinyl topped examination tables, treadmills and counter tops. Reusable equipment used for assessment of aerobic capacity is cleaned and soaked in an antimicrobial solution as per manufacturer's recommendations. They are then left to air dry.

Reusable medical instruments (ie rubber tubing, mouth pieces, and valves) are cleaned and disinfected and/or sterilized per manufacturer's recommendations. Reusable equipment is wiped down with an EPA approved disinfecting solution after use.

All specimens will be placed in leak-proof plastic bags marked with a biohazard label.

After use, all specimens are placed in marked biohazard bags. Those bags are picked up weekly for incineration.

All supplies for personal protective equipment are in labeled areas within the labs used by the HPL students and staff.

Refer to **Appendix A** for a list of common procedures that require minimum personal protective equipment.

#### V. Equipment and Supplies

Clean equipment is stored in cabinets that are clearly marked.

Dirty disposable supplies are discarded in appropriate containers and kept in the biochemistry laboratories.

Reusable dirty equipment is cleaned in a designated sink area. Areas are designated by signage and the appropriate function to take place at each individual cleaning area. Reusable equipment will be sterilized in an autoclave.

Autoclaves:

- All instruments or trays used for sterile procedures will be cleaned prior to

sterilization.

- After cleaning, these instruments are wrapped prior to sterilization.
- Each individual wrapped package will have chemical indicator in place.
- Each package is labeled, dated and initialed.
- Biological Spore testing is done at least weekly and documented.
- The biological spore tests are incubated according to manufacturer's recommendations and documented in a log.
- The incubator and log are maintained by the designated staff for date and condition.

Sterile biopsy needles cannot be used if prior sterilization is over three days old. They must be repackaged and sterilized. Additionally, and regardless of time since sterilization, packaging is inspected for integrity and abuse before using the contents.

All reusable materials are inspected on a regular basis; damaged materials are discarded in appropriate containers.

In areas where blood is obtained, all contaminated non-sharp material is placed in appropriately labeled red bags. Sharp trash is placed into sharps containers.

Sharp containers are located in all areas where blood and tissue samples are obtained. They are sealed and when  $\frac{3}{4}$  full and relocated to an appropriate area for pickup by biohazard waste technicians. Personnel come weekly to collect containers in the Ward Sports Medicine and FITT Buildings. Containers are removed by students and staff to appropriate disposal areas when necessary in the Brody and ECHI Buildings.

Clean linen is stored in closed cabinets.

Soiled linen should be placed in covered dirty linen hampers. This linen is picked up each week by the contract linen service. Gloves will be worn when handling soiled linen.

## APPENDIX A

<b>Common Procedures</b>	<b>Minimum Equipment Needed</b>
Punch needle biopsies	Biopsy needles, sterile field dressing, iodine prep, sterile gloves, autoclave, disposable syringes and sharps containers, biohazard bags.
Venipunctures	Gloves, alcohol pads, gauze, bandages, test tubes, Vacutainer needles, sharps containers, biohazard bags.
Micro-dialysis	Sterile field dressing, sterile gloves, disposable syringes, sharps containers, biohazard bags.

## APPENDIX B

### I. When an exposure occurs:

- First aid measures done immediately.
- The student should immediately notify the supervisor or preceptor and complete appropriate paperwork. (**Appendix C**)
- The facility policy for counseling and screening the source patient should be instituted immediately.
- The results of source patient testing should be forwarded to ECU SHS as soon as possible.

### II. Student with low-risk exposure should:

- Report to ECU SHS as soon as possible.
- Have the following initial screening:
  - a. HIV antibody
  - b. Hepatitis B titer (surface antigen & antibody)
  - c. Hepatitis C antibody
  - d. STS
- Source patient lab reports will be forwarded by facility representative to ECU SHS Rapid Care at 328.6841 as soon as possible.
  - a. HIV antibody
  - b. Hepatitis B surface antigen, hepatitis B surface antibody, hepatitis B core antibody
  - c. Hepatitis C antibody
  - d. STS
- Receive counseling by ECU SHS which may include.
  - a. What constitutes exposure, protocol for determining risk
  - b. Responsibilities of ECU SHS and student
  - c. HIV counseling protocols
  - d. Implications of positive and negative results
  - e. Reporting symptoms of febrile illness
  - f. Refraining from blood donation
  - g. Avoiding pregnancy, using condoms i.
- Have follow-up screening by ECU SHS which may include:
  - a. 6 weeks – HIV
  - b. 3 months – HIV, STS
  - c. 6 months – HIV, hepatitis C (if source patient positive)
- Be treated for any positive tests per protocol

### III. Students with known HIV exposure or high-risk exposure should:

- Report to ECU SHS within the first 24-48 hours post-exposure. (In high risk, Post Exposure Prophylaxis (PEP) may be considered up to two weeks after exposure. After hours exposure should be handled through the ED per facility policy and report



- to ECU SHS the next day).
- Send any available information on the source patient to the treating facility, this may include:
  - a. HIV antibody results
  - b. Most recent CD4 count, current antiviral medications, other relevant information obtained with consent of source.
- Receive evaluation by ECU SHS provider concerning:
  - a. Risks of developing communicable disease
  - b. Student's relevant history
  - c. Side effects of medications offered
- Receive general instructions
- Have signed consent form before receiving prescription
- Have the following labs drawn:
  - a. HIV antibody
  - b. Hepatitis B Titer (surface antigen and antibody)
  - c. Hepatitis C antibody
  - d. STS
  - e. Serum HCG (women only)
  - f. Executive I (cholesterol, HDL, triglycerides)
- Be scheduled by ECU SHS for follow-up appointment with Infectious Disease.
- Receive counseling including:
  - a. What constitutes exposure, protocol for determining risk?
  - b. Responsibilities of ECU SHS and student
  - c. HIV counseling protocols
  - d. Implications of positive and negative results
  - e. Reporting symptoms of febrile illness
  - f. Refraining from donating blood
  - g. Avoiding pregnancy, using condoms
- Have follow-up screening which may include:
  - a. 6 weeks – HIV, STS
  - b. 3 months - HIV, STS, Hep. B&C
  - c. 6 months – HIV, hepatitis C
- Be treated for any seroconversion
- \* ECU SHS provider should follow Blood and OPIM Exposure protocol.

IV. Billing charges may be handled through interdepartmental transferred funds where a departmental fund exists. In incidences where no departmental policy or procedure exists, the student may be evaluated by ECU SHS following the above protocols at the student's expense.

#### V. Exposure of ECU Employees

- If faculty or ECU paid graduate student is exposed to human blood or body fluid, notify Prospective Health for evaluation and followup.
- If source patient exposure at Brody, notify Prospective Health to evaluate source.
- If source outside SOM, Human Performance Lab will evaluate source.

**APPENDIX C**

Human Performance Laboratory Student Incident Report

Name \_\_\_\_\_ SS# \_\_\_\_\_

Local Address \_\_\_\_\_

Home Address \_\_\_\_\_

Local telephone \_\_\_\_\_ Permanent telephone \_\_\_\_\_

Date and time of incident \_\_\_\_\_

Nature of incident: Please check in appropriate box

Blood or body fluid	Infectious/Respiratory	Radiation Exposure
Stick	Inhalation	Internal
Splash	Splash	External
Cut		
Scratch		
Other (describe)	Other (describe)	Other (describe)
Source patient (have they been notified) Y N		

Brief description of the incident:

List protective equipment in use at time of incident \_\_\_\_\_

Where appropriate procedures followed? \_\_\_\_\_ if no, explain \_\_\_\_\_

Student signature \_\_\_\_\_ Date \_\_\_\_\_

Supervisor/instructor signature \_\_\_\_\_ Date \_\_\_\_\_

Seen by \_\_\_\_\_ Student Health nurse/physician

Medical evaluation:

Results:

Follow up recommended:

Appendix D

ECU: PROSPECTIVE HEALTH SERVICE

NON-PATIENT INCIDENT REPORT

NAME \_\_\_\_\_ SS# \_\_\_\_\_  
HOME ADDRESS \_\_\_\_\_ HOME PHONE \_\_\_\_\_  
DEPT/WK.STATION \_\_\_\_\_ WORK PHONE \_\_\_\_\_  
JOB TITLE \_\_\_\_\_ SUPERVISOR=S NAME \_\_\_\_\_  
DATE OF INCIDENT \_\_\_\_\_ TIME OF INCIDENT \_\_\_\_\_  
LOCATION OF INCIDENT \_\_\_\_\_

NATURE OF INCIDENT

Blood or Body Fluid Exposure

stick  
splash  
spray  
cut  
bite  
scratch  
scrape/abrasion  
other \_\_\_\_\_  
Source pt. \_\_\_\_\_  
MR# \_\_\_\_\_

Infectious Respiratory Exposure

inhalation sprain  
other  
Radiation Exposure  
internal  
external  
Chemical Exposure  
inhalation  
skin absorption

Body Accident

sprain  
strain  
hit  
struck  
puncture  
fall  
other \_\_\_\_\_  
Electrical Injury  
other \_\_\_\_\_

BRIEF NARRATIVE OF INCIDENT \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Was protective equipment used? yes \_\_\_ no \_\_\_ Were appropriate work practices followed? yes \_\_\_ no \_\_\_

Employee Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Supervisor Signature \_\_\_\_\_ Date \_\_\_\_\_

Seen By: \_\_\_\_\_ Employee Health Nurse \_\_\_\_\_ Physician \_\_\_\_\_ Physician Extender \_\_\_\_\_

Nature of Injury

\_\_\_\_ laceration  
\_\_\_\_ chemical burn  
\_\_\_\_ dermatitis  
\_\_\_\_ contusion  
\_\_\_\_ puncture/needlestick  
\_\_\_\_ other \_\_\_\_\_  
\_\_\_\_ abrasion  
\_\_\_\_ thermal burn  
\_\_\_\_ fracture  
\_\_\_\_ strain/sprain  
\_\_\_\_ blood/body fluid exposure

Medical

Evaluation \_\_\_\_\_  
\_\_\_\_\_

RESULTS

\_\_\_\_ first aid  
\_\_\_\_ blood/body fluid exposure protocol  
-----return to work \_\_\_\_\_ work restriction \_\_\_\_\_  
\_\_\_\_ follow up \_\_\_\_\_ no \_\_\_\_\_ yes 6 wk \_\_\_\_\_ 6 mo \_\_\_\_\_ other \_\_\_\_\_ 3 mo \_\_\_\_\_ 12 mo \_\_\_\_\_ other \_\_\_\_\_  
Provider \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_ The results of this evaluation have been discussed with the employee. The employee has been informed regarding medical conditions which may result from exposure to blood or other potentially infectious materials, educated regarding risk reduction practices and had the surveillance program explained in detail.