LINCOLN MEMORIAL UNIVERSITY

SCHOOL OF MEDICAL SCIENCES
LMU-KNOXVILLE DEPARTMENT OF
PHYSICIAN ASSISTANT STUDIES

EXPOSURE TO INFECTIOUS AND ENVIRONMENTAL HAZARDS POLICIES AND PROCEDURES

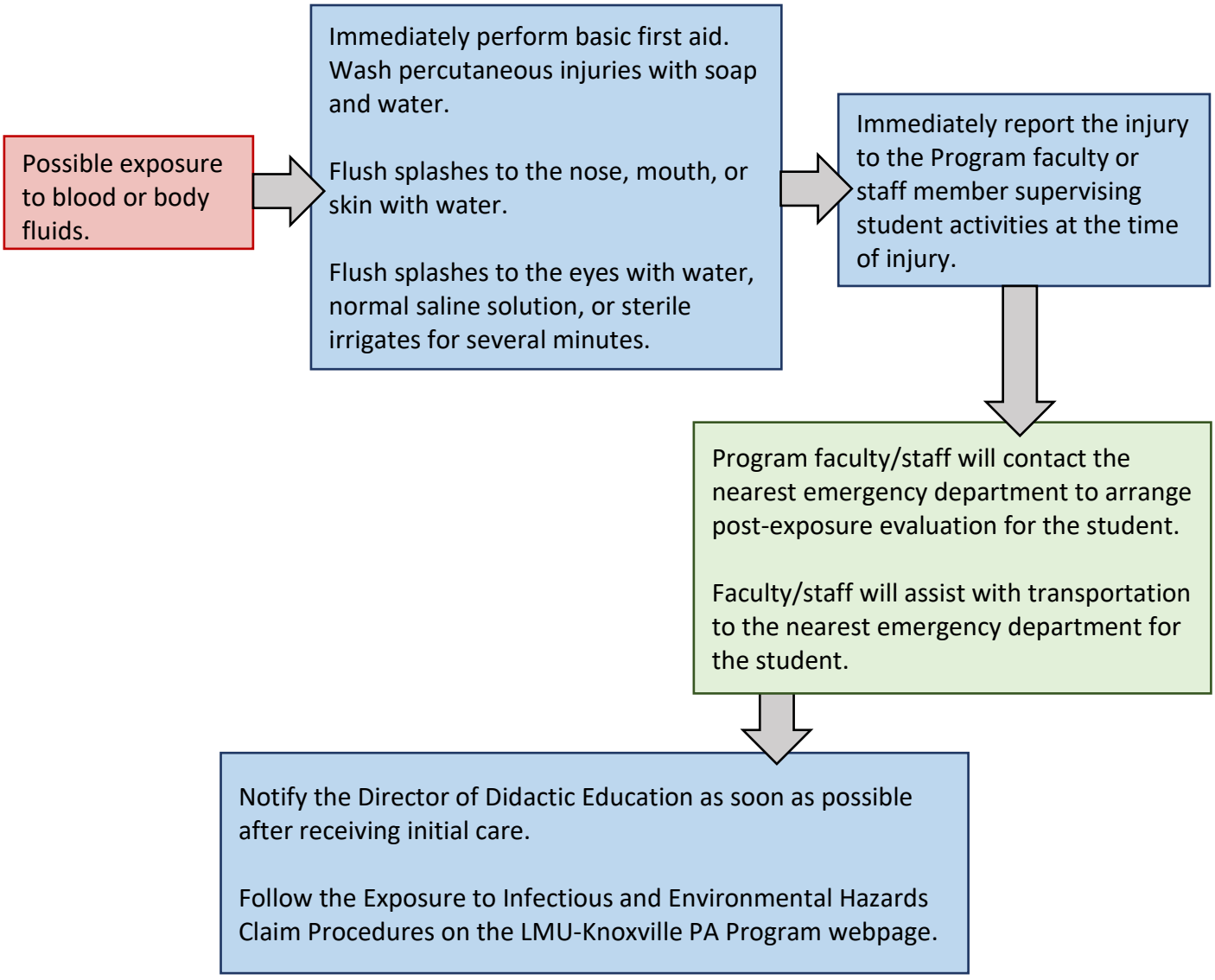
This document is designed to serve as a guide to the policies and procedures of the LMU-Knoxville PA Program. Information related to infectious exposures and post-exposure management and related hyperlinks are reviewed annually. The LMU- Knoxville PA Program reserves the right to amend, modify, or change policies and procedures stated in this document throughout the year. In such a case, the LMU- Knoxville PA Program will make reasonable efforts to notify its PA Students, in a timely manner, of any changes in policies and procedures. Notification shall be made via the student's LMU-issued e-mail account.

Percutaneous Injuries and Blood Borne Pathogen Exposure Procedures
Didactic Phase

All students, faculty, and staff must adhere to routine use of personal protective equipment (PPE), such as gloves, face and eye shields, and gowns when anticipating contact with blood or body fluids.

All students, faculty, and staff must adhere to careful handling and proper disposal of sharp instruments during and after use.

All students, faculty, and staff must adhere to careful use of safety devices developed to help prevent percutaneous injuries.



Students must report incidents promptly to the Program to avoid issues that may arise with payment for post-exposure treatment later. Students must file all medical claims with their personal health insurance provider first.

Percutaneous Injuries and Blood Borne Pathogen Exposure Procedures
Clinical Phase

All students, faculty, and staff must adhere to routine use of personal protective equipment (PPE), such as gloves, face and eye shields, and gowns when anticipating contact with blood or body fluids.
All students, faculty, and staff must adhere to careful handling and proper disposal of sharp instruments during and after use.
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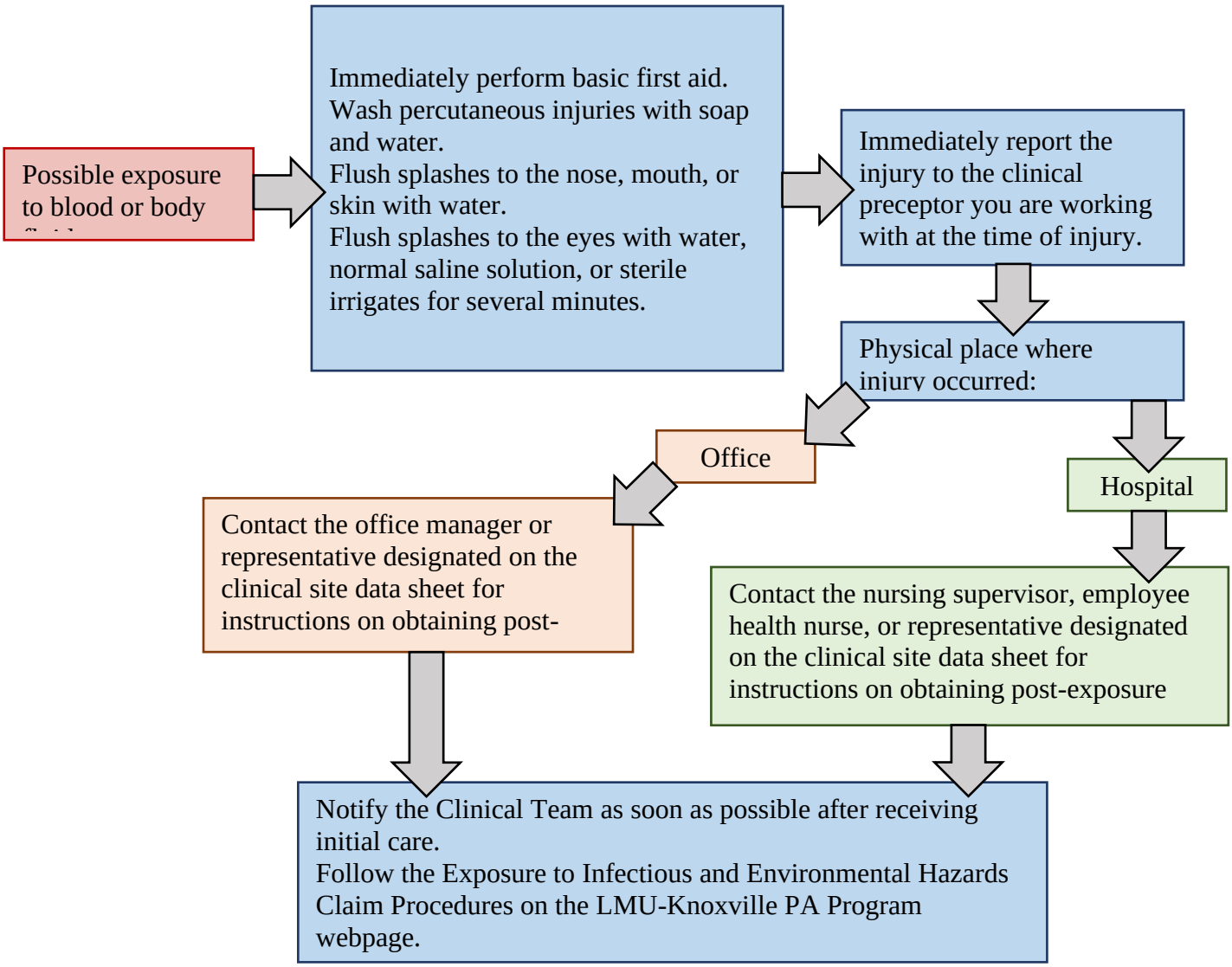

Students must report incidents promptly to the Program to avoid issues that may arise with payment for post-exposure treatment later. Some Clinical Affiliates provide post-exposure treatment at no cost to students. Students must file all medical claims with their personal health insurance provider first.

EXPOSURE TO INFECTIOUS AND ENVIRONMENTAL HAZARDS CLAIMS PROCEDURE

If a student experiences a needle stick, sharps injury, or is otherwise exposed to the blood of a patient while participating in activities directly related to the curriculum, the student should:

- **Immediately perform basic first aid.** Wash needle sticks and cuts with soap and water. Flush splashes to the nose, mouth, or skin with water. For ocular exposures, flush eyes with water, normal saline solution, or sterile irrigates for several minutes.
- **Immediately report the incident** to the Program Faculty during the Didactic Phase of training or to the clinical preceptor and the Clinical Team during the Clinical Phase of training. Prompt reporting is essential. In some cases, post exposure treatment may be recommended and should be started as soon as possible. If there is a potential exposure to Human Immunodeficiency Virus (HIV), it is imperative to initiate post exposure prophylaxis (PEP) within two hours of the incident. Also, without prompt reporting, the source patient may be released before testing for infectious diseases can be conducted.
- **Seek post exposure services.** During the Didactic Phase, students will be referred to the emergency department of the closest hospitals. The hospital will file claims with the health insurance company; however, students are responsible for payments not covered by their health insurance provider. There are two hospitals in the immediate vicinity, Parkwest Medical Center, 9352 Park West Blvd., Knoxville, TN 37932 and Turkey Creek Medical Center, 10820 Parkside Drive, Knoxville, TN 37932. Both hospitals have emergency services 24 hours a day, seven days a week. Hospital care is not included with tuition; therefore, students are responsible for the cost of services rendered. Students may follow-up on post-exposure care with Internal Medicine Associates, 7744 Conner Road, Powell, TN 37849.
- **File the claim** with your personal health insurance company as the primary insurance. Do not file as a worker's compensation claim. File the claim with First Agency, Inc. as your secondary insurance. Fees and copays are paid through First Agency.
  First Agency, Inc.
  5071 West H Avenue
  Kalamazoo, MI 4009-8501
  Phone (269)381-6630
  Fax (269) 381-3055
- **Complete the following documents** in the "Post Exposure Documents Packet" and submit to the Didactic Administrative Assistant during the Didactic Phase of training or to the Clinical Team during the Clinical Phase of training: Student Accident Claim, Authorization to Permit Use and Disclosure of Health Information, Parent/Guardian/Student Information, and Incident Form.
- **Copy the front and back** of your health insurance card and submit to the Didactic Administrative Assistant during the Didactic Phase of training or to the Clinical Team during the Clinical Phase of training.
- **Collect all itemized bills** for medical expenses associated with the injury that have not been paid (itemized bills include the date of service, procedure code and diagnosis code – not balance due statements) including all worksheets, denials, and/or statements of benefits from your primary insurer (each charge must be processed by your primary insurance before those charges can be processed by First Agency, Inc.) and submit to the Didactic Administrative Assistant during the Didactic Phase of training or to the Clinical Team during the Clinical Phase of training.
- **Collect a UB-04 or HCFA billing statement** related to the injury from the billing office of the clinical site during the Clinical Phase of training and submit to the Clinical Team. The LMU-Knoxville PA Program will submit all completed documents to First Agency, Inc.

BLOODBORNE PATHOGENS and LATEX ALLERGY POLICIES

Bloodborne pathogens are infectious microorganisms in human blood that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B (HBV), hepatitis C (HCV), and human immunodeficiency virus (HIV). Needlesticks and other sharps-related injuries may expose healthcare students to bloodborne pathogens.

Needlestick and other sharps-related injuries may be prevented by (1) safe handling and disposal of equipment, (2) use of needle alternatives when available, (3) activating safety features on equipment, (4) immediately disposing of contaminated needles in OSHA-compliant sharps containers, and (5) completing bloodborne pathogen training.

Human Immunodeficiency Virus (HIV)

Human Immunodeficiency Virus (HIV) is a blood-borne virus typically transmitted through sexual intercourse, shared intravenous drug needles, and mother-to-child transmission during the birth process or breast feeding. HIV disease is caused by infection with HIV-1 or HIV-2 retroviruses that attack the host's immune system, most specifically the CD4 cells. Co-infection with other viruses that share similar routes of transmission (HBV, HCV, HHV8) is common.

Acute seroconversion (the time during which a specific antibody develops and becomes detectable in the blood) manifests as a flulike illness (fever, malaise, generalized rash) and may be associated with generalized lymphadenopathy. This occurs within two to four weeks after infection with HIV. People with acute seroconversion have a large amount of HIV in their blood (high viral load) and are very contagious. However, some people may not develop symptoms. Following acute seroconversion is a period of clinical latency where the HIV is still active but reproduces at much lower levels. This stage may last for years and may not cause any symptoms. AIDS is the most severe stage of HIV infection. In this stage, the immune system is severely impaired (CD4 cell count drops below 200 cells/mm) allowing for the development of opportunistic illnesses. Without treatment, people with AIDS typically survive about three years. Common symptoms of AIDS include fever, chills, sweats, malaise, generalized lymphadenopathy, and weight loss. Their viral load is high, and they are very contagious. To date, there is no cure for HIV and AIDS and there is no vaccine to prevent HIV or AIDS.

It is the policy of the LMU-Knoxville PA Program to follow CDC and OSHA guidelines to prevent transmission of HIV in the healthcare setting. Program students, faculty, and staff members are to follow standard precautions and assume that all blood or body fluids are potentially infectious. These guidelines include the following:

- Routine use of personal protective equipment (such as gloves, face and eye shields, and gowns) when anticipating contact with blood or body fluids.
- Immediate washing of hands and other skin surfaces after contact with blood or body fluids.
- Careful handling and disposal of sharp instruments during and after use.
- Careful use of safety devices developed to help prevent needle stick injuries.

Any LMU-Knoxville PA Program student, faculty, or staff member with an occupational exposure is required to seek medical attention immediately as post exposure prophylaxis (PEP) with antiretroviral therapy (ART) is more effective the sooner it is initiated after exposure.

1. Get evaluated: Follow the clinical site's procedure for reporting your exposure. Get evaluated by a healthcare provider. Don't delay the start of HIV PEP.
2. Complete a full course of PEP: Use 3 or more PEP drugs at one time. Finish the entire 4-week course. Return for evaluation to seek another treatment option if you cannot tolerate PEP.
3. Follow-up: Follow-up appointments should begin within 72 hours of an HIV exposure. Follow-up should include counseling, baseline and follow-up HIV testing, and monitoring for drug toxicity.
4. Follow-up HIV testing can be completed earlier than 6 months. If a newer fourth-generation combination HIV p24 antigen-HIV antibody test is used for follow-up testing, testing may be concluded at 4 months after exposure. If a newer testing platform is not available, follow-up testing is typically concluded at 6 months after exposure.

For more information: Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis. (May 23, 2018) https://stacks.cdc.gov/view/cdc/20711

Hepatitis B Virus (HBV)

Hepatitis B virus (HBV) is a hepadnavirus that invades hepatocytes. The interaction of the virus with the host immune system leads to liver injury and, potentially, cirrhosis and hepatocellular carcinoma. Infected people can experience an acute symptomatic phase (usually about 90 days after exposure to HBV) including fever, myalgia, malaise, anorexia, nausea, vomiting, jaundice, and right upper quadrant pain or they may be asymptomatic. Patients with chronic active hepatitis, especially during the replicative state, may have symptoms like the acute symptomatic phase.

HBV is the most efficiently transmissible of the blood-borne viruses important in healthcare settings. The risk of HBV infection is primarily related to the degree of contact with blood and the HBeAg status of the source patient. Sexual contact, needle sticks, needle sharing blood transfusions, and organ transplantations are routes for HBV transmission. HBV is highly resistant to extremes of temperature and humidity and can survive in dried blood at room temperature on environmental surfaces for at least one week. HBsAg can be found in other body fluids, including breast milk, bile, cerebrospinal fluid, feces, nasopharyngeal washings, saliva, semen, sweat, and synovial fluid.

It is the policy of the LMU-Knoxville PA Program to follow CDC and OSHA guidelines to prevent transmission of HBV in the healthcare setting. Program students, faculty, and staff members are to follow standard precautions and assume that all blood or body fluids are potentially infectious. These guidelines include the following:

- Routine use of personal protective equipment (such as gloves, face and eye shields, and gowns) when anticipating contact with blood or body fluids.

- Immediate washing of hands and other skin surfaces after contact with blood or body fluids.
- Careful handling and disposal of sharp instruments during and after use.
- Careful use of safety devices developed to help prevent needle stick injuries.

All healthcare students should be vaccinated with a complete, ≥ 3-dose HepB vaccine series, preferably before potential exposure to blood or body fluids. Healthcare students who have written documentation of a complete, ≥ 3-dose HepB vaccine series and subsequent postvaccination anti-HBs ≥ 10 mIU/mL are considered hepatitis B immune. Immunocompetent persons have long-term protection against HBV and do not need further periodic testing to assess anti-HBs levels.

All LMU-Knoxville PA Students are required to provide proof of immunity against HBV (qualitative or quantitative Hep B Surface AB titer) prior to matriculation and prior to beginning supervised clinical practice experiences (SCPEs). Students who do not have serologic evidence of immunity must get a 3-dose series of Recombivax HB or Engerix-B or a 2-dose series of Heplisav-B and then an anti-HBs serologic test 1-2 months after then final dose.

Any LMU-Knoxville PA Program student, faculty, or staff member with an occupational exposure is required to seek medical attention immediately to prevent delays in treatment. The management of an exposure to HBV depends on the anti-HBs status of the healthcare personnel and the HBsAg status of the source patient. The healthcare personnel should be tested for anti-HBs, and the source patient (if known) should be tested for HBsAg as soon as possible after the exposure.

For more information: CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management. (December 20, 2013). https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6210a1.htm

Hepatitis C Virus (HCV)

Hepatitis C virus (HCV) is an RNA virus that invades hepatocytes leading to inflammation and possibly cirrhosis and hepatocellular carcinoma. Symptoms of acute HCV infection, such as arthralgias, myalgias, pruritis, paresthesias, can occur within six months after exposure to HCV. Most people with acute HCV infection develop chronic HCV infection.

Transfusion of blood contaminated with HCV was the leading mode of transmission prior to screening of donated blood for HCV antibody beginning in 1992. More advanced screening tests for HCV have reduced the risk of HCV transmission through blood transfusion to less than one per two million units transfused. People who inject illicit drugs with nonsterile needles are at the highest risk for HCV infection. HCV may also be transmitted via sexual contact, tattooing, sharing razors, and acupuncture. HCV transmission may occur during the birth process, but breastfeeding is not associated with HCV transmission. Healthcare workers can acquire HCV infection through needle stick injuries or other occupational exposures.

It is the policy of the LMU-Knoxville PA Program to follow CDC and OSHA guidelines to prevent transmission of HCV in the healthcare setting. Program students, faculty, and staff members are to follow standard precautions and assume that all blood or body fluids are potentially infectious. These guidelines include the following:

- Routine use of personal protective equipment (such as gloves, face and eye shields, and gowns) when anticipating contact with blood or body fluids.
- Immediate washing of hands and other skin surfaces after contact with blood or body fluids.
- Careful handling and disposal of sharp instruments during and after use.
- Careful use of safety devices developed to help prevent needle stick injuries.

Any LMU-Knoxville PA Program student, faculty, or staff member with an occupational exposure is required to seek medical attention immediately to prevent delays in treatment. HCV can be detected in blood within one to three weeks after exposure. There is currently no vaccine to prevent HCV. Any LMU-Knoxville PA Program student, faculty, or staff member with an occupational exposure is required to seek medical attention immediately to prevent delays in treatment. Treatment of acute HCV can reduce the risk of progression to chronic HCV. Recommendations for pharmacologic therapy vary and management by a specialist is recommended.

For more information: Testing and Clinical Management of Health Care Personnel Potentially Exposed to Hepatitis C Virus – CDC Guidance, United States, 2020 (July 24, 2020) https://www.cdc.gov/mmwr/volumes/69/rr/rr6906a1.htm

Less Common Bloodborne Pathogens

Healthcare students may be exposed to blood borne pathogens that cause the following conditions during the course of their training: Syphilis, Malaria, Babesiosis, Brucellosis, Leptospirosis, Arboviral infections (including Colorado Tick Fever), Relapsing Fever, Creutzfeldt-Jakob Disease, Human T-lymphotropic Virus Type I, and Viral Hemorrhagic Fever.

Latex Allergy

Latex refers to the natural rubber latex manufactured from a milky fluid that is primarily obtained from the rubber tree. The U.S. Food and Drug Administration (FDA) requires labeling of medical devices that contain natural rubber latex. Some synthetic materials referred to as "latex" do not contain the natural rubber proteins responsible for latex allergy symptoms. Healthcare workers are at risk of developing latex allergy because of the frequent use of latex gloves. Latex proteins also become fastened to the lubricant powder used in some gloves; therefore, when healthcare workers change gloves, the protein/powder particles become airborne and can be inhaled.

The most common reaction to latex products is irritant contact dermatitis. Other symptoms of latex allergy include itchy eyes, rhinorrhea, sore throat, respiratory symptoms, and rarely, shock. Appropriate barrier protection is necessary when exposure to blood borne pathogens or other infectious agents is anticipated. The use of powder-free gloves with reduced protein

content will reduce exposure, and subsequent sensitization, to latex. After removing latex gloves, wash hands with mild soap and dry thoroughly. “Hypoallergenic” latex gloves to not reduce the risk of latex allergy but they may reduce reactions to the chemical additives in the latex. Any LMU-Knoxville PA Program student, faculty, or staff member with a suspected allergic reaction to latex is required to seek medical attention immediately to prevent delays in treatment.

For more information: Latex Allergy: A Prevention Guide (June 6, 2014)
https://www.cdc.gov/niosh/docs/98-113/

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