# ANATOMIC PATHOLOGY SAFETY MANUAL

## TABLE OF CONTENTS

- UCD Respiratory Protection Program ........................................... 1
- Laboratory Accident or Exposure Reporting and Procedures .............. 2
- Handling Cryogenic Chemicals ...................................................... 3
- Exposure/Use of Carcinogens in the Lab ......................................... 4
- Waste Disposal Guidelines ......................................................... 5
- Formaldehyde and Xylene Monitoring .............................................. 6
- Electrical Safety ........................................................................... 7
- Use of Space heaters ................................................................. 8
- Emergency Devices ....................................................................... 9
- Chemical Hygiene Plan ................................................................. 10
- Chemical Fume Hoods/Biological Safety Cabinets ............................... 11
- Signs ......................................................................................... 12
- Labeling ..................................................................................... 13
- SDS (Safety Data Sheet) ............................................................... 14
- PPE ......................................................................................... 15
- Latex Allergies ............................................................................ 16
- Universal Precautions .................................................................. 17
- Safe Medical Devices ................................................................. 18
- Spills/Contamination ................................................................... 19
- Campus Security ........................................................................ 20
- Chemical Inventory ..................................................................... 21
- UCH Policies and Procedures ....................................................... 22
- Fire Safety and Evacuation Plans .................................................... 23
- Disaster Plans ........................................................................... 24
- Noise Level Assessment in the Laboratory ....................................... 25
- Ergonomic Evaluation ................................................................ 26
- Handling CJD Specimens ............................................................. 27
- UV Light Exposure ..................................................................... 28
ANATOMIC PATHOLOGY SAFETY MANUAL SIGNATURE SHEET

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. Any change in directorship must include review of all procedures within a reasonable amount of time to insure their documentation and at least annual review. GEN.73200

Medical Director Signature/Date:  
- Scott Zucin, MD 8/29/12  
- Scott Zucin, MD 3/24/14  
- Scott Zucin, MD 8/26/14  
- Scott Zucin, MD 8/26/16

Safety Coordinator Signature/Date:  
- Deila Zephol 8/20/12  
- Deila Zephol 3/24/14  
- Deila Zephol 8/26/14  
- Deila Zephol 8/26/16
Title: UCD RESPIRATORY PROTECTION PROGRAM

Principle:
Provide information and guidance necessary to ensure that the department of pathology remains consistent with OSHA standards and to reduce risk of employee exposure to Tuberculosis. Employees have a N95 respirator FIT tested and ready to wear for any procedure in which possible tuberculosis exposure exists.

Procedures:
A. Handling of Specimens and Deceased Persons with Airborne Diseases:
1. All specimens received in Anatomic Pathology with suspected Mycobacterium tuberculosis must be received in a covered closed container that is bagged with airborne precautions sticker on specimen. The specimen must be processed under a biosafety hood. If specimen is to be slit and sent to another department the specimen must be properly labeled with airborne precautions and sealed in covered closed airtight container that is bagged.
2. Personnel that required to enter a patients room with airborne precautions will be required to wear proper fitted respirator N95 mask. See Fit testing procedures in section B.
3. Morgue Personnel handling deceased bodies with airborne precautions will be required to wear proper fitted respirator or N95 mask. See fit testing procedures in section B. Always ensure the bodies are properly sealed/ bag zipped prior to being transported and is labeled properly with airborne precautions.
4. All Anatomic Pathology personnel are offered the option of random PPD testing Through University of Colorado Denver Occupational Health Program Environmental Health and Safety. Appointments may be scheduled by calling them directly at (303)724-9030.
5. Personnel that are exposed or come in contact with specimen or patient with airborne precautions without N95 mask or unfixed specimen outside biosafety hood should follow UCD laboratory exposure reporting and procedures found in UCD Anatomic Pathology Safety Manual.

B. Procedure for N95 Mask fitting
1. A medical questionnaire will need to be filled out and reviewed by the Occupational Health Nurse.
2. A Health Clearance for Respiratory Protection Use Form must be completed and signed off by the Institutional Health Professional noting that the employee has been cleared to use a respirator on the UCD campus. Notice that the form has two pages. The first page is filled out by the employee's supervisor and notes the type of respirator that the employee will require for their position, N95 respirator is used in Pathology department. The second page is the Medical Professional Signature page that indicates the employee has been cleared for respirator use.
3. Once the medical questionnaire and the appropriate information on the first page of the Health Clearance Form has been filled out, the employee will need to send the two documents to Teran Williams, the Occupational Health Nurse, at UCD Campus Box F-484.

4. When the Health Clearance forms have been signed and the employee gets the approval from the Occupational Health Nurse the employee may schedule an appointment with and EHS (Environmental Health and Safety Department) for individual training and FIT testing. EHS administration office can be reached at 303-724-0345 and is located in Building 401.

5. Once trained and FIT tested employees need to attend training and be re-FIT tested annually.

Written by: Gail Zander, CT (ASCP), 8/10/2010

Revised by: Gail Zander, CT (ASCP), 8/20/2014


References: GEN.74900

Approval of Procedure:

Medical Director Signature: [Signature] 8/26/19

Date:
Respirator Medical Evaluation Questionnaire

(Adopted from Appendix C of 29CFR1910.134: OSHA Respirator Medical Evaluation Questionnaire)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: ________________________________

2. Your name: ________________________________

3. Your age (to nearest year): __________________________

4. Sex (circle one): Male/Female

5. Your height: ________ ft. ________ in.


7. Your job title: ________________________________

8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): ___________________

9. The best time to phone you at this number: __________________

10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):  
a. ______ N, R, or P disposable respirator (filter-mask, non-cartridge type only).  
b. ______ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).  

12. Have you worn a respirator (circle one): Yes/No  
If "yes," what type(s):________________________________________________________

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").  

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month: Yes/No  

2. Have you ever had any of the following conditions?  
   a. Seizures (fits): Yes/No  
   b. Diabetes (sugar disease): Yes/No  
   c. Allergic reactions that interfere with your breathing: Yes/No  
   d. Claustrophobia (fear of closed-in places): Yes/No  
   e. Trouble smelling odors: Yes/No  

3. Have you ever had any of the following pulmonary or lung problems?  
   a. Asbestosis: Yes/No  
   b. Asthma: Yes/No  
   c. Chronic bronchitis: Yes/No  
   d. Emphysema: Yes/No  
   e. Pneumonia: Yes/No  
   f. Tuberculosis: Yes/No  
   g. Silicosis: Yes/No  
   h. Pneumothorax (collapsed lung): Yes/No  
   i. Lung cancer: Yes/No  
   j. Broken ribs: Yes/No  
   k. Any chest injuries or surgeries: Yes/No  
   l. Any other lung problem that you’ve been told about: Yes/No  

4. Do you currently have any of the following symptoms of pulmonary or lung illness?  
   a. Shortness of breath: Yes/No  
   b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No  
   c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No  
   d. Have to stop for breath when walking at your own pace on level ground: Yes/No  
   e. Shortness of breath when washing or dressing yourself: Yes/No  
   f. Shortness of breath that interferes with your job: Yes/No  
   g. Coughing that produces phlegm (thick sputum): Yes/No  
   h. Coughing that wakes you early in the morning: Yes/No  
   i. Coughing that occurs mostly when you are lying down: Yes/No
j. Coughing up blood in the last month: Yes/No
k. Wheezing: Yes/No
l. Wheezing that interferes with your job: Yes/No
m. Chest pain when you breathe deeply: Yes/No
n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you ever had any of the following cardiovascular or heart problems?
   a. Heart attack: Yes/No
   b. Stroke: Yes/No
   c. Angina: Yes/No
   d. Heart failure: Yes/No
   e. Swelling in your legs or feet (not caused by walking): Yes/No
   f. Heart arrhythmia (heart beating irregularly): Yes/No
   g. High blood pressure: Yes/No
   h. Any other heart problem that you’ve been told about: Yes/No

6. Have you ever had any of the following cardiovascular or heart symptoms?
   a. Frequent pain or tightness in your chest: Yes/No
   b. Pain or tightness in your chest during physical activity: Yes/No
   c. Pain or tightness in your chest that interferes with your job: Yes/No
   d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
   e. Heartburn or indigestion that is not related to eating: Yes/No
   f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you currently take medication for any of the following problems?
   a. Breathing or lung problems: Yes/No
   b. Heart trouble: Yes/No
   c. Blood pressure: Yes/No
   d. Seizures (fits): Yes/No

8. If you’ve used a respirator, have you ever had any of the following problems? (If you’ve never used a respirator, check the following space and go to question 9:)
   a. Eye irritation: Yes/No
   b. Skin allergies or rashes: Yes/No
   c. Anxiety: Yes/No
   d. General weakness or fatigue: Yes/No
   e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently): Yes/No
11. Do you currently have any of the following vision problems?
   a. Wear contact lenses: Yes/No
   b. Wear glasses: Yes/No
   c. Color blind: Yes/No
   d. Any other eye or vision problem: Yes/No

12. Have you ever had an injury to your ears, including a broken ear drum: Yes/No

13. Do you currently have any of the following hearing problems?
   a. Difficulty hearing: Yes/No
   b. Wear a hearing aid: Yes/No
   c. Any other hearing or ear problem: Yes/No

14. Have you ever had a back injury: Yes/No

15. Do you currently have any of the following musculoskeletal problems?
   a. Weakness in any of your arms, hands, legs, or feet: Yes/No
   b. Back pain: Yes/No
   c. Difficulty fully moving your arms and legs: Yes/No
   d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
   e. Difficulty fully moving your head up or down: Yes/No
   f. Difficulty fully moving your head side to side: Yes/No
   g. Difficulty bending at your knees: Yes/No
   h. Difficulty squatting to the ground: Yes/No
   i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
   j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B
Any of the following questions, and other questions not listed, may be added to the
questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has
   lower than normal amounts of oxygen: Yes/No

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other
symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne
   chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous
   chemicals: Yes/No

If "yes," name the chemicals if you know them: ____________________________

_________________________
3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

   a. Asbestos: Yes/No
   b. Silica (e.g., in sandblasting): Yes/No
   c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
   d. Beryllium: Yes/No
   e. Aluminum: Yes/No
   f. Coal (for example, mining): Yes/No
   g. Iron: Yes/No
   h. Tin: Yes/No
   i. Dusty environments: Yes/No
   j. Any other hazardous exposures: Yes/No

If "yes," describe these exposures: ______________________________________
________________________________________

4. List any second jobs or side businesses you have: ________________________

5. List your previous occupations: ______________________________________

6. List your current and previous hobbies: _________________________________

7. Have you been in the military services? Yes/No

If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

If "yes," name the medications if you know them: ________________________

10. Will you be using any of the following items with your respirator(s)?

   a. HEPA Filters: Yes/No
   b. Canisters (for example, gas masks): Yes/No
   c. Cartridges: Yes/No
11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:

   a. Escape only (no rescue): Yes/No
   b. Emergency rescue only: Yes/No
   c. Less than 5 hours **per week**: Yes/No
   d. Less than 2 hours **per day**: Yes/No
   e. 2 to 4 hours per day: Yes/No
   f. Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:

   a. **Light** (less than 200 kcal per hour): Yes/No

   If "yes," how long does this period last during the average shift:___________hrs.___________mins.

   Examples of a light work effort are **sitting** while writing, typing, drafting, or performing light assembly work; or **standing** while operating a drill press (1-3 lbs.) or controlling machines.

   b. **Moderate** (200 to 350 kcal per hour): Yes/No

   If "yes," how long does this period last during the average shift:___________hrs.___________mins.

   Examples of moderate work effort are **sitting** while nailing or filing; **driving** a truck or bus in urban traffic; **standing** while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; **walking** on a level surface about 2 mph or down a 5-degree grade about 3 mph; or **pushing** a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

   c. **Heavy** (above 350 kcal per hour): Yes/No

   If "yes," how long does this period last during the average shift:___________hrs.___________mins.

   Examples of heavy work are **lifting** a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; **shoveling**; **standing** while bricklaying or chipping castings; **walking** up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

   If "yes," describe this protective clothing and/or equipment:____________

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No
15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s):

__________________________________________________________________________

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):

__________________________________________________________________________

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance:___________________________________________________________________________
Estimated maximum exposure level per shift:_________________________________________________________________
Duration of exposure per shift:___________________________________________________________________________
Name of the second toxic substance:_________________________________________________________________________
Estimated maximum exposure level per shift:_________________________________________________________________
Duration of exposure per shift:___________________________________________________________________________
Name of the third toxic substance:___________________________________________________________________________
Estimated maximum exposure level per shift:_________________________________________________________________
Duration of exposure per shift:___________________________________________________________________________
The name of any other toxic substances that you'll be exposed to while using your respirator:

__________________________________________________________________________
__________________________________________________________________________

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security):

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
Health Clearance for Respiratory Protection Use

Employee Name: ____________________________________________
Employee Title: ____________________________________________
Employee UCD ID#: _________________________________________

Employee Contact Information:
phone ____________________________
email ____________________________

UCD Department (or other employer): __________________________

Employee Supervisor: __________________________
phone ____________________________
email ____________________________

Information for Employee and Supervisor

This form must be completed prior to fit testing by UCD Environmental Health and Safety (EHS). Please identify the employee above and complete only Part One of this form. After filling out Part One, send this form to the Medical Health Care provider (at UCD: EHS Occupational Health Fax: 303-724-0388). The fully executed form must be returned to EHS before the employee can be fit tested by UCD. If fit testing is conducted elsewhere, you must still provide documentation of fit testing and a copy of this executed form to EHS. Please note that this form must be completed in conjunction with the Respirator Medical Evaluation Questionnaire, which must also be sent to healthcare provider.

Information for Occupational Health Care Provider

The University of Colorado Denver (UCD) employee being medically evaluated will, or may be, required to wear a respirator in the execution of their work responsibilities. Following your assessment of the employee’s health status (as it pertains to the use of respiratory protection devices identified herein and in accordance with the OSHA Respiratory Protection Standard 29 CFR 1910.134), please complete Part Two of this form and indicate if the person is medically cleared to wear the respiratory protection devices that have been identified/checked below and in the conditions identified herein (Part One) and by the employee and/or supervisor.
Type of Respirator:
  N, R, or P disposable respirator (filter mask, non-cartridge type only, such as N95)
  Half facepiece (negative pressure) respirator
  Full facepiece (negative pressure) respirator
  Powered-air purifying respirator (PAPR)

  Supplied-air respirator
  Self-Contained Breathing Apparatus (SCBA)

During the execution of the following job activities:
  Asbestos work (16-hour, abatement worker, supervisor, or inspector)
  Laboratory worker/researcher with occupational exposure potential to specific hazards
  Facilities Maintenance (e.g., painting, lead paint removal, welding, etc. Specify:__________________)
  Non-routine use to permit safe entry to restricted areas where exposure is possible.
  Clinic or healthcare use
  Visual or Performing Arts
  Hazardous waste technician*
  Emergency response*
  Other: ____________________________________________________

* Hazardous waste and emergency response operations may require the use of restrictive Personal Protective clothing that can be confining and hot. Medical assessment for these duties should consider the burden of these special conditions. Emergency response will also involve high stress situations, strenuous activities with physical demands beyond routine work conditions.

Duration and frequency of respirator use:

<table>
<thead>
<tr>
<th>Escape only (no rescue)</th>
<th>Over 4 hours per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency rescue only</td>
<td>Less than 5 hours per week</td>
</tr>
<tr>
<td>Less than 2 hours per day</td>
<td>Other:__________________________</td>
</tr>
</tbody>
</table>
| 2 to 4 hours per day   | ___________________________

If this is for field work: How many times have you been in the field in the last year?________
How many times do you anticipate being in the field next year?_______

Expected physical work effort:  Light/Sedentary  Moderate  Strenuous  Very Strenuous

Potential for Heat Stress:  High  Moderate  Low

If high to moderate, describe: _____________________________________________________________

Potential hazards or special conditions encountered while wearing the respirator(s):

  Confined spaces
  BSL/ABSL 3 work
  Life threatening conditions (e.g., IDLH)
  Exposure to specific chemical vapor hazards (if known):______________________________
  Exposure to specific particulate inhalation hazards (if known):________________________
  Inhalation of radioisotopes, list:_____________________________________________________
  Inhalation of human pathogens:______________________________________________________
  Other:__________________________________________________________________________
Medical Release/Approval

To be completed by the medical health care provider

I have reviewed health information and/or examined __________________________(UCD employee name) and I have determined that they are medically approved to wear the indicated Respiratory Protective Protection devices in the performance of their job functions without limitations.

__________________________________________  __________________________
Medical Health Care Provider                  Date

Name of Health Care Provider: ____________________________

Name of Firm: ____________________________

Address: ____________________________

Phone Number: ____________________________

If approved for one, but not all indicated respirators (refer to those checked on first page), or if approved with limitations please provide clarification below.

Please indicate which devices MAY be used by employee as applicable:

N, R, or P disposable respirator
(filter mask, non-cartridge type only)
Half facepiece type
Full facepiece type

Powered-air purifying (PAPR)
Supplied-air respirator
Self-contained Breathing Apparatus (SCBA)

If not approved for one or all of the requested devices, please indicate if restriction is:

Permanent   Until further notice   Until (specify date) ____________________________

Additional comments and/or restrictions:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
# ANNUAL SIGNATURE REVIEW

**PROCEDURE TITLE:** UCD RESPIRATORY PROTECTION PROGRAM

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucie, M.D.</td>
<td>M. Scott Lucie.</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucie, M.D.</td>
<td></td>
<td>3/27/14</td>
</tr>
<tr>
<td>M. Scott Lucie, M.D.</td>
<td></td>
<td>5/26/14</td>
</tr>
<tr>
<td>M. Scott Lucie, M.D.</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Title: LABORATORY ACCIDENT OR EXPOSURE REPORTING AND PROCEDURES

Principle:
To familiarize employees with the procedural steps involved in the reporting and subsequent medical attention involved in the event of an occupational injury or illness or other laboratory accident.

Procedure:
Overview:
It is the policy of the University of Colorado Denver that all employees comply with the reporting of on the job accidents and illnesses. This policy includes the completion of required paperwork and proper medical attention or follow-up when indicated.
There are two types of accidents that can occur in the laboratory-those that result in property damage or spillage/loss of supplies and materials and those that result in occupational injuries or illnesses. It is the responsibility of each employee to report all accidents immediately to a supervisor and, in the case of occupational injury, to report to the designated healthcare clinic or to the emergency room for evaluation.

A. Reportable Occupational Injuries
It is not possible to list every type of injury that can occur and that must be reported. at the discretion of the employee, minor injuries that require first aid only do not have to be handled by a healthcare clinic. The following are among the types of accidents that must be reported:
1. Needle sticks
2. Contamination of mucous membranes with blood or other potentially infectious Fluid or microbiologic cultures
3. Cuts in skin that are contaminated with blood or other infectious fluid
4. Hazardous chemical spills in which splashing of unprotected skin occurs
5. All spills of chemical carcinogens or potential carcinogens with or without Contact.
6. Chemical odors/fumes of sufficient strength to cause symptoms
7. All eye injuries, including splashing of chemicals to eyes
8. All muscle strains and sprains
9. All burns, whether thermal or chemical
10. Any cut where broken glass or other foreign material penetrates the skin
11. Any injury that results in >15 minutes loss of work time
12. Hazardous spills in which aerosolization and inhalation of infectious/hazardous material is suspected

B. Reporting of Occupational Injuries
NOTE: All UCH employees will report work related injuries to UCH Employee Health and Wellness Clinic (website on HUB) phone (720)848-6849 fax (720)848-7376.
All UCD employees will report work related injuries to University Risk Management (URM). https://www.cu.edu/risk or phone 303-860-5682.
All UPI employees will report accidents to UPI Human Resources 303-493-7600 and complete "Employee's 1st report of injury".

1. Complete the Accident Report Form: Please note to fill out applicable form. Copies are available online or by calling the phone number provided. Both employee and supervisor should complete the appropriate section of the form. Note: If the nature of the injury is such that immediate medical attention is required, the employee should be sent to the emergency department for evaluation.

2. The accident report form must be completed on the shift in which the injury occurred. The employee must report to the applicable clinic within 24 hours of the incident, but preferably on the same shift.

C. Documentation of Accidents Without Occupational Injury
It is the responsibility of the laboratory supervisor to log all laboratory accidents in which property damage or spillage of hazardous substances occurs. A summary of the accidents should be reported to the Anatomic Pathology safety committee. The log should serve to point out areas in which work practice controls, personal protective equipment, etc., might be changed to prevent further similar accidents or where additional training is needed.

Written by: Heather Currens, SCT (ASCP), 12/11/2007

Revised by: Gail Zander, CT (ASCP), 8/18/2012


References: GEN.73500, GEN.73600, GEN.74800

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 8/29/12
Employee / Volunteer  □  Yes  □  No
Initial visit MUST be with the Employee Health Clinic unless the injury is emergent

NAME_________________________SEX_________SOCIAL SECURITY NUMBER_________________

ADDRESS_________________________CITY/STATE_________________________ZIP_________

DATE OF BIRTH____________________HOME PHONE________________WORK PHONE________________

OCCUPATION______________________EMPLOYEE STATUS:  ☐ full time  ☐ part time  ☐ flex

DATE OF INJURY__________________TIME OF INJURY________AM/PM  ACCIDENT LOCATION_________________

EMPLOYEE'S DEPT_________________EMPLOYEE'S MGR_________________MGR PHONE EXT________

TO WHOM WAS THE INJURY/IllNESS REPORTED?________________________DATE REPORTED________

NAMES OF WITNESSES__________________________________________________________

HOW DID THE INJURY/IllNESS OCCUR?__________________________________________

BODY PART INJURED____________________________PERSONAL PROTECTIVE EQUIPMENT WORN:  YES ☐ NO ☐ TYPE: gloves ☐ mask ☐ goggles ☐ other

EMPLOYEE'S SIGNATURE_________________________DATE________________

**MEDICAL RELEASE**

I GIVE MY PERMISSION TO MY DESIGNATED MEDICAL PROVIDERS AND ALL OTHER HEALTH CARE PROVIDERS, HOSPITALS OR CLINICS TO RELEASE MY MEDICAL RECORDS RELATING TO THIS WORK-RELATED INJURY/IllNESS TO MY EMPLOYER. I UNDERSTAND THAT THIS INFORMATION WILL BE USED TO ASSIST MY EMPLOYER IN PLANNING A RETURN TO WORK SCHEDULE, INVESTIGATING THE ACCIDENT AND PREVENTING FUTURE INJURIES. I UNDERSTAND, IF NECESSARY, MY PAST MEDICAL RECORDS PERTINENT TO THIS INJURY/ACCIDENT MAY BE REQUESTED.

☐ alcohol/drug abuse  ☐ psychological/psychiatric conditions  ☐ autoimmune deficiencies  ☐ complete hospital records

EMPLOYEE'S SIGNATURE_________________________DATE________________

**HAZARDOUS BLOOD/BODY FLUID EXPOSURE**

TYPE:  PUNCTURE WOUND  SPLASH  OTHER______________________________BRAND OF NEEDLE/SHARP________________

☐ SOURCE UNKNOWN  LOCATION__________________________

☐ SOURCE KNOWN (PATIENT NAME, MD, ROOM #, MEDICAL RECORD #)__________________________

**TO BE COMPLETED BY MANAGER**

WHAT ACTIONS OR UNSAFE CONDITIONS CONTRIBUTED TO THIS ACCIDENT?__________________________

COULD THE ALLEGED ACCIDENT/IllNESS, IN WHOLE OR PART, BE THE RESULT OF NON-WORK RELATED FACTORS?__________________________

SUGGESTIONS FOR PREVENTION OR CORRECTION?______________________________________________

MEDICAL TREATMENT WAS NOT NECESSARY (REPORTING AS AN INCIDENT ONLY)__________________________  EMPLOYEE SENT TO EMPLOYEE HEALTH__________________________

MANAGER'S SIGNATURE_________________________DATE________________

Employee Health Nurse NOTES-__________________________

**DISTRIBUTION**

☐ Employee Health and Wellness Clinic – Fax within 24 HOURS  to  720-848-7376
☐ Manager Copy for the Employee File
☐ Employee Copy

HRD 25960 - J - (rev. 10/01) DOD
This is a **SECURE** and **ENCRYPTED** online form.

<table>
<thead>
<tr>
<th>NEEDLESTICK OR BODILY FLUID EXPOSURE REPORT FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Risk Management</td>
</tr>
<tr>
<td>1800 Grant Street, Suite 700</td>
</tr>
<tr>
<td>Denver, CO 80203</td>
</tr>
<tr>
<td>Phone: 303-860-5682</td>
</tr>
<tr>
<td>DATE OF CLAIM</td>
</tr>
<tr>
<td>Monday, June 4, 2012</td>
</tr>
<tr>
<td>DATE AND TIME OF OCCURRENCE</td>
</tr>
<tr>
<td>DATE: mm/dd/yyyy TIME: HH:MM AM/PM</td>
</tr>
<tr>
<td>EMPLOYEE INFORMATION</td>
</tr>
<tr>
<td>FIRST AND LAST NAME</td>
</tr>
<tr>
<td>HOME ADDRESS</td>
</tr>
<tr>
<td>CITY</td>
</tr>
<tr>
<td>STATE ZIP</td>
</tr>
<tr>
<td>SOCIAL SEC #</td>
</tr>
<tr>
<td>XXX-XX-XXXX</td>
</tr>
<tr>
<td>HOME PHONE (XXX) XXX-XXXX</td>
</tr>
<tr>
<td>AGE</td>
</tr>
<tr>
<td>DATE OF BIRTH mm/dd/yyyy</td>
</tr>
<tr>
<td>SEX Male Female</td>
</tr>
<tr>
<td># OF DEPENDENTS YEARS OF EDUCATION</td>
</tr>
<tr>
<td>MARITAL STATUS Single Married Divorced Widowed</td>
</tr>
<tr>
<td>EMPLOYMENT INFORMATION</td>
</tr>
<tr>
<td>DEPARTMENT</td>
</tr>
<tr>
<td>DEPT. #</td>
</tr>
<tr>
<td>WORK PHONE (XXX) XXX-XXXX</td>
</tr>
<tr>
<td>BOX #</td>
</tr>
<tr>
<td>DATE OF HIRE</td>
</tr>
<tr>
<td>JOB TITLE</td>
</tr>
<tr>
<td>JOB POSITION #</td>
</tr>
<tr>
<td>YEARS IN THIS POSITION</td>
</tr>
<tr>
<td>PROGRAM DIRECTORS NAME</td>
</tr>
<tr>
<td>PROG DIRECTORS PHONE (XXX) XXX-XXXX</td>
</tr>
<tr>
<td>PROGRAM DIRECTORS EMAIL</td>
</tr>
<tr>
<td>ACCIDENT INFORMATION</td>
</tr>
<tr>
<td>LOCATION OF ACCIDENT</td>
</tr>
<tr>
<td>Univ. Hospital Denver Health Childrens Hospital Rose Medical Center Veterans Hospital</td>
</tr>
<tr>
<td>Wardenbury Other Please type other location here</td>
</tr>
<tr>
<td>WHAT PROCEDURE/ACTIVITY WERE YOU PERFORMING WHEN YOU WERE INJURED?</td>
</tr>
<tr>
<td>WHAT HAPPENED TO CAUSE THIS INJURY? Describe how the event occurred including other persons involved, tools, machinery, chemicals etc.</td>
</tr>
<tr>
<td>WHAT BODY PART(S) INJURED/EXPOSED?</td>
</tr>
<tr>
<td>Right Left</td>
</tr>
<tr>
<td>WHAT INJURIES DID YOU SUSTAIN? (cut, needlestick, burn, etc.)?</td>
</tr>
<tr>
<td>HAVE YOU CONSULTED A PHYSICIAN? IF YES PLEASE STATE THE NAME OF FACILITY OR CLINIC</td>
</tr>
<tr>
<td>DATE PHYSICIAN SEEN</td>
</tr>
<tr>
<td>IF INCIDENT IS A BODY FLUID EXPOSURE (BFE) OR NEEDLESTICK, DID IT OCCUR DURING AN EMERGENCY PROCEDURE?</td>
</tr>
<tr>
<td>YES NO</td>
</tr>
<tr>
<td>IF BFE / NEEDLESTICK - NAME OF SOURCE PATIENT (If Unknown, please put N/A for the Source Name and Med Record Number)</td>
</tr>
<tr>
<td>SOURCE NAME MED RECORD NUMBER</td>
</tr>
</tbody>
</table>

https://urm.cu.edu/docs/forms/needlestick_incident_report_form.asp

6/4/2012
This is a **SECURE and ENCRYPTED** online form.

**EMPLOYEE'S INJURY REPORT FORM**

<table>
<thead>
<tr>
<th>UNIVERSITY RISK MANAGEMENT</th>
<th>EMPLOYEE CAMPUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800 Grant Street, Suite 700</td>
<td>BOULDER</td>
</tr>
<tr>
<td>Denver, CO 80203</td>
<td>Denver</td>
</tr>
<tr>
<td>Phone: 303-860-5662</td>
<td>UCCS</td>
</tr>
<tr>
<td></td>
<td>SYSTEM</td>
</tr>
<tr>
<td></td>
<td>DATE OF CLAIM</td>
</tr>
<tr>
<td></td>
<td>Monday, June 4, 2012</td>
</tr>
<tr>
<td></td>
<td>DATE IF PREVIOUSLY REPORTED</td>
</tr>
<tr>
<td></td>
<td>DATE AND TIME OF OCCURRENCE</td>
</tr>
<tr>
<td></td>
<td>Data: Time: AM/PM: AM</td>
</tr>
</tbody>
</table>

**PERSONAL INFORMATION**

<table>
<thead>
<tr>
<th>FIRST AND LAST NAME</th>
<th>HOME ADDRESS</th>
<th>CITY, STATE</th>
<th>ZIP</th>
<th>SOCIAL SEC #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>XXX-XX-XXXX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AGE</td>
<td>DATE OF BIRTH</td>
<td>SEX</td>
<td># OF DEPENDENTS</td>
</tr>
<tr>
<td></td>
<td>mm/dd/yyyy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RACE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>White</td>
<td>Black</td>
<td>Hispanic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EMPLOYMENT INFORMATION**

<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>DEPT. #</th>
<th>WORK PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(xxx) XXX-XXXX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BOX #</td>
<td>DATE OF HIRE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>JOB TITLE</td>
<td>JOB POSITION #</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUPERVISOR NAME</th>
<th>SUPERVISOR PHONE</th>
<th>SUPERVISOR EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(xxx) XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**USUAL SHIFT (indicate am/pm)**

<table>
<thead>
<tr>
<th>DAYS OF THE WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Su Mo Tu We Th Fr Sa</td>
</tr>
<tr>
<td>Su Mo Tu We Th Fr Sa</td>
</tr>
</tbody>
</table>

**OCCURRENCE**

<table>
<thead>
<tr>
<th>LOCATION OF OCCURRENCE</th>
<th>WHAT JOB ACTIVITY WERE YOU PERFORMING?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**AUTHORITY CONTACTED**

<table>
<thead>
<tr>
<th>DATE CONTACTED</th>
<th>PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WHAT BODY PART(S) INJURED?**

**WHAT TYPE OF INJURY? (cut, needlestick, burn, etc.)?**

**WHAT HAPPENED TO CAUSE THIS INJURY? (describe how the event occurred, including other persons involved, tools, machinery, chemicals, etc.)**

**HOSPITAL/PHYSICIAN CONSULTED (Name/Location/Phone)**

<table>
<thead>
<tr>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**TIME LOST AT WORK?**

<table>
<thead>
<tr>
<th>DATE LAST WORKED</th>
<th>DATE RETURNED</th>
<th>ADDITIONAL COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WITNESSES**

<table>
<thead>
<tr>
<th>NAME &amp; ADDRESS</th>
<th>BUSINESS PHONE</th>
<th>RESIDENCE PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Submit**

**Reset**

RED fields are required and must be filled in.

**It is unlawful to knowingly provide false or misleading information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance and civil damages.**

[https://urm.cu.edu/docs/forms/incident_report_form.asp](https://urm.cu.edu/docs/forms/incident_report_form.asp)
## WITNESSES

<table>
<thead>
<tr>
<th>NAME &amp; ADDRESS</th>
<th>BUSINESS PHONE</th>
<th>RESIDENCE PHONE</th>
</tr>
</thead>
</table>

Submit    Reset

RED fields are Required

It is unlawful to knowingly provide false or misleading information to an insurance company for the purpose of defrauding or attempting to defraud the company. *Penalties may include imprisonment, fines, denial of insurance and civil damages.*
Authorized and Designated Workers’ Compensation Medical Providers

In case of a life or limb threatening emergency, call 911.

In the event of an on the job injury that does not require immediate attention – please call the clinic of your choice and schedule an appointment to be seen. They usually schedule you the same day.

If the injury requires immediate attention (but not life threatening), you may go to the clinic of your choice on a “walk-in” basis, no appointment required.

UCDHSC Clinic Locations

A. Heal tOne Occupational Medicine - Aurora
   1444 S Potomac #200
   Aurora CO 80012
   Phone: 303-214-0000
   Fax 303-343-8135
   Hours: 7:00 – 5:00 M – F

B. Heal tOne Occupational Medicine – Bryant
   120 Bryant St.
   Denver, CO 80219
   Phone: 303-936-9700
   Fax: 303-936-9886
   Hours: 7:00 – 5:00 M – F

C. Heal tOne Occupational Medicine – Downtown
   1515 Wazee, Suite D
   Denver, CO 80202
   Phone: 303-534-9550
   Fax: 720-932-7805
   Hours: 7:00 – 5:00 M – F

Rocky Mountain Medical Group, P.C. Clinic Locations

A. Rocky Mountain Medical Group – East
   14100 E. Jewell Ave. Ste 15

http://urm.cusys.edu/insurance/UCDHSC_des_med_provider1.html

12/12/2007
B. Rocky Mountain Medical Group – South
730 West Hampden Ave. Ste 200
Englewood CO 80110
Phone: 303-762-0900
Hours: 8:00 – 5:00 M – F

C. Rocky Mountain Medical Group – North
8380 N. Zuni St. Ste 205
Denver CO 80221
Phone: 303-650-6201
Hours: 8:30 - 5:30 M – F

Disclaimer: Directions above are provided courtesy of Mapquest Inc. University Risk Management does not guarantee its accuracy.

Colorado Springs, Pueblo, Alamosa (southern Colo UCDHSC locations)

Centura Healthcare-Colorado Springs Clinics

A. Centura Centers for Occupational Medicine
Union Medical Campus
1833 Medical Center Point, #103
Colorado Springs, CO
(719) 475-8486

B. Centura Centers for Occupational Medicine
St. Francis Health Center
825 East Plikes Peak, 1st Floor
Colorado Springs, CO
(719) 776-8512

24 Hour Urgent Care-Colorado Springs

A. Centura Health-Penrose Hospital
2215 N. Cascade Ave.
Colorado Springs, CO
(719) 776-5333

B. Centura Health-Penrose Community Hospital
3205 N. Academy Blvd.
Colorado Springs, CO
(719) 776-3216

Centura Healthcare-Pueblo Clinics

Centura Centers for Occupational Medicine
4112 Outlook Blvd., Ste 37
Pueblo, CO
(719) 562-6300 or (719) 562-6350

24 Hour Urgent Care-Pueblo

Centura Health-St. Mary Corwin Medical Center
1008 Minnequa Ave.
Pueblo, CO
(719) 560-4000

For Body fluid exposures, including needlesticks Click here.

Remember, University Risk Management, not your health insurance, is responsible for payment of services related to an on-the-job-injury. Send any bills you may receive from an authorized medical provider to: University Risk Management, 1800 Grant Street, Suite 700; Denver, CO 80203 or fax to 303-860-5680.

Questions concerning Workers' Compensation should be referred to:

University Risk Management at 303-860-5682 or 303-315-2730.

WCDMP 2/28/05
The 90-Day Provision (Injury Leave) – State Personnel Rule P-5-39

Leave Reporting Under Workers’ Compensation for Classified, Unclassified, and Faculty Employees of the University of Colorado

Departments must grant injury leave to any eligible employee (may be Classified staff, Unclassified permanent staff, or Faculty) with a new compensable claim under Workers’ Compensation. The temporary compensation payments are assigned to the department while under the 90-Day Provision.

It is the responsibility of both the supervisor and the employee to assure that approved leave related to the injury is reported accurately and timely to University Risk Management (URM) using the following procedures. Failure to follow these procedures, or falsification of time records, can have significant financial and legal impacts to your department and the University of Colorado. Your attention to these matters is greatly appreciated.

Reporting Injury Leave Procedure:

✓ Use the Lost Time Worksheet to record time lost from work due to the injury. Promptly submit the form to University Risk Management every two weeks throughout the Injury Leave period.

✓ The first date of injury is counted as a regular work day regardless of what time the injury occurs. No leave related to the injury should be deducted on that day.

✓ The following 3 working shifts or 24 hours of approved and actual time used for injury-related time off should be taken out of the employee’s Sick (first) or Annual leave (second) for those 24 hours. Leave Without Pay (LWOP) is used if the employee has no Sick or Annual leave accrued. Sick, Annual, and LWOP are to also be reported into PeopleSoft by the department for this period. (If LWOP, notify your Human Resources office immediately.) If applicable, this leave may later be restored.

✓ Once the 24-hour (or 3 working shifts) period has been reached, the employee receives 100% pay for up to 90 days (see the section on Counting 90 days under the Provision, below). The department is entitled to 66 2/3 % of the employee’s Average Weekly Wage, subject to a maximum amount per week as set forth by the Division of Workers’ Compensation.

✓ The department codes the lost time as OJI (On-the-Job Injury) in PeopleSoft. This code should also be used on the employee’s Leave/Absence Request and Authorization sheet.
✓ Insurance reimbursing 66 2/3% of the employee’s Average Weekly Wage will be sent to the department.

✓ **Counting 90 days under the Provision:**
  1. The term “days” under OJI may or may not be full days. For example, a two hour appointment is counted as one day towards the 90 day total. This does not mean that an employee may take a full eight hours off for each appointment—remember, only the actual time off necessary for the appointment as authorized by the Designated Medical Provider can be taken off as OJI.
  2. The 90-day count starts on the first date of Lost Time.
  3. The 90 days may or may not be concurrent business days. A day is not counted unless approved injury leave is used that day.

✓ **Reinstatement of 24 hour (3 working shifts) period:** Payment for the first three days missed is only made if you are still off work more than two weeks (14 days).

✓ Once the 24 hour period has been achieved AND 14 days have been exhausted, then the 24 hours of leave (recorded initially as Sick, Annual, or LWOP) is reinstated to the employee’s leave by the department. **Contact the URM Adjuster to inform them that the leave has been reinstated so the department can be reimbursed for 66-2/3% of the employee’s wages for the 24 hours.**

✓ Once the Designated Medical Provider (DMP) physician’s determines that the employee is at maximum medical improvement (MMI), no further lost time will be reimbursed by insurance, even if the employee has subsequent appointments such as physical therapy.

✓ If the 90-day period is exhausted, “Make Whole” takes effect. At that time, the department should alert the URM Adjuster to confirm this and alert the department’s designated Center for Human Resources Manager. Make Whole is described in URM’s Make Whole document.

**Related Information**

- Departments are encouraged to establish policies that treat all employees on Injury Leave consistently.

- Every effort should be made to accommodate employees who have physical restrictions (as determined in writing by the DMP physician) by establishing a modified duty assignment. If the employee chooses not to accept the modified duty position, this time will not be considered Injury Leave, but personal leave time.

- **Student and Temporary employees** are not entitled to the 90-day On-the-Job Injury Provision. However, the injured employee may be eligible for the 2/3 reimbursement from insurance once they miss more than 24 hours from work. The Workers’
Compensation Lost Time Report form should be used to report this lost time. The URL for the form is: https://urn.cusys.edu/docs/forms/90day_workcomp.asp

Submit on-line, or fax the signed Lost Time Report form to:

University Risk Management
Attn: (Assigned Adjuster)
Fax: 303-860-5682
Ph: 303-860-5680

If you have any questions concerning these procedures, please contact the assigned adjuster or your campus risk management office.

Important: Every effort is made to provide accurate information. Please refer to the State of Colorado’s Workers’ Compensation and Injury Leave rules for more detailed information.

Last printed 12/12/2007 3:30:00 PM
CU GME RESIDENTS
WORK-RELATED INJURY, NEEDLESTICK, EXPOSURE (Workers' Compensation Claim Procedures)

NEEDLESTICKS OR BODY FLUID EXPOSURES (BFE) will initially be seen in the Emergency Room of the hospital where the Workers' Compensation (WC) incident occurs.

Exceptions are:
University of Colorado Hospital — Go to the Infectious Disease Clinic 8:00 a.m.-4:00 p.m. Monday through Friday. Go to the Emergency Room at all other times.
Denver Health Medical Center (DHMC) — The Occupational Health and Safety Center (corner of Sixth Avenue and Bannock, 4th Floor) is available 7:30 a.m.-4:30 p.m. Monday through Friday. Go to the Emergency Room at all other times.
The Children's Hospital (TCH) — Employee Health Services (Building directly west of Hospital Entrance at corner of 19th & Ogden, 1056 East 19th Avenue #B260) is open 7:00 a.m.-4:30 p.m. Monday through Friday. Go to the Emergency Room at all other times.

After the first 48 hours, WC needlestick or BFE patients should follow-up at one of the designated medical providers listed below. Treatment for other non-emergent on-the-job injuries must also be by a designated provider. Please complete all follow-up with the same provider.

Locations for Workers' Compensation Follow-up Care
HealthOne Occupational Medicine and Rocky Mountain Medical Group (RMMG) are the UCDHSC WC designated medical providers, and will treat needlesticks, BFE, and all other WC injuries.

DHMC Occupational Health and Safety Center and The Children's Employee Health Services are available for needlestick and BFE follow-up only, not for follow-up of other WC injuries.

HealthOne Occupational Medicine
1. Aurora
   M - F
   7:00 AM - 5:00 PM
   1444 S. Potomac St., Ste 200, Aurora CO 80012
   303-214-0000

2. Bryant
   M - F
   7:00 AM - 5:00 PM
   120 Bryant St., Denver CO 80219
   303-936-9700

3. LODO
   M - F
   7:00 AM - 5:00 PM
   1515 Wazee St., Suite D, Denver CO 80202
   303-534-9550

Rocky Mountain Medical Group, PC
1. RMMG East
   M - F
   8:00 AM - 5:00 PM
   14100 E. Jewell Ave. Ste 15, Aurora CO 80112
   720-748-7072

2. RMMG South
   M - F
   8:00 AM - 5:00 PM
   730 W. Hampden Ave. Ste 200, Englewood CO 80110
   303-762-0900

3. RMMG North
   M - F
   8:30 AM - 5:30 PM
   8380 N. Zuni St., Ste 205, Denver CO 80221
   303-650-6201
TO: All Employees
FROM: Courtney Wiese, Human Resources Specialist/Safety Coordinator
DATE: December 12, 2011
RE: Workers' Compensation

All employees must obtain treatment of work-related injuries and illnesses from one of our designated medical providers, HealthOne or OccMed Colorado. Location listings are available on the UPI intranet.

In the event of a life or limb-threatening emergency, call 911 or go directly to the nearest Hospital Emergency Room. A designated medical provider must provide follow-up care.

In the event of a non-emergency, after-hours injury, the employee must report to one of the designated after-hours or weekend care facilities.

If an unauthorized medical provider treats an employee, the employee will be responsible for payment for said treatment.

Any employee who is injured on the job must immediately contact Human Resources at (303) 493-7600 to complete an “Employee's 1st Report of Injury” form.

Employees must attempt to schedule appointments for their work-related injuries during non-working hours.

In the event an employee loses time that amounts to more than 3 working days, UPI's workers' compensation carrier will compensate the employee at two-thirds of their average weekly wage.
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: LABORATORY ACCIDENT REPORTING AND PROCEDURES

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, M.D.</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: HANDLING CRYOGENIC CHEMICALS

Principle:
Special safety precautions are required when handling cryogenic chemicals, i.e., chemicals at a temperature lower than -73.3°C (-100°F). The safety procedures outlined below are for liquid nitrogen & Dry Ice, the only cryogenic used in the clinical laboratory.

Procedure:
A. Handling the Liquids
   1. Avoid Contact
      a. Always handle the liquids & solids carefully and slowly.
      b. Stand clear of boiling and splashing liquid and its issuing gas.
      c. do not touch un-insulated pipes or vessels containing liquefied atmospheric gases with any unprotected part of your body.
      d. Use tongs to withdraw objects immersed in liquid.
      e. Use tongs and special protective gloves to handle Dry Ice.
   2. Wear Protective Clothing
      a. Wear a face shield or safety goggles with slide shields.
      b. Wear asbestos or leather gloves when handling anything that is, or may have been, in contact with Cryogenics. The gloves should fit loosely so that they can be thrown off quickly if liquid should spill or splash into them.
      c. Wear a lab coat and lab apron.
      d. Wear long pants, preferably without cuffs.
      e. Wear shoes with closed toes and heels.
      f. Do not wear watches, rings, bracelets or other jewelry when working with cryogenics.
   3. Ventilate Lab Properly
a. Handle gas only in well ventilated areas. If you have any doubt about the amount of oxygen in a room, ventilate the room completely before entering it.

b. Never dispose of cryogenics in confined areas or places where others may enter.

c. If liquid nitrogen leaks from container or is spilled, evacuate all personnel from danger area. If without risk, shut off leak. Ventilate area os leak or move leaking containing to well-ventilated area. Test area for sufficient oxygen prior to permitting re-entry of personnel.3

4. Do Not Expose Liquid Nitrogen to the Air

Since liquid nitrogen is colder than liquid oxygen, oxygen contamination of liquid nitrogen will result in appreciable quantities of liquid oxygen. Liquid oxygen supports combustion.

Note: If the liquid nitrogen container is entirely closed expect for a small neck area, the nitrogen gas issuing from the surface keeps air away from the liquids and prevents oxygen contamination.

B. Selecting and Using Equipment for Handling Solids and Liquefied Atmospheric Gases

1. Use Proper Containers

   a. For all cryogenics use only containers specifically designed for holding each type. Containers should be constructed to withstand weights and pressures that will be encountered.

   b. For all cryogenics use only containers which are protected by a vent or safety device which permits the escape of vapors and relieves pressure.

   c. Containers should be equipped with rupture discs on both inner and outer vessels to release pressure if the safety relief valves should fail.

2. Fill Containers with Designated Cryogenic (Solid or Liquid)

   a. Fill containers only with the cryogenic they are designed to hold.

   b. Do not mix liquids.

3. Use Proper Transfer Equipment

   a. Use a phase separator or special filling funnel whenever you transfer liquid into a small container.
b. For large containers, use a discharge tube or a transfer hose and pump to remove liquid. Hoses are available from vendors of cryogenic equipment.

c. For Dry Ice use Tongs and Gloves to transfer.

C. First Aid for Cold-Liquid Burns

1. Contact on Skin

If any of the liquefied atmospheric gases contact the skin, immediately flood that area of the body with large quantities of unheated or warm water and then apply cold compresses. If the skin is blistered or there is any chance that the eyes have been affected, take the patient immediately to a physician for treatment.

Note: Prolonged contact with these temperatures will cause exposed body parts, e.g., the eyes, to become brittle.

2. Contact by Breathing

If a person seems to become groggy or loses consciousness while working with Liquid Nitrogen or Dry Ice, get him to a well-ventilated area immediately. Whenever a person loses consciousness, summon a physician immediately.

Note: If enough Nitrogen or Dry Ice gas evaporates from the liquid in an unventilated space, the percent of oxygen in the air may be dangerously low. If this occurs, a person can become unconscious without sensing any warning symptoms, such as dizziness.

Written by: Gail Zander, CT (ASCP), 8/23/2010

Reference: GEN.77500

Approval of Procedure:

Medical Director Signature: Dr. [Signature]

Date: 8/23/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: HANDLING CRYOGENIC CHEMICALS

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scott Lucier</td>
<td>Dr. Scott Lucier</td>
<td>8/29/12</td>
</tr>
<tr>
<td>Dr. Scott Lucier</td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td>Dr. Scott Lucier</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: EXPOSURE/USE OF CARCINOGENS IN THE LAB

Principle:
It is the intent of the laboratory to reduce employee and environmental exposures to chemical carcinogens used in the lab to the lowest practical level. It is the responsibility of each technician, technologist, or supervisor to identify carcinogens or potential carcinogens in the workplace, to comply with all environmental regulations concerning their use, to ensure carcino-medical attention in the event of an incident involving the ingestion, inhalation, or inoculation of one of these chemicals. It is the responsibility of the employee to comply with safety policies and procedures, to report unsafe working conditions, and to report any accident involving one of these chemicals.

Overview:
It is the policy of the University of Colorado Denver that all employees will follow good safety practices when working with any laboratory substances, even with those that pose no known significant hazards. These good safety practices include minimizing exposure by wearing a laboratory coat or apron, wearing eye and hand protection, and working in an exhaust hood whenever hazardous materials are present.

Carcinogens:
A carcinogen is defined as any substance, or combination or mixture of substances, which causes an increased incidence of benign and/or malignant neoplasms, or a substantial decrease in the latency period between exposure and onset of neoplasms in humans as the result of any oral, respiratory or dental exposure, or any other exposure which results in the induction of tumors at a site other than the site of administration.

Regulated Carcinogens:
The use of regulated carcinogenic materials is discouraged. If use is required in a laboratory procedure, the safety practices and procedures must be established before the chemical is purchased.

Non-Regulated Carcinogens:
A potential carcinogen is one in which neoplasms are found in one or more experimental mammalian species or which are metabolized into one or more potent occupational carcinogens by mammals. Use of potential carcinogens is acceptable as long as the purchase of each is limited and the exposures are minimized as much as possible.

Safety Practices:

1. Lab coats must be worn when chemical carcinogens are used. The lab coats must be fully fastened and the sleeves rolled down. Lab coats worn for this purpose should not be worn outside of the laboratory area. Clothing overtly contaminated by chemical carcinogens should be removed immediately and placed in a plastic bag.

2. Disposable gloves must be worn when handling a chemical carcinogen.

3. Goggles should be worn whenever there is a potential for splashing or when stock quantities of chemical carcinogens are handled. Face shields should be available for use.
4. Mechanical pipetting devices must be used for all pipetting procedures: mouth pipetting is forbidden.

5. No eating, drinking or smoking is permitted in any laboratory work area.

6. All personnel must wash their hands and forearms immediately after completion of any procedure in which a chemical carcinogen is used and prior to leaving the lab. Following gross contact with carcinogenic material, thorough showering and clothes change is mandatory.

7. Each entrance to a work area where chemical carcinogens are being used or stored should have a sign which states “Caution-Potential Cancer Hazard, Authorized Personnel Only.” If the cancer hazards are used in a limited portion of a large work area, the sign may be posted in the limited work area.

8. Access to chemical carcinogens should be limited to knowledgeable individuals. The work area should be designated so that casual contact by non-trained personnel is prohibited.

9. All work surfaces on which chemical carcinogens are used should be covered with dry, absorbent, plastic-backed paper. The paper should be disposed of after each procedure is completed.

10. Procedures involving volatile chemical carcinogens and those involving solid or liquid chemical carcinogens that may result in the generation of aerosols should only be conducted in a chemical fume hood, a Class I Biological Safety Cabinet, a glove box, or other suitable containment equipment.

11. Vapors or aerosols produced by analytical instruments, when used with chemical carcinogens, should be captured through local exhaust ventilation at the site of production or be vented into a chemical fume hood or a Class I Biological Safety Cabinet.

12. Stock quantities of chemical carcinogens should be stored in a designated cabinet. The cabinet should be labeled with a sign that says “Caution-Potential Cancer Hazard.” An inventory of amounts of stock carcinogens should be placed in the chemical inventory list of the lab. All containers which contain chemical carcinogens should have a label attached which says, “Caution-Potential Cancer Hazard”

13. Working quantities of chemical carcinogens in the work area should be kept to a minimum.

14. Stock or working quantities of chemical carcinogen that are moved from one site to another must be transported in a durable outer container or carrier. Contaminated materials should be placed in a closed plastic bag.

15. Decontamination and disposal and spill procedures should be done in accordance with all regulatory guidelines. Appropriate procedures should be identified in the chemical inventory listing and in each method write-up where chemical carcinogens are used.
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: EXPOSURE/USE OF CARCINOGENS IN THE LAB

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, M.D</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td>3/24/14</td>
<td></td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td>8/26/16</td>
<td></td>
</tr>
</tbody>
</table>
Title: WASTE DISPOSAL GUIDELINES

Principle: All Household, Infectious, and Chemical waste generated at University of Colorado Denver Pathology Department will be segregated at the point of generation, packaged, transported, stored and ultimately disposed of in a manner that will ensure minimum risk of exposure or contamination to patients, staff, public, and the environment.

Procedure: Waste is identified as (1) Household waste (2) Infectious/regulated Waste (3) Chemical Waste (4) Batteries

1. **Household waste, non-glass**, will be collected in clear plastic bags. **Household Glass** (non infectious) will be collected in disposable cardboard box labeled "broken glass". Household waste will be removed from the laboratory by Environmental Services daily.

2. **Infectious waste** is those that are contaminated, with human blood or body fluids, or waste that are characterized by the known or suspected presence of pathogens. **Infectious waste non sharps solid** will be disposed of in large red bags and removed from the laboratory by Environmental Services daily. **Infectious waste sharps** (needles, syringes, razor blades, glass slides glass pipets) will be disposed of in sharps plastic bucket with secure lid. Secure sharps plastic buckets will be picked up and replaced with empty sharps plastic bucket by scheduling pick up by Environmental Services 8-4915 or you may also schedule through support services hotline 8-8351. You will need to call to request to have picked up. Liquid infectious waste if small volume and contained in sealed plastic container can be placed in red bag for disposal. If large volume of infectious liquid waste is to be disposed of disinfect with bleach (1 part bleach to 10 parts liquid waste) or (60ML of Bacdown to 1 gallon of waste) prior to disposing down the sink. Rinse down sink with ample tap water. No liquids should be directly poured into red bags.

3. **Chemical waste liquids** will be disposed of in large plastic container with proper lid and airtight seal. The Container will be labelled with complete chemical composition and contents. Complete Anschutz Medical Campus Chemical Waste Disposal Form (see attached) and contact EHS.hazmat@ucdenver.edu for pick up and disposal. **Chemical waste solids** will be collected in glass or plastic container segregated from chemical waste liquids. Pick up and disposal is same fill out Anschutz Medical Campus Chemical Waste Disposal Form and send to Department of Health and Safety email EHS.hazmat@ucdenver.edu. Please note: You must perform weekly inspections of all waste containers to ensure it is properly sealed and it is not leaking. See attached form Hazardous Chemical Waste Container Weekly Inspection Log.

4. **Batteries**: Alkaline batteries made after 1994 no longer contain mercury and can be disposed of in the regular trash. If nine-volt batteries are to be disposed of they must have the terminals taped as shown on attached sheet. All other battery types shown on attached sheet must be properly packaged and disposed of in accordance with environmental regulations. Contact engineering services at 8-8531 for pickup.
Written by: Heather Currens, SCT (ASCP), 8/13/2008

Revised by: Gail Zander, CT (ASCP), 8/18/2012

Attachments: UCD Anschutz Medical Campus Chemical Waste Disposal Form, Hazardous Chemical Waste Container Weekly Inspection Log, Battery disposal guidelines.

References: GEN.77800

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 8/29/12
**UCD ANSCHUTZ MEDICAL CAMPUS CHEMICAL WASTE DISPOSAL FORM**

Environmental Health and Safety Department, Office of the Assistant Vice Chancellor for Regulatory Compliance. Submit form to EHS via email at EHS_hazmat@ucdenver.edu or intercampus mail: Chemical Waste Pickup, Box F-484, or fax to (303) 724-0131.

Your Name (print) ______________________________________ Phone #: ____________________ Box #: ______ P.I. ______

Location of waste containers: Building name and space #: ___________________________________________________________

Location of waste containers within room: ______________________________________________________________________

I certify the accuracy of this record; that I have received UCD Chemical Waste Management training within the last year, that peroxide formers have been inhibited and biological materials have been rendered inactive/non-infectious and that I am actively seeking to minimize the generation of hazardous waste.

Generator Signature: __________________________ Date: __________________________

<table>
<thead>
<tr>
<th>chemical name (give concentrations and don't use abbreviations)</th>
<th># of cont.</th>
<th>cont. size</th>
<th>net amt. in cont.</th>
<th>physical state (S, L, G)</th>
<th>contaminants present</th>
<th>EHS USE ONLY LP ID #, RCRA CODES, LP DRUM ID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: __________________________________________________________

Date Form received by EHS: __________________________ Date waste picked up: __________________________
Instructions for UCD Anschutz Medical Campus Chemical Waste Disposal Form

1. General Chemical Waste Disposal Guidelines
   a. Chemical waste should be collected inside an empty chemical reagent container which is: chemically compatible, in good condition and has a securely fitting lid.
   b. Properly label the chemical waste container with a UCD Chemical Waste label as soon as the first drop of waste has been added to the waste container.
   c. Chemical waste labels are available from EHS for free by leaving a phone message or by requesting them under the “comments section” of the Chemical Waste Disposal Form.
   d. Do not fill liquid chemical waste containers completely full. Leave an air gap of at least 5-10 percent in the container to allow for expansion of the liquid at elevated temperatures.
   e. Chemical waste containers must be kept closed at all times except when adding or removing waste.
   f. Chemical waste containers will not be picked up if they are leaking, have improper lids, are completely full, or if the outside of the container is grossly contaminated. Transfer chemical waste to a suitable container whenever necessary.
   g. Segregate solid debris (pipette tips) from liquid waste containers whenever practical. All liquids must be free of solid debris in order to facilitate the bulking of waste solvents.
   h. Segregate sharps, hypodermics, razors, and needles and collect them in red plastic sharps bucket. Discard full sharps buckets by locking the lid and placing them into the plastic biohazard tub lined with a red bag.
   i. Segregate trace contaminated wastes from concentrated waste products whenever practical. Trace contaminated solid wastes which are extremely toxic or carcinogenic should be collected in a sealed plastic bucket or clear plastic bag. Label each waste container with a UCD Chemical Waste label.
   j. Laboratories are limited to storing a total of 1.0 quart of P-coded waste (sodium azide, potassium cyanide, nicotine, etc.).
   k. You must inspect all of your chemical waste containers once a week for leaks. Transfer the chemical waste from leaking containers immediately to another empty reagent container in good condition. You must document your weekly inspections on the EHS Hazardous Chemical Waste Container Weekly Inspection Log.

2. Completing the EHS Chemical Waste Disposal Form
   a. Fill out the Chemical Waste Disposal Form completely for routine chemical waste pickups from the laboratory. If your laboratory is leaving the campus and you have more than 25 chemical reagent containers to be picked up, you do not have to complete the disposal form. Call x40345 to set up an appointment to have the chemical reagent containers picked up.
   b. Chemical name. Write out the complete chemical name. List all components found in the waste container along with their concentration in percentage by weight or volume. For containers missing labels or unknown / orphan wastes, read section i below. Call x40345 for assistance with unknowns. For pure materials, write “100 %” for the concentration. For chemical mixtures, write the percent concentration for each component present. For trace contaminants, write “trace” for the concentration.
   c. # of cont. Write the total number of containers associated with the chemical name in the previous column.
   d. cont. size. Write in the size of the container NOT the amount of material in the container.
   e. net amt. in cont. Write in the actual amount of material in the container as opposed to the actual container size.
   f. Physical state. Indicate the physical state of the chemical waste: solid (S), liquid (L), or gas (G).
   g. Contaminants present. Indicate if the chemical waste container has any of the following: radioactive isotopes, infectious materials, or any other significant contaminants. If the chemical waste does not contain any contaminants write “none”.
   h. Empty chemical reagent containers must be collected in the laboratory and picked up by EHS for disposal. Write “empty containers” under chemical name, number of containers under percent concentration, and sizes of the containers under total volume. Provide a rough estimate of the number of containers present. A chemical reagent container is considered legally empty when the entire product has been removed by normal pouring or scraping; except for empty P-coded containers which must be triple rinsed (collect and dispose of rinsate as “hazardous waste”).
   i. Unknown chemicals cannot be disposed until they have been properly identified. Attempt to contact the researchers who may have generated the unknown in the past. EHS may charge $25 for each chemical unknown plus additional laboratory tests if necessary.
   j. Waste pickup scheduling. Mail the completed form at the Anschutz Medical Campus via intercampus mail to: Chemical Waste Pickup – F484 or fax it to 4-0131, or email it to EHS.hazmat@ucdenver.edu. EHS personnel will pickup the chemical waste containers within 2 weeks after the form is received. If you have any time or access restrictions, please make a note to that effect in the comments section.
HAZARDOUS CHEMICAL WASTE CONTAINER WEEKLY INSPECTION LOG

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instructions: You are required by law to inspect each hazardous chemical waste container once a week for leaks and to document the inspection results in this log. * If a waste container is found leaking, immediately transfer the contents to another empty reagent container in good condition. Chemical waste container must not be stored next to another container holding incompatible chemicals (i.e. acids and bases, flammables and oxidizers, cyanides and acids) unless they are separated by either a cabinet wall, or have a secondary containment provided (plastic pail). Whenever you discover a deficiency during your inspection immediately correct the problem. If you have any questions contact the UCDenver Health and Safety Division at 303-724-0345. Write a comment onto the inspection log whenever there is no hazardous chemical waste container present in the laboratory.

Revised 8/19/2011, KN
Retain 3 yrs.
BATTERY DISPOSAL GUIDELINES

Alkaline batteries made after 1994 no longer contain mercury and can be disposed of in the regular trash. If nine-volt batteries are to be disposed of they must have the terminals taped as shown below.

All other battery types as shown below must be properly packaged and disposed of in accordance with environmental regulations. Contact Engineering Services at 88531 for pickup.
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: WASTE DISPOSAL GUIDELINES

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, MD</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucia</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucia</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: UCD Formaldehyde and Xylene Monitoring

Principle:
The Department of Pathology will annually test formaldehyde and xylene vapors in each laboratory within the department of pathology in which Formaldehyde and Xylene are stocked to ensure personnel exposure is within OSHA standards.

Procedure:

1. The Department Safety Coordinator will contact UC Denver Environmental Health and Safety Department, 303-724-0345, and arrange an appointment for all labs to be tested (Cytology, Histology, Gross room, and Morgue)

2. On day of the appointment schedules arrangement is made with UC Denver Environmental Health department to provide equipment over so that employee can wear at the beginning of employee shift for full 8 hours. One Technician or Technologist from each area (Cytology, Histology, Gross room and Morgue) will attach equipment and wear their entire 8 hour shift. UC Denver Environmental Health Department will advise on how to attach equipment. The personnel exposure assessment conducted will be accomplished through the use of passive dosimeter badges (used to monitor 8 hour exposure) and through active vapor sampling (to assess short term exposure using 15 minute exposure periods).

3. UC Denver Environmental Health and Safety Department will collect equipment for evaluation of concentrations measured over 8 hours and during the 15 minute short term sampling and provide detailed report.

4. Formaldehyde and Xylene Monitoring will be performed annually in the Department of Anatomic Pathology.

Written by: Gail Zander, CT (ASCP), 1/24/2014

Attachments: Formaldehyde and Xylene Monitoring Results 2013, Results 2012, and Results 2011.

References: CYP.09900

Approval of Procedure:

Medical Director Signature: Scott Zwick, M.D.

Date: 3/24/14
Date: September 9th, 2011
To: UCD Pathology Department
Re: CAP Air Monitoring Results

On August 24th, 2011, a formaldehyde and xylene exposure assessment was conducted for the Histology, Surgical Pathology, Cytology, and the Morgue areas at the University of Colorado Anschutz Inpatient Pavilion in Denver, Colorado. The personnel exposure assessment conducted was accomplished through use of passive dosimeter badges (used to monitor Permissible Exposure Limits (PEL)) and through active vapor sampling using National Institute of Occupational Safety and Health (NIOSH) methods (to assess short term exposure using 15 minute exposure periods). The location specific results are shown below:

Formaldehyde Results for Permissible Exposure Limits (Passive Dosimetry Monitoring—EPA TO-11 Method):

<table>
<thead>
<tr>
<th>Work Location</th>
<th>Date</th>
<th>Time</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>8/24/2011</td>
<td>507 min</td>
<td>Julia Holmes</td>
<td>0.20 ppm</td>
</tr>
<tr>
<td>UCH B.2309</td>
<td>8/24/2011</td>
<td>387 min</td>
<td>Dr. Kandasamy</td>
<td>0.20 ppm</td>
</tr>
<tr>
<td>UCH 3.124 and B.2309</td>
<td>8/24/2011</td>
<td>480 min</td>
<td>Allysse Allee</td>
<td>0.22 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>8/24/2011</td>
<td>480 min</td>
<td>Nhat Nguyen</td>
<td>0.049 ppm</td>
</tr>
<tr>
<td>UCH 3.124 and B.2309</td>
<td>8/24/2011</td>
<td>480 min</td>
<td>Tony Cerullo</td>
<td>0.41 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>8/24/2011</td>
<td>N/A</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

Formaldehyde Results for 15 Minute Exposure (Active Sample Collection—NIOSH 2541 Method):

<table>
<thead>
<tr>
<th>Location</th>
<th>Lab</th>
<th>Date</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>Cytology</td>
<td>8/24/2011</td>
<td>Julia Holmes</td>
<td>&lt;0.3 ppm</td>
</tr>
<tr>
<td>UCH B.2309</td>
<td>Morgue</td>
<td>8/24/2011</td>
<td>Tony Cerullo</td>
<td>5.1 ppm</td>
</tr>
<tr>
<td>UCH 3.124</td>
<td>Surg. Path</td>
<td>8/24/2011</td>
<td>Allysse Allee</td>
<td>0.39 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>Histology</td>
<td>8/24/2011</td>
<td>Nhat Nguyen</td>
<td>&lt;0.3 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>L18-2103</td>
<td>8/24/2011</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

The OSHA permissible exposure limit (PEL) for formaldehyde is 0.75 ppm in an eight hour time weighted average (TWA). The NIOSH short-term exposure limit (STEL) is 2.0 ppm for fifteen minutes for formaldehyde. Concentrations measured during the fifteen minute short-term sampling were above permissible limits for one sample taken in the Morgue—this was during the specimen dumping procedure involving formaldehyde preserving solutions. Employees working in the morgue (Dr. Kandasamy, Adrienne Ray, Tony Cerullo, and Allysse Allee) have been 1) enrolled in the respiratory protection program, 2) cleared to wear a full-face respirator, 3) trained, and 4) fit tested. Continued monitoring and medical surveillance is required for the individuals performing the specimen dumping in the Morgue. Within six months formaldehyde sampling will need to be repeated, unless a suitable engineering control can be implemented. In addition, all employees working in the morgue during the high exposure activity (performing specimen dumping), must complete the UCD Formaldehyde Surveillance Questionnaire and submit to the Occupational Health Nurse—the form has been provided as an attachment to this report. Those employees and students not enrolled in the respiratory protection program may not conduct high-exposure activities, such as decanting of specimens and preparing chemical mixtures. Per the lab staff, Adrienne Ray is not currently performing decanting of specimens as she is currently pregnant—these duties are mainly being handled by Mr. Cerullo and Ms. Allee.
Xylene Results for Permissible Exposure Limits (Passive Dosimetry Monitoring—NIOSH 1501 Method):

<table>
<thead>
<tr>
<th>Work Location</th>
<th>Date</th>
<th>Time</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>8/24/2011</td>
<td>317 min</td>
<td>Jamie Santistevan</td>
<td>6.5 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>8/24/2011</td>
<td>480 min</td>
<td>Nhat Nguyen</td>
<td>2.0 ppm</td>
</tr>
<tr>
<td>UCH 3.124 and B.2309</td>
<td>8/24/2011</td>
<td>480 min</td>
<td>Allysse Allee</td>
<td>0.41 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>8/24/2011</td>
<td>N/A</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

Xylene Results for 15 Minute Exposure (Active Sample Collection—NIOSH 1501 Method):

<table>
<thead>
<tr>
<th>Location</th>
<th>Lab</th>
<th>Date</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>Cytology</td>
<td>8/24/2011</td>
<td>Julia Holmes</td>
<td>1.3 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>Histology</td>
<td>8/24/2011</td>
<td>Nhat Nguyen</td>
<td>5.7 ppm</td>
</tr>
<tr>
<td>UCH 3.124</td>
<td>Surg. Path</td>
<td>8/24/2011</td>
<td>Allysse Allee</td>
<td>5.5 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>L18-2103</td>
<td>8/24/2011</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

The OSHA PEL for xylene is 100 ppm in an eight hour TWA. The NIOSH STEL for xylene is 150 ppm for fifteen minutes. Concentrations detected during the assessment are below the permissible exposure limits for xylene exposure.

If you have any questions, please contact me.

Thank you,

Justin W. Sterger

Justin W. Sterger
Environmental Health Specialist
Justin.Sterger@UCDenver.edu
(303) 724-2271
Date: November 14th, 2012

To: UCD Pathology Department

Re: CAP Air Monitoring Results

On August 23rd, 2012, a formaldehyde and xylene exposure assessment was conducted for the Histology, Surgical Pathology, Cytology, and the Morgue areas at the University of Colorado Anschutz Inpatient Pavilion in Denver, Colorado. The personnel exposure assessment conducted was accomplished through use of passive dosimeter badges (used to monitor Permissible Exposure Limits (PEL)) and through active vapor sampling using National Institute of Occupational Safety and Health (NIOSH) methods (to assess short term exposure using 15 minute exposure periods). The location specific results are shown below:

**Formaldehyde Results for Permissible Exposure Limits (Passive Dosimetry Monitoring—EPA TO-11 Method):**

<table>
<thead>
<tr>
<th>Work Location</th>
<th>Date</th>
<th>Time</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.128/B2309.3C</td>
<td>8/23/2012</td>
<td>480 min</td>
<td>Alyssie Allee</td>
<td>0.38 ppm</td>
</tr>
<tr>
<td>UCH B.2309</td>
<td>8/23/2012</td>
<td>480 min</td>
<td>Dr. Kandasamy</td>
<td>0.12 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>8/23/2012</td>
<td>480 min</td>
<td>Nhat Nguyen</td>
<td>0.07 ppm</td>
</tr>
<tr>
<td>UCH 3.135</td>
<td>8/23/2012</td>
<td>480 min</td>
<td>Julia Holmes</td>
<td>0.17 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>8/23/2012</td>
<td>N/A</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

**Formaldehyde Results for 15 Minute Exposure (Active Sample Collection—NIOSH 2541 Method):**

<table>
<thead>
<tr>
<th>Location</th>
<th>Lab</th>
<th>Date</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>Cytology</td>
<td>8/23/2012</td>
<td>Julia Holmes</td>
<td>0.32 ppm</td>
</tr>
<tr>
<td>UCH B.2309.4D</td>
<td>Morgue</td>
<td>8/23/2012</td>
<td>Dr. Kandasamy</td>
<td>&lt;0.33 ppm</td>
</tr>
<tr>
<td>UCH B.2309.3C</td>
<td>Tissue Discard</td>
<td>8/23/2012</td>
<td>Alyssie Allee</td>
<td>2.7 ppm</td>
</tr>
<tr>
<td>UCH 3.124</td>
<td>Surg. Path</td>
<td>8/23/2012</td>
<td>Alyssie Allee</td>
<td>&lt;0.33 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>Histology</td>
<td>8/23/2012</td>
<td>Nhat Nguyen</td>
<td>&lt;0.43 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>L18-2103</td>
<td>8/23/2012</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

The OSHA permissible exposure limit (PEL) for formaldehyde is 0.75 ppm in an eight hour time weighted average (TWA). The NIOSH short-term exposure limit (STEL) is 2.0 ppm for fifteen minutes for formaldehyde. Concentrations measured during the fifteen minute short-term sampling were above permissible limits for one sample taken in the Morgue—this was during the specimen dumping procedure involving formaldehyde preserving solutions. Employees working in the morgue (Dr. Kandasamy, Adrienne Ray, Tony Cerullo, and Alyssie Allee) have been 1) enrolled in the respiratory protection program, 2) cleared to wear a full-face respirator, 3) trained, and 4) fit tested. Continued monitoring and medical surveillance is required for the individuals performing the specimen dumping in the Morgue. Within six months formaldehyde sampling will need to be repeated, unless a suitable engineering control can be implemented.

**In addition, all employees working in the morgue during the high exposure activity (performing specimen dumping), must complete the UCD Formaldehyde Surveillance Questionnaire and submit to the Occupational Health Nurse—the form has been provided as an attachment to this report.**

Those employees and students not enrolled in the respiratory protection program may not conduct high-exposure activities, such as decanting of specimens and preparing chemical mixtures. Per the lab staff, Adrienne Ray is not currently performing decanting of specimens as she is currently pregnant—these duties were conducted by Ms. Allee during the sampling.
Xylene Results for Permissible Exposure Limits (Passive Dosimetry Monitoring—NIOSH 1501 Method):

<table>
<thead>
<tr>
<th>Work Location</th>
<th>Date</th>
<th>Time</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>8/23/2012</td>
<td>480 min</td>
<td>Julia Holmes</td>
<td>0.93 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>8/23/2012</td>
<td>480 min</td>
<td>Nhat Nguyen</td>
<td>2.3 ppm</td>
</tr>
<tr>
<td>UCH 3.124 and B.2309</td>
<td>8/23/2012</td>
<td>480 min</td>
<td>Alyssse Allee</td>
<td>0.37 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>8/23/2012</td>
<td>N/A</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

Xylene Results for 15 Minute Exposure (Active Sample Collection—NIOSH 1501 Method):

<table>
<thead>
<tr>
<th>Location</th>
<th>Lab</th>
<th>Date</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>Cytology</td>
<td>8/23/2012</td>
<td>Julia Holmes</td>
<td>1.2 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>Histology</td>
<td>8/23/2012</td>
<td>Nhat Nguyen</td>
<td>2.0 ppm</td>
</tr>
<tr>
<td>UCH 3.124</td>
<td>Surg. Path</td>
<td>8/24/2011</td>
<td>Alyssse Allee</td>
<td>2.7 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>L18-2103</td>
<td>8/24/2011</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

The OSHA PEL for xylene is 100 ppm in an eight hour TWA. The NIOSH STEL for xylene is 150 ppm for fifteen minutes. Concentrations detected during the assessment are below the permissible exposure limits for xylene exposure.

If you have any questions, please contact me.

Thank you,

Daniel F. Kerley
Industrial Hygienist
Environmental Health and Safety
daniel.kerley@ucdenver.edu
303-724-0249

University of Colorado
Denver | Anschutz Medical Campus
Date: November 18th, 2013

To: UCD Pathology Department

Re: CAP Air Monitoring Results

On October 2nd, 2013, a formaldehyde and xylene exposure assessment was conducted for the Histology, Surgical Pathology, Cytology, and the Morgue areas at the University of Colorado Anschutz Inpatient Pavilion in Denver, Colorado. The personnel exposure assessment conducted was accomplished through use of passive dosimeter badges [used to monitor Permissible Exposure Limits (PEL)] and through active vapor sampling using National Institute of Occupational Safety and Health (NIOSH) methods (to assess short term exposure using 15 minute exposure periods). The location specific results are shown below:

Formaldehyde Results for Permissible Exposure Limits (Passive Dosimetry- MOD OSHA 1007 Method):

<table>
<thead>
<tr>
<th>Work Location</th>
<th>Date</th>
<th>Time</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.126</td>
<td>10/02/2013</td>
<td>480 min</td>
<td>Reese Cochran</td>
<td>0.054 ppm</td>
</tr>
<tr>
<td>UCH B.2309</td>
<td>10/02/2013</td>
<td>480 min</td>
<td>Dr. Kandasamy</td>
<td>0.060 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>10/02/2013</td>
<td>480 min</td>
<td>Nhat Nguyen</td>
<td>0.023 ppm</td>
</tr>
<tr>
<td>UCH 3.136</td>
<td>10/02/2013</td>
<td>480 min</td>
<td>Julia Holmes</td>
<td>0.036 ppm</td>
</tr>
</tbody>
</table>

Formaldehyde Results for 15 Minute Exposure (Active Sample Collection—NIOSH 2541 Method):

<table>
<thead>
<tr>
<th>Location</th>
<th>Lab</th>
<th>Date</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>Cytology</td>
<td>10/02/2013</td>
<td>Julia Holmes</td>
<td>0.018 ppm</td>
</tr>
<tr>
<td>UCH B.2309 3C</td>
<td>Tissue Discard</td>
<td>10/02/2013</td>
<td>Dr. Kandasamy</td>
<td>0.762 ppm</td>
</tr>
<tr>
<td>UCH 3.124</td>
<td>Surg. Path</td>
<td>10/02/2013</td>
<td>Reese Cochran</td>
<td>0.059 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>Histology</td>
<td>10/02/2013</td>
<td>Nhat Nguyen</td>
<td>0.296 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>L18-2103</td>
<td>10/02/2013</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

The OSHA permissible exposure limit (PEL) for formaldehyde is 0.75 ppm in an eight hour time weighted average (TWA). The NIOSH short-term exposure limit (STEL) is 2.0 ppm for fifteen minutes for formaldehyde. Concentrations measured in the above assessment are within the OSHA exposure limits. However, because STEL concentrations measured in past exposure assessments during the tissue discard task have been above permissible limits, the employees performing the surgical discards (Dr. Kandasamy, Adrienne Ray, Tony Cerullo, Alysses Allee, Jennifer Choi, Josie Hoang, Celey Tong, Angela Rosario, and Jennifer Villalobos) shall remain:

1. Enrolled in the respiratory protection program,
2. Cleared to wear a full-face respirator,
3. Trained to wear a respirator, and
4. Respirator Fit Tested.
5. Continued monitoring and medical surveillance is required for the individuals performing the specimen dumping in the Morgue.

Another formaldehyde exposure study will be conducted in the Surgical Discard Area, Room AIP.B.2309 3C, within six months to ensure that the engineering controls continue to control the formaldehyde vapors in the tissue discard room. In addition, all employees working in the morgue during the high exposure activity (performing specimen dumping), must complete the UCD Formaldehyde Surveillance Questionnaire and submit to the Occupational Health Nurse—the form has been provided as an attachment to this report. Those employees and students not enrolled in the respiratory protection
program may not conduct high-exposure activities, such as decanting of specimens and preparing chemical mixtures.

**Xylene Results for Permissible Exposure Limits (Passive Dosimetry Monitoring—NIOSH 1501 Method):**

<table>
<thead>
<tr>
<th>Work Location</th>
<th>Date</th>
<th>Time</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>10/02/2013</td>
<td>480 min</td>
<td>Julia Holmes</td>
<td>0.68 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>10/02/2013</td>
<td>480 min</td>
<td>Nhat Nguyen</td>
<td>2.8 ppm</td>
</tr>
</tbody>
</table>

**Xylene Results for 15 Minute Exposure (Active Sample Collection—NIOSH 1501 Method):**

<table>
<thead>
<tr>
<th>Location</th>
<th>Lab</th>
<th>Date</th>
<th>Employee</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCH 3.136</td>
<td>Cytology</td>
<td>10/02/2013</td>
<td>Julia Holmes</td>
<td>0.576 ppm</td>
</tr>
<tr>
<td>UCH 3.128</td>
<td>Histology</td>
<td>10/02/2013</td>
<td>Nhat Nguyen</td>
<td>4.97 ppm</td>
</tr>
<tr>
<td>Media Blank</td>
<td>L18-2103</td>
<td>10/02/2013</td>
<td>N/A</td>
<td>Not Detected</td>
</tr>
</tbody>
</table>

The OSHA PEL for xylene is 100 ppm in an eight hour TWA. The NIOSH STEL for xylene is 150 ppm for fifteen minutes. Concentrations detected during the assessment are below the permissible exposure limits for xylene exposure.

If you have any questions, please contact me.

Thank you,

Daniele F. Kerley
Industrial Hygienist
Environmental Health and Safety
303-724-0249
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: Formaldehyde and Xylene Monitoring

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Luciana</td>
<td>M. Scott Luciana</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>M. Scott Luciana</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>M. Scott Luciana</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: ELECTRICAL SAFETY

Principle:
Because of the tremendous number and variety of electrical equipment used in the laboratory, knowledge of electrical safety rules is very important. It is the responsibility of all to adhere to safe electrical practices.

Procedure: Please adhere to all safe electrical practices as described below:

A. General electrical Safety

1. All laboratory equipment must be connected to grounded, i.e., 3-wire receptacles.

2. All electrical appliances must have UL, or other nationally recognized testing laboratory, approval.

3. The cords of all electrical equipment must be in good condition, i.e., not frayed or spliced, or the equipment must be removed from service until repairs are done.

4. Each electrical socket must have only one "plug in" per socket outlet.

5. Do not work near electrical equipment or outlets when hands, counters, floors, or equipment are wet.

6. Consider defective as any device that blows a fuse more than once or trips a circuit breaker. Immediately remove equipment from service, attach a conspicuous tape to the device which reads, "Defective - Do Not Use," and report the problem to your supervisor.

7. Do not use any electrical equipment, appliance, or wall receptacle that appears to be damaged or in poor repair.

8. Report all shocks immediately (even small tingles may indicate trouble and precede major shocks). Do not use the equipment again until it is inspected and repaired.

9. Do not attempt to repair any instrument while it is plugged in, i.e., any portion where you have contact with circuit boards, power supplies or other electrical connections. The exception to this is the calibration of instruments that require adjustment in an operational phase. In this case, be sure hands are dry, remove all jewelry (watches and rings) and proceed with caution.
10. Do not, under any circumstances, attempt to bypass the safety/electrical interlocks which exist on equipment.

11. Do not repair, or attempt to repair, any of the building circuitry, i.e., switches, outlets, circuit boxes, fuses, circuit breakers, etc. Refer all such repair to Maintenance.

12. If equipment will be used in a wet location, consult with Bioengineering before use about any additional safety requirements. All recommendations must be documented in the equipment procedure manuals.

13. If electrical equipment will be used in potentially hazardous atmospheres, e.g., where flammable gases are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures, consult with the equipment manufacturer and with Bioengineering before use about any additional safety requirements. All recommendations must be documented in the equipment procedure manuals.

14. Know the location of all building electrical breaker boxes so that electrical current can be shut off in an emergency. Do not place any items in a position to obstruct or cover any breaker box.

B. Electrical Checks

1. All fixed, electrical receptacles must be checked at least annually for ground integrity. Each laboratory section is responsible to ensure that electrical receptacles are checked annually. The safety checks are scheduled with the UCHSC Bioengineering Department. Documentation of the checks must be done either with date and initialed stickers attached to each receptacle or other written documentation from Bioengineering.

2. All laboratory instruments and devices (including portable equipment and tools) must be checked for adequate grounding and for current leakage prior to initial use and at least every 12 months afterwards. Each laboratory section is responsible to assure that the ground and current checks are done. The safety checks are scheduled with the UCDenver Bioengineering Department. Written documentation must be provided to the lab by Bioengineering and stored with the maintenance records of each piece of equipment. Inspection schedules and records are also maintained in the Bioengineering Department.

3. All personal electrical equipment, such as coffee pots, fans, refrigerators, radios, tape records, VCRs, and microwave ovens must be visually inspected every 6 months in each laboratory section:
a. By examining the power cord for nicks, frayed insulation, exposed wires, etc.

b. By examining the case, housing, chassis, etc., for defects that may indicate a safety hazard.

c. By operating the item and checking for unsafe conditions that may develop.

d. By removing any suspected unsafe equipment from use.

Records of these checks must be kept in the laboratory section where the checks are done.

C. Extension Cords

1. Extension cords are prohibited in University Hospital patient care areas except in emergency situations.

2. In the laboratory, extension cords for ongoing electrical connections may be used if approved by the Hospital Director of Safety and/or the Director of Bioengineering. Extension cords should not be used:

   a. As a substitute for fixed wiring.

   b. To run through holes in walls, ceilings or floors.

   c. To run through doors, windows, etc.

   d. Attached (e.g., taped) to building surfaces.

3. In the laboratory, extension cords may be used to provide emergency connections to equipment in the event of power outages or equipment failure; as a temporary electrical connection between new equipment, refrigerators, etc., while they are being tested for use or while remodeling is going on. If used, the extension cords must be connected without any tension on joints or terminal screws. They must not be used across areas of egress or where they might pose a tripping hazard.

D. Flammable Liquids

1. Do not store highly flammable liquids near electrical equipment.

2. Use cleaning solvents carefully around electrical equipment.

E. Fuses

1. Do not replace a fuse in a piece of equipment with any fuse other than that designated by the manufacturer. Over-fusing or under-fusing is prohibited. In an emergency
situation, an exception can be made by the Director of Bioengineering or can be done if the laboratory supervisor is directed to do so by maintenance/repair personnel from the vendor of the equipment. Any changes in a designated fuse are considered a temporary measure only and must be documented.

2. Do not replace a fuse in a piece of equipment more than once. If the fuse continues "to blow," consider the equipment defective and remove from service. (See also section on General Electrical Safety.)

F. Multiple Outlet Boxes

1. In the laboratory, multiple outlet boxes may be used if they have a breaker and a reset button. It is preferable, when possible, to have multiple outlet boxes permanently mounted.

G. Signs

1. Mark all high voltage equipment and power supplies with signs stating "High Voltage."

2. Mark all breaker boxes with signs stating "Breaker Box."

Written by: Heather Currens, SCT (ASCP), 8/13/2008

Revised by: Gail Zander, CT (ASCP), 8/18/2012

References: GEN.75900

Approval of Procedure:

Medical Director Signature: 

Date: 8/27/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: ELECTRICAL SAFETY

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: USE OF SPACE HEATERS

Principle:
Space heaters are often used for comfort heating in offices on the campus of UC Denver. These guidelines provide information as to the types allowed and not allowed, as well as general guidance on the use of the heater.

Procedures: Policies and Procedures provided by Facilities Operations:

1. The Life Safety Code allows an exception to be made for space heater use in non-patient care or staff areas. UCH has elected to not adopt this exception therefore the use of any portable space heater is not permitted in any area.

2. This policy applies to every UCH location, including all owned or leased spaces and business offices, on or off campus.

Written by: Gail Zander, CT (ASCP), 8/10/2010

Revised by: Gail Zander, CT (ASCP), 8/20/2014

References: University of Colorado Hospital Policy and Procedure Utilization of Portable Heat-Producing Equipment at University of Colorado Hospital

Approval of Procedure:

Medical Director Signature: [Signature], 8/26/14

Date:
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: USE OF SPACE HEATERS

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Scott Lucia</td>
<td>Mr. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>Mr. Scott Lucia</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>Mr. Scott Lucia</td>
<td>8/26/15</td>
</tr>
<tr>
<td></td>
<td>Mr. Scott Lucia</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title:  
EMERGENCY DEVICES

Principle:
In addition to personal protective equipment (PPE) there are many devices in the laboratory which are available for use in emergency situations. It is the responsibility of each employee to know the location of these devices in all areas in which he or she works, to know how to use each device, and to be involved in testing or checking the devices if assigned to do so.

Procedure:
A. Eyewash Station

1. **Requirements.** There must be an emergency eyewash located within 100 feet travel distance from every area of the laboratory in which hazardous chemicals are used. Per CAP, the irrigant must be either sterile saline in antiseptic ophthalmic solutions or fresh tap water. The eyewash station should be in an easily accessible and unobstructed location in each laboratory. The eyewash stations must be mounted on plumbed water lines. Squeeze bottles containing water do not contain acceptable volumes of water. Eyewashes may either be of an approved fixed design or an approved spray type device attached to the water supply by a flexible hose. There must be a sign saying, "EYEWASH" visible from at least 10 feet, which is affixed to the wall behind the eyewash station or hung from the ceiling above.

2. **Use.** In an emergency, e.g., splashing of chemicals to eye, assist employee to eyewash. Flood eye or eyes for 15 minutes. If splashing occurred in one eye, tilt the head sideways and flood from the center of the eye outward, holding the eyelid open and making sure the contaminant does not wash into the other eye. If a bubbler type eyewash is used (located with most safety showers), the face should be held directly over the stream of water. Have another person contact the emergency room ASAP for any further emergency instructions and transport the employee there for further care.

3. **Checking.** Eyewashes should be tested each week to ensure proper functioning and to flush out stagnant water. It is the responsibility of each chief tech or supervisor to verify that the eyewashes are checked. See attached form for weekly maintenance.

D. Safety Shower
1. **Requirements.** Safety showers should be capable of delivering about one gallon/second, with a water pressure of 20 to 30 psi. A floor drain is desirable, but not essential. If there is no floor drain, care must be taken that water cannot come in contact with electrical wiring. Safety showers must be placed within an easily accessible and unobstructed location of each laboratory section. There must be a sign stating "EMERGENCY SHOWER" visible from at least 10 feet, which is hung from the ceiling or wall next to the shower.

2. **Use.** In an emergency, e.g., splashing of chemicals to body or clothing on fire, assist employee to safety shower. Flood affected part of body with water. Remove clothing from employee as needed. Have another person contact the emergency room ASAP for any further instructions and transport the employee there for further care.

3. **Checking.** Emergency showers should be tested every six months for proper function. It is the responsibility of the Maintenance Department to tag each shower with the data last checked. It is the responsibility of the chief tech or lab supervisor to verify that testing has been done. If there is a floor drain located with the shower, it should be filled with light mineral oil or permanent type anti-freeze to prevent the trap from drying out.

C. **Fire Extinguishers** - Recommended in areas where potential for fire exist. A fire extinguisher will be located every 75 feet throughout UCH. All fire extinguishers at UCH are rated for A, B and C fires.

D. **Fire Blanket** - Recommended in areas where potential for fire exist.

E. **Emergency Lights**

1. **Requirements.** Emergency lighting must be adequate for safe evacuation of the laboratory. Emergency lighting can either be provided from the back up power source to the hospital or from individual, trickle-charged, battery-powered lights in individual laboratories.

2. **Checking.** It is the responsibility of each chief tech or laboratory supervisor to verify that sufficient emergency lighting exists in all rooms of the laboratory section to provide safe evacuation and that all battery powered lights work.
F. First Aid Kit

1. **Requirements.** Each laboratory should have a small first aid kit which contains a variety of bandages, adhesive tapes, alcohol swabs, gauze, and optionally, a few cold packs.

2. **Use.** First aid kit supplies should be used as needed for small injuries in the lab or as emergency supplies to control bleeding, etc., until employees can be transported to the emergency room for treatment.

3. **Checking.** It is the responsibility of each chief tech or lab supervisor to check first aid kit supplies every six months and replenish as needed.

G. **Fire Alarm Pull Station** - Located in hospital corridors directly outside laboratory.

H. **Spill Kits** - See procedure on SPILLS/DECONTAMINATION

I. **Janitorial Supplies** - If needed, call Environmental Services for clean up. Janitorial supplies are usually kept in locked closets on each floor.

J. **Radiation Survey Instruments** - See procedure on SPILLS, RADIATION or contact the Radiation Safety Office.

K. **Kevlar or Zetex Gloves**
These gloves are optionally available in laboratories where samples or reagents are heated.

Written by: Heather Currens, SCT (ASCP), 8/13/2008

Revised by: Gail Zander, CT (ASCP), 8/18/2012

References: GEN.76400, GEN.77400

Attachments: Eyewash weekly inspection log.

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 8/29/12
UCH ENVIRONMENT OF CARE GUIDELINE
Checking Eyewash Stations

Related Policies and Procedures: Emergency Eye Wash and Shower Policy

References: ANSI Standard Z358-2009

Institution: University of Colorado Hospital (UCH)
Approved By: Environment of Care Committee
Effective: 11-Oct

Description: The purpose of this guideline is to outline the procedure for checking eye wash stations weekly.

Accountability: Department/Unit Managers or designee

Guideline: Eye wash stations are to be checked and logged weekly

The weekly check consists of:

a. Activating the eyewash to confirm it is working correctly.

b. Letting the water run long enough to flush the system with fresh water (3 minutes).

c. Clean any visible debris or deposits from eyewash heads.

d. Log the date of the eyewash check using the format mm/dd/yy and name of person checking.

e. If obstruction or problem noted notify Engineering Services and note on log.

Logs are to be kept in a folder and kept for 3 years.
# UNIVERSITY OF COLORADO HOSPITAL

## WEEKLY EYEWASH TESTING

Testing occurs weekly. Record the date, flow and appearance of all eyewashes. Enter "\n" if parameter is acceptable.
Enter "\*" if parameter is unacceptable, submit work order in DJI, enter description of problem & work order # under "Comments/Work Order #".

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Acceptable</th>
<th>Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow</td>
<td>Controlled, copious, low velocity</td>
<td>Spurting, high velocity</td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
<td>Cloudy, brown, or rusty</td>
</tr>
<tr>
<td>Physical</td>
<td>Valve actuator is intact, area is not blocked, sign is visible, drainage is good.</td>
<td>Missing/broken valve, area is blocked, sign absent or not readily visible, drainage poor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date:</th>
<th>Initials:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>EYEWASH LOCATION</th>
<th>Eye wash Room #</th>
<th>Flow</th>
<th>Color</th>
<th>Physical</th>
<th>COMMENTS/WORK ORDER #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reviewed by Safety Coordinator or Designee/Date: ________________________________ / ____________________________
# ANNUAL SIGNATURE REVIEW

**PROCEDURE TITLE: EMERGENCY DEVICES**

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, MD</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td>3/24/14</td>
<td></td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td>8/26/16</td>
<td></td>
</tr>
</tbody>
</table>
Title: CHEMICAL HYGIENE PLAN

Principle:
The chemical hygiene plan is a written program developed and implemented by the laboratory which sets forth procedures, equipment, personal protective equipment, and work practices that are capable of protecting employees from the health hazards presented by hazardous chemicals used in the laboratory. The procedures and policies described here and in the associated laboratory safety manual are compatible with current knowledge and regulations. It is our intent to review and evaluate the effectiveness of this plan annually and update as necessary.

Procedure:
A. General Principles for Work with Laboratory Chemicals

1. Minimize all chemical exposures. Because few laboratory chemicals are without hazards, general precautions for handling all laboratory chemicals are adopted as the standard of practice. (See Section E of this chemical hygiene plan). Skin contact with chemicals is avoided at all times.

2. Avoid underestimation of risk. Even for substances of no known significant hazard, exposure is minimized; for work with substances which present special hazards, special precautions are taken, including use of a designated area, use of containment devices, and procedures for removal of waste and for decontamination. Criteria used to determine and implement control measures to reduce employee exposure to hazardous chemicals are outlined in this chemical hygiene plan, in the laboratory safety manual, and in the MSDS.

3. Provide adequate ventilation. The best way to prevent exposure to airborne substances is to prevent their escape into the working atmosphere by use of hoods and other protective devices.

4. Institute a chemical hygiene plan. The chemical hygiene plan is designated to minimize exposures. It represents an on-going effort by the laboratory.

5. Observe the PELs, TLVs. Permissible Exposure Limits of OSHA and the Threshold Limit Values of the American Conference of Governmental Industrial Hygienists are not exceeded.
B. Chemical Hygiene Responsibilities

Responsibilities for chemical hygiene rest at all levels in the laboratory including the following:

**Medical School Administration and the Laboratory Directors.** Provide continuing support for appropriate laboratory chemical hygiene.

**Laboratory Supervisors and safety officer.** Work with administrators and employees to develop and implement appropriate chemical hygiene practices; monitor procurement, use, and disposal of chemicals used in the lab; carry out safety audits as needed; help develop adequate procedures and facilities; know current legal requirements concerning regulated substances. The Anatomic Pathology Safety Officer, Gall Zander is designated the chemical Hygiene officer for the department of Anatomic Pathology.

**Supervisors.** Ensure that employees know and follow the chemical hygiene rules, that protective equipment is available and in working order, and that appropriate training has been provided; provide regular, formal chemical hygiene and housekeeping inspections, including routine inspection of safety equipment; know the current legal requirements concerning regulated substances.

**Laboratory employee.** Develops good personal chemical hygiene habits; follows all chemical hygiene procedures of the laboratory.

C. The Laboratory Facility

The laboratory has an appropriate general ventilation system with air intakes and exhausts located so as to avoid intake of contaminated air; adequate, well-ventilated storage areas; laboratory hoods and sinks; other safety equipment including eyewash fountains and drench showers; and arrangements for waste disposal.

D. Components of the Chemical Hygiene Plan

1. **Chemical procurement, distribution, and storage.**

   a. **Procurement.** Before a substance is received, information on proper handling, storage, and disposal is known to those who will be involved. No container is accepted without an adequate identifying label. Purchase of reproductive toxins, substances with a high degree of acute toxicity, and chemical carcinogens requires prior approval of the laboratory
manager and implementation of appropriate control measures before procurement. The laboratory maintains material safety data sheets (MSDS) for all hazardous chemicals and ensures that they are readily available to employees.

b. **Stockrooms/storerooms.** Toxic substances are segregated in a well-identified area with local exhaust ventilation. Chemicals which are highly toxic are stored in unbreakable secondary containers. Stored chemicals are examined periodically for replacement, deterioration, and container integrity.

Stockrooms/storerooms are not used as preparation or repackaging areas and are open during normal working hours.

c. **Distribution.** When hazardous chemicals are hand carried, the container is placed in an outside container or bucket. Freight-only elevators are used if possible.

d. **Laboratory storage.** Amounts stored are as small as is practical. Storage on bench tops and in hoods is inadvisable. Exposure to heat or direct sunlight is avoided. Periodic inventories are conducted, with unneeded items being discarded or returned to the storeroom/stockroom.

2. **Environmental monitoring.**

Regular instrumental monitoring of airborne concentrations is not done. Specific monitoring is done for highly toxic substances as covered by regulation. Specific monitoring includes initial monitoring to determine employee exposure and periodic monitoring if required. Records of any measurements taken to monitor employee exposures are maintained.

3. **Housekeeping, maintenance, and inspections.**

a. **Cleaning.** Floors are cleaned regularly.

b. **Inspections.** Formal housekeeping and chemical hygiene inspections are held at least quarterly for sections which have frequent personnel changes and semi-annually for others. Informal inspections are done on an on-going basis.

c. **Maintenance.** Eye/face wash fountains are inspected every month. Safety showers are inspected every six months. Other safety equipment is inspected regularly (e.g., every 3-6 months).
d. Passageways. Stairways and hallways are not used as storage areas. Access to exits, emergency equipment and utility controls are never blocked.

4. Medical program.

a. Compliance with regulations. Regular medical surveillance is established to the extent required by regulation.

Whenever an employee develops signs or symptoms associated with a hazardous chemical to which the employee was exposed, the employee is provided an opportunity to receive an appropriate medical examination. When monitoring reveals an exposure level routinely above the action level for an OSHA regulated substance, medical surveillance is established for the affected employee as prescribed in the standard.

Whenever a spill, leak or other accidental exposure occurs, the affected employee is provided an opportunity for a medical consultation.

All medical examinations are provided by Employee Health Service or the hospital emergency room.

b. Routine surveillance. Anyone whose work involves regular and frequent handling of toxicologically significant quantities of a chemical should consult a qualified physician to determine on an individual basis whether a regular schedule or medical surveillance is desirable.

c. First aid. Personnel trained in first aid and emergency procedures are available from Employee Health Service and the hospital emergency room. A first aid kit is maintained in each laboratory area.

5. Protective apparel (PPE) and equipment.

Each laboratory has available protective apparel compatible with the required degree of protection for substances being handled, an easily accessible drench-type safety shower, an eyewash fountain, a fire extinguisher, fire alarm, and telephone for emergency use. Respiratory protection is provided as necessary to maintain exposure below permissible exposure limits.


a. Accident records are written and retained.

b. Chemical hazard inventory is maintained.
c. Medical records are retained by the institution in accordance with the requirements of State and Federal regulations. Medical records include the results of consultation or examination done in relation to monitoring requirements or accidental exposure.

7. Signs and labels.

In the laboratory, prominent signs and labels of the following type are posted:

a. Emergency telephone numbers of emergency personnel/facilities, supervisors and laboratory employees.

b. Identity labels showing contents of containers (including waste receptacles) and associated hazards. Labels on incoming hazardous chemicals are not removed or defaced.

c. Location signs for safety showers, eyewash stations, other safety and first aid equipment, exits and areas where food and beverage consumption and storage are (or are not) permitted.

d. Warnings at areas or equipment where special or unusual hazards exist.

8. Spills and accidents.

a. A written emergency plan is established and communicated to all personnel; it includes procedures for ventilation failure, evacuation, medical care, reporting, and drills.

b. There is an alarm system to alert people in all parts of the facility including isolation areas such as cold rooms.

c. A spill control policy is developed which includes prevention, containment, cleanups, and reporting.

d. All accidents are analyzed and reported to the lab safety committee and each laboratory area.

9. Information and training program.

The purpose of the training program is to assure that all individuals at risk are adequately informed about the work in the laboratory, its risks, and what to do if an accident occurs. This information is provided at the time of an employee’s initial assignment to a work area where hazardous chemicals are present and prior to assignments involving new exposure situations. Refresher training is provided at the discretion of the laboratory safety officer.
and safety committee.

a. **Information.** Employees are informed of the contents of this standard; the location and availability of the laboratory chemical hygiene plan; the permissible exposure limits for OSHA regulated substances or the recommended exposure limits for other hazardous chemicals where there is no applicable OSHA standard; signs and symptoms associated with exposures to hazardous chemicals used in the laboratory; and the location and availability of known reference material or hazards - including MSDS.

b. **Training.** Employees are trained on methods and observations that may be used to detect the presence or release of a hazardous chemical (such as monitoring conducted by the employee, visual appearance or odor of hazardous chemicals being released). Employees are trained on the physical and health hazards of chemicals in the work area and the measures they can take to protect themselves from exposure (such as appropriate work practices; emergency procedures, and personal protective equipment to be used). Employees are trained on applicable portions of the chemical hygiene plan.

10. **Waste disposal program.**

The purpose of the waste disposal program is to assure that minimal harm to people, other organisms, and the environment will result from the disposal of waste laboratory chemicals.

a. **Content.** The waste disposal program specifies how waste is collected, segregated, stored, and transported. It includes what materials can be incinerated.

b. **Discarding chemical stocks.** Unlabeled containers of chemicals and solutions should undergo prompt disposal; if partially used they should not be opened.

c. **Frequency of disposal.** Chemical waste should be removed from laboratories to a central waste storage area at least once per week.

d. **Method of disposal.** Incineration in an environmentally acceptable manner is the most practical disposal method for combustible laboratory waste. Indiscriminate disposal by pouring waste chemicals down the drain or adding them to mixed refuse for landfill burial is unacceptable. Hoods should not be used as a means of disposal for volatile chemicals. Disposal by recycling or chemical decontamination should be used when possible.
E. Basic Rules and Procedures for Working with Chemicals

1. General rules for all chemicals.

a. Accidents and spills.

Eye contact. Promptly flush eyes with water for a prolonged period (15 minutes) and seek medical attention.

Ingestion. Encourage the victim to drink large amounts of water.

Skin contact. Promptly flush the affected area with water and remove any contaminated clothing. If symptoms persist after washing, seek medical attention.

Clean-up. Promptly clean up spills, using appropriate protective apparel and equipment and proper disposal.

b. Avoidance of "routine" exposure. Use of safe work habits avoids unnecessary exposure to chemicals by any route. It includes not smelling or tasting chemicals, inspecting gloves before use, and venting toxic chemicals properly.

c. Choice of chemicals. Use only those chemicals for which the quality of the available ventilation system is appropriate.

d. Eating, smoking, etc. Avoid eating, drinking, smoking, gum chewing, or application of cosmetics in areas where laboratory chemicals are present. Wash hands before eating, drinking, etc. Do not store, handle, or consume food in areas which are also used for laboratory operations.

e. Equipment and glassware. Handle and store glassware with care. Do not use damaged glassware, i.e., cracked, chipped or broken glassware.

f. Exiting. Wash areas of exposed skin well before leaving the laboratory.

g. Horseplay. Avoid behavior which might confuse, startle or distract another worker.

h. Mouth suction. Do not use mouth suction for pipetting or starting a siphon.

i. Personal apparel. Confine long hair and loose clothing. Wear shoes at all times in the laboratory but do not wear sandals, perforated shoes, or
sneakers.

k. **Personal protection.** Assure that appropriate eye protection is worn when hazardous chemicals are handled. Avoid use of contact lenses in the laboratory. Wear gloves when the potential for contact with toxic materials exists. Remove lab coats immediately on significant contamination.

l. **Use of hood.** Use the hood for operations which might result in release of toxic chemical vapors or dust. As a rule of thumb, use a hood when working with any appreciably volatile substance with a TLV of <50 ppm. Confirm hood performance before use. Keep hood closed at all times except when adjustments within the hood are being made. Keep materials stored in hoods to a minimum and do not allow them to block vents or air flow. Leave hood "on" when it is not in active use if toxic substances are stored in it.

m. **Vigilance.** Be alert to unsafe conditions and see that they are corrected when detected.

n. **Waste disposal.** Assure that the plan for each laboratory operation includes plans for waste disposal. Follow waste disposal procedures outlined in the chemical hygiene plan and the safety manual. Do not discharge into the sewer concentrated acids or bases, substances which might interfere with the biological activity of waste water treatment plants, create fire or explosion hazards, cause structural damage, or obstruct flow.

o. **Working alone.** Avoid working alone in a building. Do not work alone in a laboratory if the procedures being conducted are hazardous.

Written by: David Davis HT (ASCP), 12/21/1992

Updated by: Gail Zander, CT (ASCP), 8/25/14

References:  GEN.76000

Approval of Procedure:

Medical Director Signature:  m. Jani Davis, MD

Date:  8/26/14
APPENDIX B

Chemical Hygiene Standard and Program
Background of the OSHA Regulation on
Occupational Exposure to Hazardous Chemicals in
Laboratories

The Occupational Safety and Health Administration (OSHA) enacted the Occupational Exposure to Chemicals in Laboratories Standard in 1990. This regulation applies to all employees engaged in the laboratory use of hazardous chemicals at Tufts University. Refer to the Tufts Chemical Hygiene Plan for additional details.

Requirements of the OSHA Regulation on Occupational Exposure to Hazardous Chemicals in Laboratories

Responsibility for the implementation of this policy falls primarily upon the laboratory supervisor/research scientist.

Compliance of individual laboratories with this policy is monitored by Tufts Environmental Health and Safety, the Internal Auditor and, externally, by OSHA, EPA, the Massachusetts Radiation Control Program and other local, state and federal regulatory agencies.

Exposure Reduction

Environmental Monitoring

Regular instrumental monitoring of airborne concentrations of chemicals is not usually justified or practical in laboratories but may be appropriate when testing or redesigning hoods or other ventilation devices or when a highly toxic substance is stored or used regularly (e.g., 3 times/week).

If a laboratory meets these testing criteria or the laboratory supervisor has reason to believe that a laboratory area is chemically contaminated, contact Tufts Environmental Health and Safety to perform air and surface environmental monitoring.

Inspections, Maintenance, and Housekeeping

Laboratory Safety inspections are conducted by Tufts EHS Staff annually and are scheduled. Unscheduled inspections by regulatory agencies should be expected periodically throughout the year. Informal inspections should be continual and should be performed by the laboratory supervisor.

Eye wash fountains should be tested by lab staff at intervals of not less than once per week to purge and clear the system, assuring operation and clean water. Lab personnel are also responsible for maintaining dust-caps. Facilities shall test the eyewashes for proper temperature, delivery volume and angle of water flow at intervals of not less than 6 months. A written record of these inspections shall be maintained on inspection tags attached to the eye wash fountain.

Safety showers should be tested at intervals of not less than once per year. A written record of these inspections shall be maintained.

Other safety equipment, such as reusable gloves, face shields, liquid waste cans, etc., should be inspected regularly (e.g., every 3-6 months) by the laboratory supervisor.
Stairways and hallways shall not be used as storage areas. Access to exits, emergency equipment (fire extinguishers, eyewash fountains, etc.) and utility controls should never be blocked.

Floors and laboratory benches should be maintained free of unused supplies and equipment and cleaned to remove contamination regularly.

**Protective Apparel and Equipment**

Protective apparel compatible with the required degree of protection for substances being handled should be purchased by the department or Principal Investigator and used in the laboratory.

There should be at least one easily accessible drench-type safety shower within 10 seconds and not more than 100 feet away from laboratories using chemicals in concentrations that pose skin hazards. The delivered water flow should be a minimum of 30 gallons per minute at a temperature range of 15°C to 35°C.

An eyewash unit should be available within each laboratory using chemicals in concentrations that present an eye hazard. The eyewash should deliver a continuous flow of at least 3 gallons per minute (preferably 6-9 gal/min) of water for 15 minutes at a temperature range of 15°C to 35°C.

A fire extinguisher compatible with the fire hazards in the laboratory should be available near each laboratory. Multipurpose dry chemical extinguishers, featuring an ammonium phosphate base, can be used on Class A:B:C fires and are generally preferred for installation in laboratories.

A fire alarm and telephone for emergency use should be available near or in each laboratory.

Other items designated by the laboratory supervisor or by Tufts Environmental Health and Safety should be provided.

**Signs and Labels**

Prominent signs and labels of the following types should be posted:

On the laboratory entrance, post names and emergency telephone numbers of laboratory supervisors and names and telephone numbers of emergency personnel/facilities. Names of supervisors are kept on file by Tufts Environmental Health and Safety and the Department of Public Safety. This list is maintained by Tufts Environmental Health and Safety and updated annually.

Identity labels, showing contents of chemical containers (including waste receptacles) and associated hazards should be on all chemical containers. Labels on incoming containers of hazardous chemicals shall not be removed or defaced.

Post location signs for safety showers, eyewash stations, fire extinguishers, other safety and first aid equipment, exits and areas where food and beverage consumption and storage are permitted or prohibited.

Post warnings at areas or equipment where special or unusual hazards exist (e.g., biohazards, lasers, radio-isotopes, high voltage equipment, etc.).
Accidents and Spills

A University-wide emergency plan has been established and is regularly reviewed. A copy is maintained in the files of Tufts Environmental Health and Safety and is available to all individuals wishing to use it to develop their own laboratory plan to be reviewed by Tufts Environmental Health and Safety.

A written emergency plan shall be established and communicated to all personnel by the supervisor of each laboratory; it should include procedures for ventilation failure, evacuation, medical care, reporting, and drills. Appropriate portions of this plan shall be posted in each laboratory.

There should be an alarm system to alert people in all parts of the facility including isolation areas such as cold rooms.

A University-wide spill control policy has been developed. See the Emergency Procedures section of this guide.

All accidents or significant near accidents should be communicated to the Risk Management and Insurance Department by the Laboratory Supervisor to be carefully analyzed as appropriate with the results distributed to all who might benefit.

Employee Information and Training Program

An employee safety information and training program is in existence at the University and is reviewed regularly. The purpose of this training is to assure that employees covered under this program are adequately informed about the work in the laboratory, its risks, and what to do if an accident occurs.

The laboratory supervisor shall provide this training at the time of an employee’s initial assignment to a work area where hazardous chemicals or equipment are present and prior to assignments involving new exposure situations.

The training and education program should be a regular, continuing activity.

Every laboratory worker should know the location and proper use of available protective apparel, emergency equipment and procedures.

Literature and consulting advice concerning chemical hygiene are readily available from Tufts Environmental Health and Safety. Laboratory personnel should be encouraged to use these information resources.

Review of Laboratory Activities

Certain laboratory operations, procedures, or activities require approval from the laboratory supervisor prior to implementation. This includes working with particularly hazardous substances including reproductive toxins, chemicals that have a high degree of acute toxicity and chemicals considered as select carcinogens. A select carcinogen is a chemical (1) regulated by OSHA as a carcinogen, or (2) listed as a known carcinogen in the latest edition of the Annual Report on Carcinogens published by the National Toxicology Program, or (3) listed in groups 2A or 2B of the International Agency for Research on Cancer Monograph.

The laboratory supervisor is invited to ask for assistance from the Chemical Hygiene Officer in instances where there are questions about the safety of conducting high-risk operations and experiments. When necessary, the Chemical Hygiene Officer will seek assistance from the Laboratory Safety Committee.
Chemical Hygiene Responsibilities

Specific responsibilities are as follows.

University Provost

The University Provost has the ultimate legal responsibility and accountability for chemical hygiene within the institution. The University Provost or designee shall:

- Appoint a chemical hygiene officer.
- Designate a signatory person for the University in safety, health, and environmental matters relating to proposals for funds from an outside agency for sponsored work.
- Provide University legal counsel to the Chemical Hygiene Officer and other University employees who have need to consult with counsel on matters related to chemical hygiene.
- Include provisions for appropriate storage and disposal of chemicals in the long-range plans for facilities development.
- Inform the University community of the chemical hygiene plan.
- Provide adequate support for the Tufts chemical hygiene plan and its implementation.
- Respond to requests and or reports regarding matters of chemical hygiene.

Deans and Department Chairpersons

In University departments or buildings containing laboratories where potentially hazardous chemicals are used, the Deans and Department Chairpersons shall:

- Provide list of supervisors to the Tufts Environmental Health and Safety staff on request.
- Develop plans, in consultation with the Tufts EHS staff for the appropriate storage of chemicals within the Department/Building.
- Ensure that all new faculty members, researchers, student employees and other departmental employees as appropriate are provided with a copy of the Tufts Chemical Hygiene Plan.
- Ensure that the supervisors of all undergraduate students be informed of and knowledgeable in basic rules of chemical safety and that these rules be followed in all undergraduate laboratory courses.
- Inform the Tufts Environmental Health and Safety staff of all chemically-related facility deficiencies which are known to him/her.
- Ensure that all common areas of the building are free of chemical hazards.
Laboratory Supervisor/Research Scientist

The laboratory supervisor/research scientist has overall responsibility for chemical hygiene in the laboratory which includes the responsibility to:

- Ensure that laboratory workers know and follow the chemical hygiene rules, that protective equipment is available and in working order, and that appropriate training has been provided;
- Provide regular, chemical hygiene and housekeeping inspections including routine inspections of emergency equipment;
- Be aware of the current legal requirements concerning regulated substances used in her/his laboratories;
- Determine the required levels of protective apparel and equipment and ensure that workers utilize the equipment and wear the apparel, including eye protection.
- Ensure that facilities and training for use of any material being ordered are adequate.
- Ensure that appropriate signs and notices of hazards and restricted activities are posted in the laboratory.

Laboratory Worker

The laboratory worker shall review the Tufts Chemical Hygiene Plan, and:

- Plan and conduct each operation in accordance with the applicable chemical hygiene procedures;
- Develop protective personal chemical hygiene habits.
- Inform his/her supervisor of any incident involving any chemical.

Chemical Hygiene Officer (Tufts Environmental Health and Safety Office)

The Chemical Hygiene Officer shall:

- Work with the Laboratory Safety Committee, administrators and other employees to develop and implement appropriate chemical hygiene policies and practices;
- Monitor procurement, use, and disposal of chemicals used in the laboratories;
- See that appropriate audits are conducted and records maintained;
- Assist Principal Investigators, Lab Supervisors and other scientists in the preparation of Safety Plans for High Toxicity Chemicals;
- Know the current legal requirements concerning regulated substances;
- Continuously improve the chemical hygiene program;
- Ensure that appropriate sections of the Tufts Chemical Hygiene Plan are reviewed annually.
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: CHEMICAL HYGIENE PLAN

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucinda</td>
<td>M. Scott Lucinda</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucinda</td>
<td>3/29/14</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucinda</td>
<td>8/26/16</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucinda</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: CHEMICAL FUME HOODS/BIOLOGICAL SAFETY CABINETS

Principle:
Chemical Fume Hoods are suitable when working with chemicals and non-sterile work to prevent vapors and gases build up in laboratory. Chemical Fume Hoods exhaust chemical fumes and vapors outside the laboratory and does not filter the air. Biological Safety cabinets are used to prevent airborne particulates and aerosols by use of a HEPA filtration of air intake and exhaust. Biological Safety Cabinets will recirculate filtered air in to the laboratory.

Procedures:

1. FUME HOODS

   A. MAINTENANCE

   Fume hoods should have regularly scheduled maintenance done at least annually, preferably semi-annually. The UC Denver Health and Safety Office will check the face velocity of each hood annually using standardized voltmeters or anemometers. Various sash height settings will be tested with necessary laboratory equipment left in the hood. Health and Safety will attach marking stickers to the side of each hood indicating the appropriate sash heights for both minimum and maximum face velocity. Health and Safety will also retain records of all maintenance performed by their office. UCH Maintenance Department will annually inspect and repair (if needed) any electrical outlets, gas, water, or air lines, and blower fans on or in the fume hoods. In addition, UC Denver Maintenance Dept. will inspect annually the building's HVAC system to assure proper ventilation from the hoods to the outside environment. Laboratory personnel should also set up a schedule (depending on usage) to regularly clean and disinfect each hood.

   B. TRAINING

   Each year all laboratory personnel review the laboratory safety manual, including the section on chemical fume hoods.

   C. TYPES OF CHEMICAL FUME HOODS

   There are several types of fume hoods commercially available, the seven general types are listed below.
1. Conventional hood with vertical sash
2. Conventional hood with horizontal sash
3. Bypass hood
4. Auxiliary air hood
5. Walk-in hood
6. Self contained hood
7. Canopy hood

In addition, specialty fume hoods for perchloric acid, radioisotopes, and carcinogens are available. As a general rule, perchloric acid should not be used in a chemical fume hood. However, exemptions to this rule may be allowed with special permission from UC Denver Health and Safety Department.

Conventional hoods with vertical sashes are the most common type of fume hood and are the only type presently in use in this laboratory. Therefore any further discussion of chemical fume hoods will exclusively apply to this type of hood.

D. FACTORS AFFECTING HOOD PERFORMANCE

1. FACE VELOCITY

Satisfactory performance of a fume hood requires that airflow past the opening sash (face velocity) occur within minimum and maximum limits. If the face velocity is too low fumes will leak out through the front opening and come in contact with the operator and escape into the laboratory. The minimum velocity must be great enough to ensure that the direction of air will always be into the hood. The upper limit of air velocity is related to the flow pattern created by the air stream flowing past the operator in front of the hood and past the equipment itself in the hood. Although hoods can be operated at 60 feet per minute (fpm; 1 ft = 30.48 cm), it is suggested that the minimum face velocity be 100 fpm in order to provide a safety margin for variable operating conditions. The maximum acceptable face velocity should be 150 fpm.

2. VERTICAL SASH HEIGHT

The height of the vertical sliding sash can affect performance significantly and directly control the face velocity of the hood. Face velocity should be checked yearly at various sash heights, and if
necessary the sash heights should be adjusted to maintain the proper face velocity (see Maintenance for further details). The sash height is also an important factor in protecting the operator from serious splashes and explosions and should at the very least cover the operator's face.

3. DISTANCE OF FUME SOURCE

The closer the fume source is to the opening vertical sash the more likely hazardous vapors are to escape from the front of the hood into the room. All experiments should be conducted behind the level of the vertical sliding sash, the deeper into the hood the better.

4. PRESENCE OF HEAT SOURCE

A heat source will cause increased spillage of any toxic vapors present inside the hood, and should be avoided if possible.

5. AMOUNT AND LOCATION OF MATERIALS

The more equipment and materials located in the hood, the greater the air turbulence. Air turbulence can disrupt designed air flows and reduce the effectiveness (face velocity) of the hood.

In general, a deeper hood provides more room to adequately have proper space between laboratory equipment in order to minimize turbulence. The further back into the hood materials can be placed, the better the air flow will be. A chemical hood should not be used for general storage of materials.

6. CHEMICAL STORAGE

Generally, chemicals of any type should not be stored on a permanent basis within the hood. However, small working quantities may be temporarily stored within the hood area while assays are being performed. Exceptions to this rule may be allowed with special permission from UC Denver Health and Safety Dept.

II. BIOLOGICAL SAFETY CABINETS

Biological safety cabinets are designed to provide for control and collection of airborne particulates and aerosols within a confined space through the use of directional airflow and high
efficiency particulate arresting (HEPA) filters. When cabinets are used in conjunction with good microbiological techniques, they provide an effective containment system for safe manipulation of moderate and high risk microorganisms. Hepa filters remove only particulates, not vapors or gasses. Therefore biological safety cabinets are not suitable for toxics or volatiles.

A. MAINTENANCE

Maintenance and performance evaluations will be done annually (by contract with ENV Services Inc.) on all Class II biological safety cabinets located in the Department of Anatomical Pathology. All maintenance records will be kept in each department. Each Biological Safety Cabinet is disinfected daily. Note: Contractor performing annual maintenance is Sercom Scientific Equipment Repair Company. Phone number: 877-5sercom.

B. TRAINING

Each year, all laboratory personnel will review safety manual and the proper use of a Class II biological safety cabinet.

C. TYPES OF BIOLOGICAL SAFETY CABINETS

1. CLASS I

- Is a modification of a chemical fume hood.
- Airflow is inward across the work surface.
- No recirculation of air.
- No product protection is afforded, cross contamination may result from contaminated air flowing over the work area.

2. CLASS II

- Must meet National Sanitation Foundation (NSF) Standard number 49 in order to be classified as a Class II Biological Safety Cabinet.
- Provides more protection for user and product.
- Proper airflow pressure is critical to preventing any possible contamination.
- Uses clean vertical airflow with auxiliary air entering from the front of the cabinet.
- Vertical laminar airflow and front access opening are common to all classes of Class II cabinets. However, airflow patterns, airflow velocities, Hepa filter positions, ventilation rates, and exhaust methods vary in different Class II cabinets.

a. Four Types of Class II Cabinets
3. CLASS III

- Is a closed front, self contained, ventilated cabinet that is operated under negative pressure in relation to the laboratory environment.
- Provides absolute isolation and containment of infectious materials.
- Work inside the cabinet is performed through arm-length rubber gloves.
- Provides a very high level of protection and security for the operator.

Presently the Department of Anatomical Pathology at University Hospital has only Class II biological safety cabinets. Therefore any further discussion will focus on this class of biological safety cabinets.

D. USE OF CLASS II BIOLOGICAL SAFETY CABINETS

It is essential that owners and users of Class II biological safety cabinets have a working knowledge of such equipment. Only Class II biological safety cabinets listed by NSF, meeting standard #49 should be purchased. Every NSF listed Class II cabinet is subjected to a battery of tests by manufacturers to verify that design specifications and standards have been met. Each cabinet must also successfully pass a microbiological challenge test, airflow velocity, and flow parameters. Certification of a safety cabinet is essential. Without proper working equipment, safety cannot be assured. NSF Standard #49 states that Class II cabinets should be certified prior to use (after proper installation), at least annually, whenever Hepa filters are changes, when maintenance repairs are necessary, and when cabinets are relocated.

Written by: Heather Currens, SCT (ASCP), 8/1/2008

Revised by: Gail Zander, CT (ASCP), 8/18/2012

References: GEN.76600

Approval of Procedure:

Medical Director Signature: M. Deit\[signature\], MD

Date: 8/29/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: CHEMICAL FUME HOODS/BIOLOGICAL SAFETY CABINETS

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scott Lucia</td>
<td>Dr. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>Dr. Scott Lucia</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>Dr. Scott Lucia</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: SIGNS

Principle:
The laboratory uses graphic and written signs to warn of hazards, provide emergency information, or point out the location of safety devices. Signs may not be blocked by laboratory devices, reagents, etc. The following signs are required in each area of the laboratory.

Procedure: All laboratories see following guidelines for posting signs:

A. Location Signs
   1. Safety devices/exits must be posted by or on each safety shower, eye wash station, fire blanket, fire extinguisher, first aid equipment, safety cabinet (or cupboard), and exit.
   2. Radioactivity. Outside of each room where radioactivity is used, a sign must be placed which contains the radioactivity legend and graphic, a diagram (map) showing where radioactive materials are located, and the name and hospital phone number of the licensed user of the radioactive material.

B. Fire Exit Signs must be posted at, or immediately outside of, the doorways to each laboratory section. Each sign must contain a map of the area with the fire exit directions, the fire safety zone, and the location you are at all clearly marked.

C. Regulatory Signs must be placed outside of each room of the laboratory where food/beverage consumption is not allowed. Other regulatory signs are used to identify areas where gasses or chemicals may or may not be stored.

D. Warning Signs must be posted at areas or equipment where unusual hazards exist. Example: Pace maker warning by microwave. Example biohazard signs in lab which is potentially infectious and no eating or drinking allowed.

E. Emergency Signs (or list) must be posted in each lab area giving the phone number of emergency personnel and the contact numbers of laboratory personnel.
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: SIGNS

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, M.D.</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: LABELING

Principle:
The laboratory follows the labeling practices outlined below for all chemical, biologic, microbiologic, and radioactive material used. Labels are hand written, typed, or pre-printed and are legible on each container for which a label is required. All labels are in English and are prominently displayed.

Procedure: Guidelines for labeling as follows:

A. Chemicals

1. **Labeling on containers from the manufacturer** (or importer or distributor) must include the identity of the chemical, appropriate hazard warning, and the name and address of the manufacturer or other responsible party. In addition, if the hazardous chemical is regulated by OSHA in a substance-specific health hazard (e.g., formaldehyde), the labels must include any specific warnings required in the standard. The labels on incoming containers of hazardous chemicals are not removed or defaced.

2. **Labeling on non-original containers used in the laboratory** must include the name of the chemical, the identity of hazardous chemical contained therein, and appropriate hazard warnings (see NFPA hazard warning below). The concentration of chemical, preparation date, and expiration date must be added for all chemical reagents prepared in the laboratory.
3. **Exception to labeling.** Portable containers, e.g., test tubes or beakers, which are intended for the immediate use by the employee who performs the transfer from a labeled container do not have to be labeled. Example: If methanol is used in an extraction method, each test tube containing patient sample and solvent does not have to be specifically labeled with chemical labeling while the procedure is being performed. If unlabeled test tubes or other unlabeled container with hazardous chemical are stored for several hours or overnight, labeling should be added to each container or rack of tubes.

4. **Chemical storage.** Cabinets, e.g., acid or solvent cabinets, must be labeled with the type of hazardous material which may be placed inside.

B. **Biologic Hazards**

1. **Biohazard labels** must be placed on all containers of infectious waste, on refrigerators and freezer containing blood and other potentially infectious materials, and on containers used to store or transport blood or other potentially infectious material.

2. **Biohazard labels** must be fluorescent orange or orange-red (or predominantly so, with lettering or symbols in a contrasting color). All labels must include the following legend and graphic:

   ![Biohazard symbol](image)

3. **Exception to labeling.** Red bags or red containers may be substituted for labels on containers of infectious waste.

C. **Microbiologic Material**

1. **Stock cultures** must be labeled.

D. **Regulatory labels** must be placed on each refrigerator and
freezer to identify if food and beverage stored is or is not permitted.

Written by: Heather Currens, SCT (ASCP), 8/1/2008

Revised by: Gail Zander, CT (ASCP), 8/18/2012

References: GEN. 76200

Approval of Procedure:

Medical Director Signature: M. Lee, M.D.

Date: 8/27/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: LABELING

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucie, M.D.</td>
<td>M. Scott Lucie</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucie</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucie</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: SAFETY DATA SHEET

Principle:
The laboratory will have a Safety Data Sheet (SDS) for each hazardous chemical which is used, in a form which is readily accessible during each work shift and in all work areas. Safety data sheets may be stored either with specific operating procedures or in a separate manual.

A. Contents of SDS

1. Identity of the hazardous chemical, including its chemical and common name.

2. Physical and chemical characteristics of the hazardous chemical.

3. The physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity.

4. The health hazards of the hazardous chemical, including signs and symptoms of exposure.

5. The primary route of entry.

6. The OSHA permissible exposure limit.

7. Whether the hazardous chemical is considered a carcinogen or potential carcinogen.

8. Precautions for safe handling and use, including procedures for clean-up of spills and leaks.

9. Control measures, such as engineering controls, work practices, or general protective devices.


11. The date of preparation of the MSDS.

12. The name, address and telephone number of the chemical manufacturer.

B. Location of SDS in the Laboratory

The master copy of SDS are stored in each section of the lab in which chemicals are used in. They are also available online http://www.msdsssource.com/
C. **Obtaining SDS**

SDS may be obtained in one of three ways:

1. Contact the manufacturer of the chemical to send SDS.
2. Check incoming shipments of chemicals for attached SDS.
3. Contact the hospital Health and Safety Office; they maintain a file of all SDS received.
4. The SDS may be requested through website http://www.msdssource.com/

**Written by:** David Davis, HT (ASCP), 12/21/1992

**Revised by:** Gail Zander, CT (ASCP), 1/24/2014

**References:** GEN.76100

**Approval of Procedure:**

Medical Director Signature: [Signature]

Date: 3/24/14
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: SAFETY DATA SHEET

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, M.D</td>
<td>M. Scott Lucia, M.D</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucia</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: PERSONAL PROTECTIVE EQUIPMENT (PPE)

Principle:
Personal protective equipment is specialized clothing or equipment worn by an employee to protect him/her from a hazard. The laboratory will have PPE available to all employees.

Procedure:

A. Location of PPE in the Laboratory
   
   Clean laboratory coats are each employee's responsibility. Gloves are stored in each lab section with the general inventory. Additional PPE is stored in each section as needed.

B. Use of PPE

1. Eye protection (glasses/goggles/eye shields)
   
   Types. Glasses must have side bars or molded side pieces which cover both front and sides of the eyes. Goggles and eye shields must be secured snugly against the face and cover the eyes completely. They may fasten with elastic or velcro.

   Proper use. Use whenever splashes, spray, spatter, droplets, or aerosols of blood or other potentially infectious materials may be generated and there is a potential for eye contamination. Use whenever handling hazardous chemicals. Use for spill clean-up of biohazards and chemicals. Full face masks may be used instead of eye protection alone.

2. Gloves
   
   Types. Disposable (single use) gloves may be vinyl or non-latex. Utility gloves are optimal.

   Proper use. Use when there is potential for the hands to have direct skin contact with blood, other potentially infectious materials, mucous membranes, non-intact skin, and when handling items or surfaces soiled with blood or other potentially infectious materials. Use when the potential for contact with toxic material exists. Use for spill clean-up or disposal of biohazards and chemicals. Use whenever handling radioactive material. Do not use disposable gloves when visibly soiled, torn, punctured, or when their ability to function as a barrier is compromised.
Do not wash or disinfect disposable gloves for re-use. Do not use utility gloves when cracked, peeled, discolored, torn, punctured or exhibit other signs of deterioration.

3. Laboratory coats

Types. Laboratory coats of cotton/blend fabric must be worn for general use. Semipermeable paper laboratory coats are provided occasionally for temporary use.

Proper use. Wear laboratory coats fully snapped or buttoned. Use when there is a potential for soiling of clothes with blood or other potentially infectious materials. Use whenever handling chemicals and reagents, including storage, preparation, and pipetting. Use whenever handling radioactive chemicals. Use for spill clean-up or disposal of biohazards and chemicals. Do not use if contaminated with biological or chemical material. Laboratory coats soiled with blood or body fluids are placed in bags that prevent leakage and then placed in the laundry hamper. Laboratory coats contaminated with significant amounts of chemical should be discarded if the fabric is destroyed; if the laboratory coat is still usable, it should be rinsed out before placing in the laundry.

4. Face shields

Types. Face shields must fully cover the face above the eyes and down past the mouth; they must fasten securely to the head. Plastic or glass shields are acceptable.

Proper use. Use whenever splashes, spray, spatter, droplets, or aerosols of blood or other potentially infectious materials may be generated and there is a potential for eye, nose, or mouth contamination. Use for spill clean-up of biohazards and chemicals.

5. Face masks

Types. Any of the aerosol-protecting, disposable, non-sterile, face masks is acceptable. They may tie behind the head or loop over the ears. The N-95 masks are used when the possibility of infectious materials are present (i.e., TB). In the Frozen Section room, the N-95 masks are used for every case due to the unknown constituents of the specimens.

Proper use. Use whenever splashes, spray, spatter, droplets, or aerosols of blood or other potentially infectious materials may be generated and there is a potential for nose or mouth contamination. Use with eye protection for full face protection of biological hazards.
6. **Fluid-proof aprons or gowns**

**Types.** Disposable plastic aprons, vinyl or polyethylene "lab" apron, and fluid-resistant disposable isolation gowns are available.

**Proper use.** Use fluid-proof apron or gown, in addition to laboratory coat, when there is a potential for splashing or spraying of blood or other potentially infectious materials. Use "lab" apron or disposable fluid-proof gown or apron, in addition to laboratory coat, when there is a potential for splashing or spill of hazardous chemical, e.g., preparation of reagents from concentrated acid or base.

**Written by:** Heather Currens, SCT (ASCP), 12/13/2008

**Revised by:** Gail Zander, CT (ASCP), 8/18/2012

**References:** GEN 74200

**Approval of Procedure:**

Medical Director Signature: [Signature]

Date: 8/29/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: PERSONAL PROTECTIVE EQUIPMENT (PPE)

Signature on this page ensures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scott Lucia, MD</td>
<td>Dr. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td>3/24/14</td>
<td></td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td>8/26/16</td>
<td></td>
</tr>
</tbody>
</table>
Title: LATEX ALLERGIES

Principle:
Health Care workers use gloves repeatedly in an everyday work environment as a part of Universal Precautions. Latex and non-latex gloves are available for use. It is important that employees of Anatomical Pathology department identify if they are allergic to latex and what procedure is if they should come in contact with latex.

Procedure:
What is Latex allergies:
Latex allergies are a reaction to certain proteins in latex rubber, developing due to the proteins being foreign to the body, which may result in the production of harmful IgE antibodies in susceptible individuals. The production of these antibodies causes the release of histamine, resulting in an allergy that manifests as immediate symptoms ranging from hives, itchy eyes, runny nose, to wheezing, coughing and constriction of airways. Allergic reactions to latex may also include skin disease, asthma and anaphylaxis that can result in chronic illness, disability, career loss, hardship, or death. There is no method of latex allergy treatment except to completely avoid all latex containing products.

There are three types of adverse health reactions related to NRL exposure:

- **Irritant Contact Dermatitis**- A non-allergic skin rash characterized by hand erythema, pruritus, dryness, and cracking. This reaction is caused by skin irritation from using gloves and possibly by contact exposure to other workplace products and chemicals. Gradual onset can occur with in days.

- **Allergic Contact Dermatitis (delayed-type hypersensitivity)**- A specific immune response to the chemical additives, such as accelerators or antioxidants (thiurams, carbamates, phenylenediamine) added to NRL during harvesting, processing, or manufacturing of NRL products. Acute dermal reactions include erythema and vesicle formation (similar to the skin eruption after poison ivy exposure). The lesions typically appear 24-96 hours after exposure. Subsequently, chronic exposure may cause the skin to become dry, crusted and thickened.

- **NRL Allergy (immediate-type hypersensitivity)** - Certain NRL proteins may cause the induction of IgE antibodies. Reactions usually begin within minutes of exposure of a sensitized individual to NRL allergens, but they can occur hours later. Mild allergic reactions to NRL involve skin redness, hives, or itching. More severe reactions may involve respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat, bronchospasm, asthma, gastrointestinal upset, abdominal pain and diarrhea. Anaphylaxis and death have occurred following NRL exposure. Onset within minutes, rarely longer then two hours.

Routes of exposure to latex allergens:
• **Skin Contact**—The most common route of exposure is dermal contact and can occur when wearing latex gloves; if an individual has hand dermatitis and the skin is already broken, or if the gloves are wet the risk is increased.

• **Mucous Membranes**—Exposure through mucous membranes can occur via the products used in dentistry or anesthesia.

• **Inhalation**—Occurs via exposure to latex glove powder. The proteins responsible for latex allergy bind to the cornstarch glove powder used to lubricate the gloves. This can be inhaled and cause irritation of the body membranes.

• **Internal Tissue or Visceral**—Exposure occurs during surgery when latex containing surgical devices are used. Glove powder can also adhere electrostatically to surgical instruments and be introduced into the patient’s body.

• **Intra Vascular**—via products in syringes.

**Risk Groups**

• Health care workers (nurses, doctors, dentists, operating room staff, laboratory technicians)
• Workers in the latex industry
• Patients who undergo multiple hospitalizations (may receive prior sensitization through mucosal adsorption).

**Latex Allergy Diagnosis:**

Latex allergy should be suspected in anyone who develops certain symptoms after latex exposure, including nasal, eye, or sinus irritation; hives; shortness of breath; coughing; wheezing; or unexplained shock. Individual who experiences these symptoms post latex exposure should be evaluated by a physician to prevent further allergic reaction. Diagnosis is determined by the use of medical history, physical examination, and testing. An FDA approved test is available to diagnose allergic contact dermatitis. A special patch containing latex additives is applied to the skin and checked over several days. A positive reaction is indicated by itching, redness, swelling or blistering in area where patch was located. Blood tests are also available to detect latex antibodies.

**OSHA Regulations Pertaining to Latex Glove Use and Allergy Management:**

OSHA Requirements, Bloodborne Pathogen Standard, (Personal Protective Equipment):

Accessibility: **the employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided [29 CFR 1910.1030(d)(3)(iii)].**

Gloves: Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures except as specified in paragraph (d)(3)(ix)(D); and when handling or touching contaminated items or surfaces. Disposable (single use) gloves such as surgical or examination gloves shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised. **Disposable (single use) gloves shall not be washed or decontaminated for re-use [29 CFR 1910.1030(d)(3)(ix)].**

Hand Washing: Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment [29 CFR 1910.1030(d)(2)(v)]. (This helps minimize powder and/or latex remaining in contact with the skin).
**Recommendations for Latex Allergy Management:**

**Employer:**

1) Substitution: Provide workers with non-latex gloves if workers do not come into contact with bloodborne pathogens or infectious materials. Provide high quality, low latex, reduced protein, powder free gloves if appropriate barrier protection is necessary.

2) Ensure workers use good housekeeping techniques to remove latex-containing dust from the workplace: Identify areas contaminated with latex dust for frequent cleaning and make sure that workers change ventilation filters and vacuum bags frequently in latex contaminated areas.

3) Education: exposed workers should be given this Guidance Note and contact the UCD Environmental Health and Safety Department for more educational information of the Latex Allergy Prevention.

4) Periodically screen high-risk workers for latex allergy symptoms. Detecting symptoms early and removing symptomatic workers form latex exposure are essential for preventing long-term health effects.

5) Evaluate current prevention strategies whenever a worker is diagnose with latex allergy.

**Workers (workers should take the following steps to protect themselves from latex exposure and allergy in the workplace):**

1) Use non-latex gloves for activities that are not likely to involve contact with infectious materials (food preparation, routine housekeeping, maintenance, etc.).

2) Appropriate barrier protection is necessary when handling infectious materials [CDC 1987]. If you choose latex gloves, use powder-free gloves with reduced protein content:
   a. Such gloves reduce exposures to latex protein and thus reduce the risk of latex allergy (though symptoms may still occur in some workers).
   b. So-called hypoallergenic latex gloves do not reduce the risk of latex allergy. However, they may reduce reactions to chemical additives in the latex (allergic contact dermatitis).

3) Use appropriate work practices to reduce the chance of reactions to latex:
   a. When wearing latex gloves, do not use oil-based hand creams or lotions (which can cause glove deterioration) unless they have been shown to reduce latex-related problems and maintain glove barrier protection.
   b. After removing latex gloves, wash hands with a mild soap and dry thoroughly.
   c. Use good housekeeping practices to remove latex-containing dust from the workplace:
      i. Frequently clean areas contaminated with latex dust (upholstery, carpets, ventilation ducts, and plenums).
      ii. Frequently change ventilation filters and vacuum bags used in latex- contaminated areas.

4) Take advantage of all latex allergy education materials located at the UCD Environmental Health and Safety Department:
   a. Become familiar with procedures for preventing latex allergy.
   b. Learn to recognize the symptoms of latex allergy: skin rashes; hives; flushing; itching; nasal, eye, or sinus symptoms; asthma; and shock.

5) If you develop symptoms of latex allergy, avoid direct contact with latex gloves and other latex-containing products until you can see a physician experienced in treating latex allergy.

6) If you have latex allergy, consult your physician regarding the following precautions:
   a. Avoid contact with latex gloves and other latex-containing products.
b. Avoid areas where you might inhale the powder from latex gloves worn by other workers.
c. Tell your employer and your health care providers (physicians, nurses, dentists, etc.) that you have latex allergy.
d. Wear a medical alert bracelet.

7) Carefully follow your physician’s instructions for dealing with allergic reactions to latex.

Written by: Heather Currens, SCT (ASCP), 8/13/2008

References: GEN.77700

Approval of Procedure:
Medical Director Signature: [Signature]
Date: 8/29/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: LATEX ALLERGIES

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scott Lucie, MD</td>
<td>Dr. Scott Lucie</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>Dr. Scott Lucie</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>Dr. Scott Lucie</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: UNIVERSAL PRECAUTIONS

Principle:
It is the policy of Anatomical Pathology & the University Hospital that all employees will utilize Universal Precautions principles of infection control in their performance of direct and indirect patient care. All laboratory workers will follow the following policy on universal precautions.

Procedure:

A. Anatomical Pathology Universal Precautions Policy

1. Hand Washing
   Hands should be washed whenever there is visible contamination with blood or body fluids, after completion of work, and before leaving the laboratory, after removing gloves, before eating, drinking, smoking, applying makeup, changing contact lenses, and using lavatory facilities, and before any and all other activities which involve contact (touching) of the hand with mucous membranes, eyes, or breaks in the skin.

   If contact of blood, body fluids, or tissue occurs because of a break (hole or tear) in the glove, the gloves should be immediately removed and the hands thoroughly washed.

   Washing with soap and water is recommended. Use of a moisturizing hand cream after washing may reduce skin irritation caused by frequent hand washing.

   A hand washing sink should be designated in each laboratory work area. It should be separate from sinks used for washing equipment or for waste disposal.

2. Needles and Sharps
   a. All tasks in which needles or sharps are used pose a risk to the health care worker. Specific operating procedures for their use are outlined in the department procedure manuals.

   b. The use of sharps in the laboratory is discouraged except for when no other alternative is feasible or the use of sharps is unavoidable which is designated as a high risk task.

   c. High risk tasks include. While performing high risk tasks below PPE is mandatory at a minimum gloves, eye/face protection,
and fluid resistant lab coat.

<table>
<thead>
<tr>
<th>Task</th>
<th>Handling Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grossing/cutting of tissue</td>
<td>Double glove with two different colors of gloves. Do not use sharps unless necessary. If just manipulating tissue with one hand use tools such as tweezers or wood sticks to manipulate tissue. Use blades with handles when available while cutting tissue. Dull blades should be disposed of to prevent using excessive force while cutting. Never cut toward hands/fingers/palm try to position hands/fingers/palm behind blade and cut away from.</td>
</tr>
<tr>
<td>Removal of uncapped needle from syringe</td>
<td>Use one-handed technique to place needle into the needle jig on the sharps container. Unscrew the syringe and let needle drop into sharps container. Alternatively, use one-handed technique to re-cap needle. Use pliers to brace the capped needle and slowly twist off the syringe with the other hand.</td>
</tr>
<tr>
<td>Capping a syringe needle</td>
<td>Use one-handed technique to slide needle into cap. Then use second hand to tighten cap.</td>
</tr>
<tr>
<td>Removal of capped needle from the syringe</td>
<td>Whenever possible, use pliers or hemostat to brace the capped needle and twist off the syringe with the other hand. If situation is such that pliers or hemostat cannot be used, hold capped needle in one hand and slowly twist the syringe away from the needle with the other hand. DO NOT let the needle slide out of the cap.</td>
</tr>
</tbody>
</table>

3. **Protective Barriers**

   **A. Gloves**

   Latex or vinyl gloves must be worn for all procedures involving handling of tissue or blood or body fluid.

   Latex or vinyl gloves should be worn when handling items that are likely to be contaminated, including biological safety cabinets, laboratory instruments, specimen containers, counter tops, computer keyboards, and telephones. These items should all be considered contaminated if in the laboratory setting, so hand washing is recommended before leaving the area. Latex or vinyl gloves must be worn when handling biohazard bagged material and visibly contaminated items or linen and also for biohazard spill cleanup.

   Latex or vinyl gloves are available to all employees for use. If any employee experiences allergies to a particular glove product, a reasonable effort will be made to find glove liners or a non-allergenic product for the employee to wear.
Gloves should be changed if they accidently become visibly contaminated with blood or body fluids, if physical damage (tears or holes) occurs, or if chemical damage (e.g., from organic solvents) occurs.

b. Gowns
Long fluid resistant laboratory coats must be worn when handling specimens. Lab coats must be buttoned. If the laboratory coats cannot be buttoned, an apron or gown must be worn.

Laboratory coats used during open specimen handling or testing cannot be worn outside the laboratory area or worn in clean areas. Unsoiled laboratory coats used during tissue and body fluid handling may be used while working in the laboratory.

If laboratory coats are worn in non-clinical areas of the institution, coats must not have been in use for specimen handling or testing. Laboratory coats are not required in non-clinical areas.

If infectious material is spilled on a laboratory coat, remove promptly, place in a red bag, and place bag in the lab laundry hamper. Lab coats may not be taken home and laundered by the lab employee.

If infectious material is spilled on personal clothing, remove clothing as soon as possible. The personal clothing must be decontaminated before the employee can take it home. The use of an anti-viral agent such as Virex is recommended in a warm water soak. Once decontaminated, personal clothing can be taken home and cleaned with household laundry detergent.

Gowns or aprons made of impervious materials, e.g., plastic-paper alloys, should be worn during procedures known or suspected to result in splashing of body fluids.

c. Masks, Eyewear
Masks and protective eyewear or face shields must be worn for blending, grossing, cutting, tissue, vigorous mixing, and when removing tightly impacted stoppers from tubes -- or in any other situation where the health care worker anticipates mucous membrane contamination.

d. Occlusive Dressings
All skin defects (e.g., exudative lesions, dermatitis, cuts, or abrasions) located on parts of the body exposed to blood or body fluid should be covered with a water-impermeable occlusive bandage or otherwise shielded. This includes defects on the arms, face,
a water-impermeable occlusive bandage or otherwise shielded. This includes defects on the arms, face, and neck.

4. Employee Specifics

a. Smoking, eating, and drinking are not allowed in the laboratory area. Contact lenses should not be inserted or removed in the laboratory area. Application of cosmetics, lip balm, etc., is not allowed in the laboratory area.

b. Fingers, pencils, and other objects used in the laboratory must be kept away from the mouth and/or mucous membranes.

c. Employees failing to comply with safety practices or who endanger the safety of other employees, patients, or visitors will receive a corrective action. Employees who do not immediately correct their actions will receive a disciplinary action, which may result in loss of pay or dismissal.

5. Environmental

a. Spills

| Note | for large spills of cultured or concentrated infectious agents, the spill should first be flooded and mixed with a concentrated disinfectant (e.g., 1:5 bleach) and then be allowed to stand for 20 minutes before being decontaminated. |

Wear gloves and a fluid resistant gown to clean all spills. If the spill contains broken glass or other objects, these should be removed without contact with the hands. Rigid sheets of cardboard used as a "pusher" and "receiver" may be used to handle such objects and then discarded into the biohazard waste container. In a centrifuge, a forceps with gauze can be used to remove bits of glass.

If the spill is large and/or there is potential of contaminating the workers' shoes, water-impermeable shoe covers should be worn.

Absorb the spill with disposable absorbent material (e.g., paper towel, gauze pads, or tissue wipes). Note - the spill cannot be adequately disinfected unless the bulk of it is absorbed and picked up first. Clean the spill site of all visible spilled material using an aqueous detergent solution. Absorb the
liquid.

Disinfect the spill site using an appropriate intermediate to high-level hospital disinfectant, e.g., 1:10 bleach. Flood the spill site or wipe down the spill site until it is "glistening wet." Let bleach site on the site for a minimum of 2 minutes. (For other disinfectants, follow manufacturer's directions.)

Absorb the disinfectant solution with disposable material. Rinse with water to remove any noxious chemicals or odors. Dry the site.

Dispose of solid materials in a biohazard waste container. Use an intermediate rigid container if the spill contained sharps. Large quantities of liquid can be disposed of in a sanitary sewer.

b. Pipetting

Mouth pipetting is not allowed. All pipetting must be performed using a rubber bulb or mechanical device.

c. Centrifugation

All specimens must be capped during centrifugation and contained within aerosol protection/containment cups or a closed rotor. The centrifuge lid or rotor should not be opened while the centrifuge is running.

d. Biohazard Containers

Sharps containers, small waste containers, and biohazard waste boxes must be provide in all work areas.

e. Specimen Analysis

All testing procedures in which universal precautions fluids are assayed must include the use of protective barriers appropriate to the tasks.

f. Disinfecting Work Areas/Equipment

Work surfaces should be cleaned and disinfected at the end of each work shift. Equipment should be cleaned and decontaminated prior to being repaired or transported to a contracted repair service.

g. Food Storage

Food may be stored in a designated refrigerator or in
6. Specimen Handling

a. Requisitions and Specimen Containers

Requisitions or specimen containers contaminated with blood or body fluids should be placed in a bag labeled biohazardous or red and the originating nursing unit called to clean the container with approved disinfectant and to replace the lab requisition form. If a representative from the originating unit does not clean the requisition and container within 15 minutes, the plastic bag should be returned to the unit via the dumbwaiter.

The lab will not accept or process specimens with exposed needles.

The lab will not accept urine or fluids in paper containers.

The primary specimen container for all specimens must be leakproof. For universal precautions fluids, each specimen must be placed inside a secondary container for transport. The secondary container can be a plastic bag, a secondary test tube, or a test tube rack in a plastic tub or phlebotomy tray.

b. Specimen Handling

All specimens should be covered, capped, corked, or plugged except while being separated, poured, or during analysis. To remove a rubber stopper from a tube, use plastic coated gauze to cover the stopper or work behind an acrylic splash shield.

All microbiology specimens should be opened in a biosafety hood.

All containers of bronchopulmonary washings or sputum should be handled as if they are contaminated on the outside.

B. Hepatitis Immunization

Hepatitis B vaccine is available to all employees of the
clinical laboratory through University Hospital Health Services. The vaccine will be offered to all employees on employment but may be received at any point in employment. Supervisors will keep documentation of Hepatitis B vaccine.

C. Accident Reporting

See policy on accident reporting and UCD policy on blood or body fluid exposure.

Written by: David Davis, HT (ASCP), 12/21/92

Revised by: Gail Zander, CT (ASCP), 1/24/2014

References: GEN.74000, GEN.74300, GEN.74400, GEN.74500, GEN.74700

Approval of Procedure:
Medical Director Signature: [Signature]
Date: 3/24/14
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: UNIVERSAL PRECAUTIONS

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scott Lucia</td>
<td>Dr. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title:  SAFE MEDICAL DEVICES

Principle:
Because of the tremendous number and variety of medical devices used in the laboratory, the maintenance and quality checks performed on these devices becomes very important in preventing malfunctions which could contribute to patient death, injury, or continued illness. It is the intent of the Anatomic Pathology Department to keep these types of incidents to a minimum.

Procedure:
As of November 28, 1991, all "device user facilities" are required to report all deaths, serious injuries or serious illness which occurred in the user's facility and which there is a probability that a medical device caused or contributed to the event.

Glossary

1. A "device user facility" is defined as: all hospitals, nursing homes, ambulatory surgical facilities, and outpatient treatment facilities.

2. The definition of a "Medical device" is: an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including any component, part, or accessory which is . . .

   - intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease in man, or

   - intended to affect the structure of any function of the body of man.

3. Serious illness or injury is defined by the Safe Medical Devices Act of 1990 (Public Law 101-629) as one that:

   - Is life threatening.

   - Results in permanent impairments of a patient's body structure of function.

   - Needs any immediate medical or surgical intervention to prevent permanent damage to a patient.
Time Frame

All reports will be initiated by the Office of Risk Management, in conjunction with Bioengineering. If the laboratory has been requested by this office to respond to a situation, such response should be completed as soon as possible. The FDA has indicated that facilities should report to them no later than 10 working days after a facility becomes aware of a reportable event. The 10 working days begins once the facility has made the determination that the event is in fact, reportable. Working days mean Monday through Friday, excluding weekends and federal holidays.

Reports

If a response has been requested by the Office of Risk Management, the final content of the report filed by that office would minimally include:

- The identity of the reporting facility.
- Product name, model, serial number.
- Manufacturer, if known.
- Description of the event.

In addition, the Office of Risk Management will submit a summary of the reports semi-annually. This summary must be submitted on January 1 and July 1 of each year. The summary would include:

- The name, address, telephone number, type of facility.
- Product name, model and serial number.
- Name and address of the manufacturer of the device.
- Brief description of the event reported to the manufacturer.

Written by: Heather Currencs, SCT (ASCP), 8/13/2008

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 8/29/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: SAFE MEDICAL DEVICES

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Scott Lucas</td>
<td>Mr. Scott Lucas</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>Mr. Scott Lucas</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>Mr. Scott Lucas</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: SPILLS/DECONTAMINATION

Principle:
It is the intent of the laboratory to minimize the possibility of spills and accidents by providing personal protective equipment, work practice and engineering controls, and training in handling hazardous or infectious materials. This procedure outlines the containment, clean-up, and reporting steps for the various types of spills which occur in the laboratory.

1. **PROTECT** yourself with PPE.
2. **CONTAIN** the spill with pillow, absorbent, or neutralizer.
3. **NEUTRALIZE** the spill with neutralizing chemical or disinfectant.
4. **CLEAN UP** the spill mixture.
5. **DISPOSE** of the spill mixture in the proper waste.
6. **REPORT** the spill.

Caution:
For chemical spills, do not clean up if hazardous vapors are present, or you are unsure of the danger, or spill volume is >1 liter.

Evacuate area. Call 911 for assistance.

Procedures:

A. Chemical Spills, Acid

1. Spill kit with **neutralizer only**, e.g., Ansol **Spill-X**.
   a. **PROTECT** yourself with goggles, laboratory coat, and gloves. If splashing can occur, wear lab apron.
   b. **CONTAIN** the spill by applying acid neutralizer around perimeter of spill to dike the liquid. For large spills, encircle the spill with absorbent pillows.
c. **NEUTRALIZE** the spill by adding chemical carefully to entire spill.

d. **CLEAN UP** spill with scoop or dustpan and place in plastic bag or beaker. Do not touch spill mixture with hands. Wipe up spill residue with paper towel.

e. **DISPOSE** of neutralized mixture in laboratory sink and rinse into sewer with copious amounts of water. Spill-X-A acid neutralizer contains magnesium oxide plus additives, but it produces no toxic bi-products during spill clean-up. If broken glass is present, pick glass up with forceps. Discard paper towels in household waste unless grossly contaminated. If absorbent pillow was used, place in plastic bag and contact Safety Officer or Department of Environmental Health and Safety for proper disposal.

f. **REPORT** spill on the Safety/Accident Report form and give to supervisor.

2. Spill kit with neutralizer and absorbent, e.g., Mallinkrodt.

   a. **PROTECT** yourself with goggles, laboratory coat, and gloves. If splashing can occur, wear lab apron.

   b. **CONTAIN** the spill by applying mineral absorbent around the perimeter of the spill to dike the liquid. For large spills, encircle the spill with absorbent pillows. Fill the center with absorbent to cover the spill.

   c. **NEUTRALIZE** the spill by covering the wet absorbent with acid neutralizer (Na₂CO₃).

   d. **CLEAN UP** spill with scoop or dustpan and place in plastic waste bag. Do not touch spill mixture with hands. If broken glass is present, pick glass up with forceps. Wipe up spill residue with paper towel.

   e. **CONTACT** supervisor or safety officer for proper disposal of neutralized acid. Small amounts may be filtered or decanted with large amounts of water into the sewer and the mineral absorbent discarded in the household trash. For large amounts, disposal will be made via DEHS.

   f. **REPORT** spill on Safety Accident Report form and give to supervisor.

B. **Chemical Spills, Base (Caustic)**

1. Spill kit with neutralizer only, e.g., Ansol Spill-X.
a. **PROTECT** yourself with goggles, laboratory coat, and gloves. If splashing can occur, wear lab apron.

b. **CONTAIN** the spill by applying base neutralizer around perimeter of spill to dike the liquid. For large spills, encircle the spill with absorbent pillows.

c. **NEUTRALIZE** the spill by adding chemical carefully to entire spill.

*Note:* Follow directions on bottle for estimated amounts to add. One 2.0 lb bottle of Spill-X-C will neutralize about 0.5 liter of concentrated base. Wait a few minutes before cleaning up.

d. **CLEAN UP** spill with scoop or dustpan and place in plastic bag or beaker. Do not touch spill mixture with hands. Wipe up spill residue with paper towel.

e. **DISPOSE** of neutralized mixture in laboratory sink and rinse into sewer with copious amounts of water. Spill-X-C base (caustic) neutralizer contains citric acid plus additives, but it produces no toxic bi-products during spill clean-up. If broken glass is present, pick glass up with forceps. Discard paper towels in household waste unless grossly contaminated. If absorbent pillow was used, place in plastic bag and contact Safety Officer or Department of Environmental Health and Safety for proper disposal.

f. **REPORT** spill on the Safety/Accident Report from and give to supervisor.

2. Spill kit with **neutralizer and absorbent**, e.g., Mallinkrodt.

a. **PROTECT** yourself with goggles, laboratory coat, and gloves. If splashing can occur, wear lab apron.

b. **CONTAIN** the spill by applying mineral absorbent around the perimeter of the spill to dike the liquid. For large spills, encircle the spill with absorbent pillows. Fill the center with absorbent to cover the spill.

c. **NEUTRALIZE** the spill by covering the wet absorbent with base neutralizer (citric acid).

*Note:* Follow directions on bottle for estimated amounts to add. Mix the neutralized spill carefully with scoop or dustpan. Wait a few minutes before cleaning up.

d. **CLEAN UP** spill with scoop or dustpan and place in plastic waste bag. Do not touch spill mixture with hands. If broken glass is present, pick glass up with
forceps. Wipe up spill residue with paper towel.

e. CONTACT supervisor or safety officer for proper disposal of neutralized base. Small amounts may be filtered or decanted with large amounts of water into the sewer and the mineral absorbent discarded in the household trash. For large amounts, disposal will be made via DEHS.

f. REPORT spill on Safety Accident Report form and give to supervisor.

C. Chemical Spills, Solvent (flammable)

1. Spill kit with neutralizer only, e.g., Ansul Spill-X.

a. PROTECT yourself with goggles, laboratory coat, and gloves. If splashing can occur, wear lab apron.

b. CONTAIN the spill by applying adsorbent (charcoal) around perimeter of spill to dike the liquid. For large spills, encircle the spill with absorbent pillows.

c. NEUTRALIZE the spill by adding chemical carefully to entire spill.

Note: Follow directions on bottle for estimated amounts to add. One 1 lb bottle of Spill-X-S will adsorb about 0.5 liter of solvent. Wait a few minutes before cleaning up.

d. CLEAN UP spill with scoop or dustpan and place in plastic bag or beaker. Do not touch spill mixture with hands. Wipe up spill residue with paper towel.

e. DISPOSE of neutralized mixture as a chemical hazard. See Waste procedure, Chemical, Hazard, Liquid for proper procedure. Plastic bag of waste mixture should be placed in a cardboard box or empty plastic bottle prior to disposal.

f. REPORT spill on Safety Accident Report form and give to supervisor.

D. Infectious Spills, Except Carpet Spills

1. SECURE the area by diverting traffic or closing off access to the area. In a patient care area, employee should guard the spill and ask another employee to call the lab for spill clean up assistance.

2. PROTECT yourself with gloves and lab coat. For large spill or where splashing may occur, wear full facial protection and impervious lab apron also.
3. **CONTAIN** the outermost edges of the spill with paper towel or gauze cloth.

4. **NEUTRALIZE (DISINFECT)** the spill with an EPA-approved detergent, e.g., 10% bleach (prepared fresh) or Zorbicide. Wait 5 minutes.

5. **CLEAN UP** spill mixture with absorbent toweling or cloths. Place toweling in red plastic bag. Re-disinfect spill area and absorb with paper toweling. Repeat process until there is no visible blood or body fluid. Do not touch spill with hands. If spill contains broken glass, use forceps to pick up glass. If spill was on floor, contact Environmental Services for routine clean-up after you have completed this procedure.

6. **DISPOSE** of absorbed spill mixture as infectious waste. See **WASTE** procedure, **INFECTIONOUS WASTE, SOLID AND LIQUID** for proper procedure. If disposable gloves or apron were used, place in red bag waste. If vinyl gloves or "lab apron" were used, soak in disinfectant for 5 minutes, rinse and dry, prior to re-use.

7. **REPORT** spill on Safety Accident Report form and to supervisor.

E. **Infectious Spills on Carpet**

Call Environmental Services for assistance in clean-up. (x8-4915)

F. **Formaldehyde**

1. **PROTECT** yourself with goggles, laboratory coat, and gloves.

   **NOTE:** Formaldehyde is highly irritating to the upper respiratory tract and eyes. If the spill is sufficient to cause any difficulty in breathing, burning of the nose and throat, cough, or tearing of the eyes, DO NOT attempt to clean up. Instead, evacuate the area immediately and call x8-8351 for assistance. Only small spills (one pint or less) can be cleaned up without respiratory protection by qualified personnel.

2. **CONTAIN** the spill as needed with paper towel or absorbent pillows.

3. **NEUTRALIZE** the spill quickly with sodium hydroxide, sodium sulfite, or Spill-X-FP powder. Apply enough Spill-X-FP powder to completely soak up the spill. Immediately leave the spill area to minimize your exposure. Allow the absorbed spill to sit for 15 minutes undisturbed.

4. **CLEAN UP** neutralized spill with scoop or dust pan and place in plastic bag. Wipe up all spill residue carefully with whisk broom and dust pan and carefully flush it down a sink.
or toilet. Dispose of paper towels, absorbent pillows, and gloves in an air tight plastic bag. If clothing is contaminated, it must be removed and placed in a separate bag. (Contact DEHS x5890 for decontamination of clothing.) DO NOT TOUCH SPILL MIXTURE WITH HANDS. Wash the spill site with a sponge and water.

5. **DISPOSE** of plastic bag containing wastes as chemical waste, solid (see **Waste** procedure).

6. **REPORT** all formaldehyde spills on the Accident Report form and to the supervisor. Each employee who was in contact with the spill or involved in the clean up must report to Health Service to see if medical surveillance is required.

**G. Radioactive Spills**

1. **PROTECT** yourself with two pairs of gloves and a laboratory coat. If there is a possibility of splashing, also wear a disposable lab apron.

2. **CONTAIN** the spill with paper towel or absorbent pillows. Mark off or isolate the spill area in some way and police it to keep individuals from walking through it. Do not track or spread contamination - if you suspect your shoes are contaminated, remove them before leaving the spill area.

3. **CLEAN UP** the spill from the outside perimeter of the spill toward the center. Blot or wipe with absorbent towel - use each towel only twice and carefully fold it each time you wipe so that a wiped area does not become re-contaminated. Place the contaminated materials into a double plastic bag.

4. **NEUTRALIZE**, i.e., **DECONTAMINATE** the spill area by repeating the clean-up step using towels moistened with "Count Off" or soapy water. Blot or wipe toward the center of the spill only. Check the area around the spill - including hands, shoes, and clothing - for contamination using a survey meter. If additional contamination is found, re-clean the area until the radioactivity is at acceptable levels, i.e., negligible or below limit of survey meter to detect.

5. **DISPOSE** of all gloves, lab apron, and clean up materials in the solid radioactive waste. If clothing or shoes remain contaminated consult with the Department of Environmental Health and Safety (DEHS) for disposal or further clean up procedures.

6. **REPORT** the spill on the Safety/Accident Report form and to the supervisor. It is the supervisor's responsibility to report all radioactive spills to the radiation safety office X 266-9652.
H. Elemental Mercury Spill - Broken Thermometer

1. PROTECT yourself with laboratory coat and gloves.
   NOTE: Mercury vapors from spills can create a health hazard to patients and employees if the spill is large enough. A typical laboratory thermometer (less than 10 cc) does not usually present an immediate hazard if spilled. If a larger, mercury-containing device is broken, evacuate immediately. Contact 256-8652 for assistance in clean-up.

2. CONTAIN the spill area by isolating the spill area with barricade tape.

3. CLEAN-UP. Request immediate clean-up from Environmental Services (8-4915).

4. REPORT spill on the Hospital Accident Report form and to the supervisor. The employee must report to Health Services to see if medical surveillance is required.

I. Decontamination of Equipment

1. Infectious material. Equipment which may become contaminated with blood or other potentially infectious materials must be checked routinely for contamination and prior to servicing or shipping. As needed, the equipment should be disinfected with 10% bleach (prepared fresh) or other approved disinfectant. If the equipment cannot be completely decontaminated before servicing, it is the responsibility of the laboratory to provide PPE to the non-lab service people who may work on the equipment.

2. Radioactive material. Any equipment including refrigerators, hoods, freezers, centrifuges, etc., which was previously used with radioactive materials must be decontaminated prior to servicing, moving, surplusing, or transferring to another facility. To decontaminate, wipe with absorbent towels moistened with Count-Off. Dispose of towels in radioactive waste. Perform wipe test (see section procedure) to verify that no contamination exists. Contact DEHS, to obtain "green tag" authorization if equipment is to be decommissioned.

Written by: Gail Zander, CT (ASCP), 8/13/2008
Revised by: Gail Zander, CT (ASCP), 8/18/2012
References: GEN.74600
Attachments: UCH Hazardous Material Spill Guide
Approval of Procedure:

Medical Director Signature: Dr. Leo Einhorn, MD
Date: 8/29/12
**HAZARDOUS MATERIAL SPILL GUIDE - UCH**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPILL TYPE</strong></td>
<td><strong>CONTAIN</strong></td>
<td><strong>NEUTRALIZE</strong></td>
<td><strong>CLEAN UP</strong></td>
<td><strong>DISPOSE</strong></td>
</tr>
<tr>
<td>ACID</td>
<td>Contain the spill with acid neutralizer, mineral absorbent, and/or Absorbent pillows.</td>
<td>Cover the spill with acid neutralizer and mix into the spill.</td>
<td>Pick up with scoop or dust pan. Place in waste bag.</td>
<td>Contact Safety Office for proper disposal. 8-8351 or pager 303-266-7328</td>
</tr>
<tr>
<td>BASE (CAUSTIC)</td>
<td>Contain the spill with base neutralizer, mineral absorbent, and/or absorbent pillows.</td>
<td>Cover the spill with base neutralizer and mix into the spill.</td>
<td>Pick up with scoop or dust pan. Place in waste bag.</td>
<td>Contact Safety Office for proper disposal. 8-8351 or pager 303-266-7328</td>
</tr>
<tr>
<td>SOLVENT/FLAMMABLE</td>
<td>Contain the spill by applying absorbent and/or absorbent pillows.</td>
<td>Cover the spill with solvent absorbent and mix into the spill.</td>
<td>Pick up with scoop or dust pan. Place in waste bag.</td>
<td>Contact Safety Office for proper disposal. 8-8351 or pager 303-266-7328</td>
</tr>
<tr>
<td>SMALL INFECTIOUS SPILL</td>
<td>Contain the spill with paper towels or gauze cloth.</td>
<td>Cover the spill with 10% bleach for 20 minutes.</td>
<td>Pick up spill mixture with absorbent toweling, cloth, or scoop, if glass present. Re disinfect area. Place all towels in red bag trash.</td>
<td>Dispose of all absorbed spill mixture as infectious waste.</td>
</tr>
<tr>
<td>LARGE INFECTIOUS SPILL OR MERCURY</td>
<td>Contain the spill with paper towels and direct traffic around the area.</td>
<td>Call Environmental Services for assistance in clean up. 8-4915</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORMALDEHYDE</td>
<td>Contain the spill with formaldehyde neutralizer or absorbent pillows.</td>
<td>Cover the spill with formaldehyde neutralizer (green kit) and mix into spill.</td>
<td>Pick up with scoop or dust pan. Place in waste bag.</td>
<td>Contact Safety Office for proper disposal. 8-8351 or pager 303-266-7328</td>
</tr>
<tr>
<td>RADIOACTIVE</td>
<td>Contain the spill with paper towels or absorbent pillows.</td>
<td>Absorb spill with paper towels. Wipe down spill with count-off until area is clean by survey meter.</td>
<td>Place all towels in radioactive solid waste.</td>
<td>Dispose of all clean up materials as solid radioactive waste. Contact Radiation Safety Office. Pager 303-266-8652</td>
</tr>
<tr>
<td>CYTOTOXIC AGENT</td>
<td>Contain the spill with paper towels or absorbent pillows and direct traffic around the area.</td>
<td>Call the Pharmacy for assistance in clean up. 8-1389</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Laboratory personnel must not attempt to clean up any spill if hazardous vapors are present, the danger of the spill is unknown, or spill volume is excessive (> 1 liter). In these circumstances, the laboratory must be evacuated and 8-8351 or 266-7328 must be called. Report all spills on the laboratory safety/accident report form and give to supervisor. Any adverse physical effects resulting from a spill must be treated with first aid and reported to your supervisor immediately. Fill out employee’s report of work related incident, injury occupational illness form and report to the emergency department.
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: SPILLS/DECONTAMINATION

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scott Lucia, MD</td>
<td>Dr. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: CAMPUS SECURITY

Principle:
The University of Denver Anschutz Medical Campus in Aurora maintains a full service police department, staffed by police officers in which receive the same training as other full service police officers in Colorado. The UCD police are available 24 hours a day, 7 days a week. The University of Denver Anschutz Medical Campus in Aurora also contract a security program through Allied Barton in which staff Security Officers located throughout the hospital entrance/exits.

Procedures:

1. For Emergency police assistance - fire - cardiac arrest - medical emergency - hazardous materials spills and other emergencies on the Anschutz Medical Campus in Aurora:
   DIAL 9-1-1
   If you are calling from the AIP (inpatient pavilion) or hospital you may call
   8-5555

   For routine police services or questions and escort services to and from parking lots:
   dial 4-4444 (on campus)
   303-724-4444 (off campus)

   UCH Security Services (Allied Barton) can be reached at:
   8-7777 (on campus)
   720-848-7777 (off campus)

2. "Blue Light stations" On the AMC in Aurora, emergency call boxes are located in elevators in each builing and at the entrances of most building. There are also emergency "Blue Light" call stations located in various parking lots, parking structures and walkway areas. These emergency call stations may be used to report crimes in progress, suspicious persons, medical emergencies, or to request personal safety assistance. Pressing the call button on the emergency call station initiated a direct call to the University Police communications center.

3. If you are the victim of a sexual assault, on campus: Contact UCD police immediately at 9-1-1 from any campus phone or 303-724-2000. Reporting the assault does not mean that you must file charges against the perpetrator, if known. It simply ensures that you will be provided with the information and assistance to make the decisions appropriate for you. You may also contact the Ombud's office, Diversity Office, Student Assistance Office or local Police department. These offices have
professionals who will be able to assist in discussing the incident (in a private setting), help a victim decide which reporting options are best and make referrals to appropriate supports services.

- Do not shower, wash, eat, drink, smoke, use the restroom, change clothes or launder any items. Do not touch anything in the area where the crime was committed. Police may be able to gather evidence from the crime scene, which might aid in the identification and conviction of the perpetrator. Evidence, including a "sexual assault kit", collected shortly after the assault can be processed and held until needed for prosecution. If evidence is not collected, and a survivor decides at a later date to file charges against a perpetrator, the lack of physical evidence may make the case more difficult to prove.

- Seek medical attention as soon as possible. In addition to the collection of evidence (with your full permission), you may be tested and treated for sexually transmitted diseases, pregnancy and physical injuries. Hospital staff will also be able to provide you with resources for sexual assault survivors.

- Crisis counseling is available, in the Denver Metro area, from: RAAP (Rape Assistance and awareness Program) - 303-322-7273.

4. If you notice ANY suspicious activity or persons carrying large duffel bags that appear suspicious or acting in a suspicious manner please notify campus police at 4-2000 or 4-4444 and UCD police and Allied Barton security can determine if further action is required. Do not attempt to approach the individual.

5. UCD Rave alert system: You may sign up in Rave to receive emergency-related updates --including voice, text and email -- on personal phone(s) or other home and mobile communication devices. To take advantage of this service, log into Rave at

https://www.getrave.com/login/DenverAlerts

using your University of Colorado Denver-issued email address. There is no charge for this service other than charges that may be incurred from your communications provider. If you already are enrolled in Rave, you need not do anything. Weather-related delays or closure updates will be sent to the contact information you provided when you enrolled.

6. Access to campus facilities: As a member of the campus community, you, as well as University guests and visitors, have access to most campus building and facilities during regular business hours (6AM to 6 PM), Monday through Friday, and for scheduled events, Saturdays and Sundays, excluding most holidays. The UCD police department is responsible for locking and unlocking designated University buildings and for patrols of the campuses. If you are a University employee and you need assistance in gaining entry to a non-restricted University building or room, you may call UCD police at 303-724-2000 or 303-724-4444.

Your University access card has the capability of serving as an access card to allow you to enter certain locked buildings on the on the campus outside of regular business hours. Your
department head or school dean will determine what, if any, level of access you will be provided with for after-hours access.

7. UCD police department offers many security awareness and crime prevention programs. For a current list see the follow the links on the UCD police department home page:

http://www.ucdenver.edu/police

Written by: Heather Currens, SCT (ASCP), 8/13/2008

Revised by: Gail Zander, CT (ASCP), 8/18/2012

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 8/25/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: CAMPUS SECURITY

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Leclerc</td>
<td>M. Leclerc</td>
<td>8/25/12</td>
</tr>
<tr>
<td></td>
<td>M. Scott Leclerc</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>M. Scott Leclerc</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: CHEMICAL INVENTORY

Principle:
The laboratory will maintain an inventory of all hazardous chemicals used in each work area. See also Chemical Hygiene Plan.

Procedure:
A. **Chemicals Used in the Laboratory** - chemicals are used in all areas of the laboratory. Refer to the attached chemical inventory list for the location of hazardous chemicals used in each laboratory section. Chemicals not included on this list will be included in our MSDS file or those for which no MSDS exist or those we have determined, with all the information available from safety references or the manufacturers, that no hazards exist with normal work practices used in the lab. Before performing any procedure, each employee should be familiar with all chemicals used.

B. **Right to Know** - it is the right of each employee to know the chemical hazards which exist in the laboratory. Information concerning chemical hazards is found in this safety manual, in the MSDS forms, in the chemical inventory listing, and in the references available in each laboratory section or the laboratory office. It is the responsibility of each employee to follow safe work practices inherent in all laboratory work and to be familiar with the safety manual and the safety practices described therein.

C. **Identification of Chemical Hazards** - the laboratory uses a variety of mechanisms to alert the lab worker to the presence of chemical hazards. These include labels, signs, MSDS, procedures, training, PPE, chemical inventory list, and monitoring. In addition, both odor and visual appearance of chemical should alert the laboratory worker to investigate whether hazardous chemicals are present.

D. **Classification of Chemicals**
   1. **Corrosive** refers to any substance that causes visible destruction or irreversible alterations in human tissue at the site of contact. When applied to chemical waste, the term implies a pH <2.1 or >12.5, or the ability to corrode steel (SAE 1020) more than 0.25 inches/year at 130_F.  Example: strong acids; strong bases.

   2. **Toxic** is a term that can be applied to almost any substance in quantity. Note: MSDS sheets frequently list chemicals as toxic that may not be toxic at amounts commonly used in
the laboratory. For laboratory purposes, a substance will be considered toxic if serious biologic effects may follow inhalation, ingestion, or skin contact with relatively small amounts.

3. **Carcinogen** is a chemical which has the ability to product a malignant tumor. There is not precise definition of carcinogen. The laboratory will use as a reference the OSHA - defined chemical regulated under 45 Federal Register 5.001-5.296 (Jan. 22, 1980).

4. **Ignitable** (includes combustible and flammable).
   a. **Flammable** liquids are those which have a flash point below 100_F. They include:
      - Class IA - flash point <73_F
      - and boiling point <100_F.
      - Class IB - flash point <73_F
      - and boiling point >100_F.
      - Class IC - flash point >72_F
      and <100_F.

   b. **Combustible** liquids are those which have a flash point ≥100_F but <140_F. They include:
      - Class II - flash point ≥100_F
      and <140_F.
      - Class III - flash point ≥140_F
      and <200_F.

The flash point is the minimum temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid within the vessel.

5. **Explosive** chemicals are those reactive and unstable substances which readily undergo violent chemical change. Explosive decomposition may occur at normal temperatures and pressures. Example: hydrazines.

E. All chemicals will be reported to department safety coordinator who will enter each chemical into the online msds system. The information is available to the UCH hospital safety officer who will report annual of chemical stored at UCH and attach most current MSDS for listed chemicals. The website location to list chemical inventory is:

http://www.msdssource.com/
Written by: Gail Zander, CT (ASCP), 6/20/2012

Attachments: 2012 Anatomical Pathology Chemical inventory.

Approval of Procedure:

Medical Director Signature: [signature]

Date: 8/20/12
PROCEDURE TITLE: CHEMICAL INVENTORY

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lee, M.D</td>
<td>M. Scott Lee</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lee</td>
<td>M. Scott Lee</td>
<td>3/24/14</td>
</tr>
<tr>
<td>M. Scott Lee</td>
<td>M. Scott Lee</td>
<td>8/26/16</td>
</tr>
<tr>
<td>View MSDS</td>
<td>Label Count</td>
<td>Product</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>(SODIUM) ACETATE BUFFER SOLUTIONS, IRON BUFFER</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>10% Buffered Formalin</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>A6695500 AMMONIUM HYDROXIDE</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Acetic Acid, Glacial</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>ACETONE</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Acid Fuchsin</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>ACRIDINE ORANGE BASE, Solvent Orange 1S</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Alcian Blue 9GX, For Microscopy</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Alcian Blue Stain</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Alcohol Usp, Ethyl Alcohol, 200 Proof</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>ALIZARIN RED S</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>ALUMINUM CHLORIDE</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>ALUMINUM POTASSIUM SULFATE</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Aluminum Potassium Sulfate, 12-Hydrate</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Ammonium Bromide</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Ammonium Hydroxide</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>AMMONIUM HYDROXIDE (10 - 35% NH3)</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Ammonium Oxalate</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>ANILINE BLUE</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Antibody Diluent</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Aquamount</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Azocarmine G</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>AZURE A</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>AZURE B</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>AZURE II</td>
</tr>
<tr>
<td>Product</td>
<td>Manufacturer</td>
<td>Location</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>----------</td>
</tr>
<tr>
<td>Bacitracin Antimicrobial Handsoap</td>
<td>Daco Laboratory, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Basic Fuchsine; Pararosaniline Hydrochloride</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>BD SurePath Preservative Fluid</td>
<td>BD DIAGNOSTIC SYSTEMS</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>BECLOMETHASONE</td>
<td>SPECTRUM LABORATORY PRODUCTS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>BENZYL NAPHTHALENE DiHYDROCHLORIDE</td>
<td>SIGMA ALDRICH</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Bleiberg Scarlet</td>
<td>EM Industries EM Science Div</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Blue Buffer</td>
<td>Surgipath Medical Industries, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>BORIC ACID</td>
<td>Mallinckrodt Baker Inc</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Calcium chloride</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CARBOL FUCHSIN</td>
<td>Sigma Chemical Company</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Carbol Fuchsine Kynsaun</td>
<td>Poly Scientific R&amp;D Corp.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Carbon Dioxide (Dry Ice)</td>
<td>AIRGAS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CARNOSINE FIXATION FLUID</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Celestine blue</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CHLORAL HYDRATE Solution</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CHROMIUM POTASSIUM SULFATE</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CHROMIUM TETRAOXIDE Chrome(IV) oxide (1:3); chromic acid, solid, chromic anhydride</td>
<td>Mallinckrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Citric acid</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CITRIC ACID, Anhydrous</td>
<td>Mallinckrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CITRUS STRIDE SC (TM)</td>
<td></td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Clearium</td>
<td>Surgipath Medical Industries</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Cleocox Bleach</td>
<td>The Clorox Company</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>COPPER, POWDER</td>
<td>AVANATOR PERFORMANCE MATERIALS, INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Cresyl Violet Acetate</td>
<td>EM SCIENCE</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CROCEIN SCARLET 3B</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CRYSTAL VIOLET</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>CUPRIC SULFATE</td>
<td>Mallinckrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Cytology Fixative</td>
<td>Surgipath Medical Industries, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Decal Decalcifying Reagent</td>
<td>Decal Chemical Corp</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Decal Stat</td>
<td>Decal Chemical Corporation</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Manufacturer</td>
<td>Location</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Define</td>
<td>Surgipath Medical Industries</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Diastase of milk</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Diff-Quik Fixative Solution</td>
<td>Dade Behring Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Dr-Clean</td>
<td>Decon Laboratories, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Drierite, 8 Mesh, With Indicator</td>
<td>Sigma Aldrich Fluka Supelco Riedel-De Haen</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Eosin Y Alcoholic Working Solution</td>
<td>Poly Scientific R&amp;D Corp.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Ethanol 190 Proof</td>
<td>Decon Laboratories, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Ethyl Alcohol Technical, 190 Proof</td>
<td>AAPER Alcohol &amp; Chemical Co</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Ethylene Glycol Monoethyl Ether</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>FERRIC AMMONIUM SULFATE</td>
<td>Avantor Performance Materials, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td></td>
<td>(formerly Mallincrodt/Baker)</td>
<td></td>
</tr>
<tr>
<td>Ferric Chloride Solution</td>
<td>RICHARD ALLAN SCIENTIFIC, A SUBSIDIARY OF THERMO FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>FERROUS CHLORIDE</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Fisherbrand Hema 3 Fixative, Protocol Hema 3 Fixative</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Formaldehyde Solution 37%</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Formalin, 10% v/v Solution, Neutralized</td>
<td>Mallincrodt Baker Inc</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>FORMIC ACID</td>
<td>Mallincrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Gil Modified Hematoxylin Solution #1, #2, or #3</td>
<td>EM Diagnostics Systems</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>GOLD CHLORIDE</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Gum Mastic</td>
<td>ALDRICH CHEMICAL CO INC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Hexamethylenebetaine</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Hydrochloric Acid</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>HYDROGEN PEROXIDE 30pct</td>
<td>SPECTRAM LABORATORY PRODUCTS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Hydroquinone</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Iodine</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Iron (III) Ammonium Sulfate Dodecahydrate, Ammonium ferric sulfate; ferric atom; ferrous ammonium sulfate dodecahydrate.</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>ISOPROPANOL</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Substance</td>
<td>Supplier</td>
<td>Department</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>JENNER STAIN</td>
<td>SCIENCELAB.COM INC.</td>
<td>Pathology</td>
</tr>
<tr>
<td>Jones Fixer</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Jones Hematoxylin</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Jones Periodic Acid</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Jones Silver A</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Jones Silver B</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Jones Toner</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>L -SERINE</td>
<td>ALFA AESAR, A JOHNSON MATTHEY COMPANY</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>L-ISOLEUCINE</td>
<td>SPECTRUM LABORATORY PRODUCTS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>LEVAMISOLE HYDROCHLORIDE</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>LIGHT GREEN SF, YELLOWISH</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Liquid Coeusisp (Low Temperature)</td>
<td>Ventana Medical Systems, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>LITHIUM CARBONATE</td>
<td>Mallinckrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Lithium Hydroxide Anhydrous</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>LUXOL FAST BLUE</td>
<td>SPECTRUM LABORATORY PRODUCTS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Magnesium Chloride, 6-Hydrate, Crystal</td>
<td>Mallinckrodt Baker Inc</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Magnesium Sulfate Heptahydrate</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>MERCURIC OXIDE</td>
<td>Mallinckrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>METANIL YELLOW</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>METHANOL; METHYL ALCOHOL; Wood Alcohol; Carbinol</td>
<td>Avantor Performance Materials, Inc. (formerly Mallinckrodt Baker)</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>METHENAMINE</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>METHYLENE BLUE</td>
<td>Mallinckrodt Baker Inc</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Methylene blue</td>
<td>SIGMA-ALDRICH</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Mineral Oil, Light and Heavy</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>MUCICARMINNE STOCK SOLUTION</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Naphthol Blue Black Electrophoresis Reagent N3393</td>
<td>Sigma Aldrich Fluka Supelco Riedel-De Haen</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>New Fuchsin N0638</td>
<td>Sigma Aldrich Fluka Supelco Riedel-De Haen</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Nitric acid</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>NUCLEAR FAST RED Calcium Red; Kernechrot; Neutral Red; CI 60760; 2-Aminobenzenesulfonic acid, 4-amino-9,10-dihydro-1,3-dihydroxy-9,10-</td>
<td>Mallinckrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Supplier Name</td>
<td>Location/Pathology</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Di-oxo-, monosodium salt</td>
<td></td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>OIL RED O</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>ORANGE G</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Oxalic Acid Dihydrate</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>PANAPANICOLAOU STAIN G6</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Paraffin Wax</td>
<td>Surgipath Medical Industries</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Path Cloud Foaming Cleaner Disinfectant</td>
<td>Mopec</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>PERIODIC ACID</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Periodic Acid Solution, Component of Periodic Acid-Schiff Stain Kit and PermaFluor IM0752</td>
<td>Richard-Allan Scientific Beckman Coulter</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Perinalsip Mounting Medium</td>
<td>Alban Scientific Inc</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Permount Mounting Media</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Phenol Liquid</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>PHLOXINE B</td>
<td>Sigma Chemical Company</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>PHOSPHOTUNGSTIC ACID HEMATOXYLIN (P.T.A.H.) STAIN</td>
<td>AMERICAN MASTER TECH SCIENTIFIC, INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Phosphotungstic-Phosphomolybdcic Acid Solution</td>
<td>RICHARD ALLAN SCIENTIFIC, A SUBSIDIARY OF THERMO FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>PICRIC ACID-SATURATED SOLUTION</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>POTASSIUM BISULFATE</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Potassium Carbonate</td>
<td>Mallinkrodt Baker Inc</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>POTASSIUM CHLORIDE</td>
<td>AVANTOR PERFORMANCE MATERIALS, INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Potassium Dichromate</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>POTASSIUM FERROCYANIDE</td>
<td>Mallinkrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Potassium Ferrocyanide Trihydrate Acs Reagent P3289</td>
<td>Sigma Aldrich Fluka Supelco Riedel-De Haen</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Potassium Hydroxide</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>POTASSIUM IODATE</td>
<td>AVANTOR PERFORMANCE MATERIALS, INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Potassium Metabisulfate</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>POTASSIUM PERMANGANATE</td>
<td>Mallinkrodt Baker, Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
<tr>
<td>Potassium permanganate, Permanganic acid, potassium salt;</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
</tr>
</tbody>
</table>

http://msdssrc.net/searchlabel.php?action=HCsearchBinders 1/14/2013
Permanganate of potash; Chameleon mineral

POTASSIUM PHOSPHATE MONOBASIC
Potassium Sulfate
PrepStain Alcohol Blend Rinse
PrepStain Combo EA-OG
PrepStain Density Reagent
PrepStain Hematoxylin Stain, 0.75
PROPYLENE GLYCOL
RHODANINE
Saffron (Natural) 199613
SAFRANIN O
Safranin O
Schiff Reagent for Fungi
Silver nitrate
SILVER NITRATE, 10pc
SODIUM ACETATE ANHYDROUS
Sodium Acetate Trihydrate
Sodium Azide
SODIUM BICARBONATE
SODIUM BISULFATE
Sodium borohydride
Sodium Carbonate Anhydrous
SODIUM CHLORIDE
SODIUM CITRATE DIHYDRATE
SODIUM DICHROMATE
Sodium Hydroxide, Solid, Pellets or Beads
Sodium Iodate
SODIUM METABISULFITE
Sodium Nitrate
Sodium phosphate dibasic

Pathology

Avantor Performance Materials, Inc.
Mallinckrodt Baker, Inc.
TriPath Imaging Inc.
TriPath Imaging, Inc.
TriPath Imaging
TriPath Imaging Inc.
Mallinckrodt Baker, Inc.
SPECTRUM LABORATORY PRODUCTS INC.
Sigma Aldrich Fluka Supelco Riedel-De Hae
FISHER SCIENTIFIC
Sigma-Aldrich
Poly scientific R&D corp.
SPECTRUM LABORATORY PRODUCTS INC.
SPECTRUM LABORATORY PRODUCTS INC.
Avantor Performance Materials, Inc.
Fisher Scientific
Fisher Scientific
Avantor Performance Materials, Inc.
Avantor Performance Materials, Inc.
Avantor Performance Materials, Inc.
Mallinckrodt Baker, Inc.
Fisher Scientific
Mallinckrodt
Avantor Performance Materials, Inc. (formerly Mallinckrodt/Baker)
Avantor Performance Materials, Inc. (formerly Mallinckrodt/Baker)
Mallinckrodt Baker, Inc.
Mallinckrodt
Avantor Performance Materials, Inc. (formerly Mallinckrodt/Baker)
FISHER SCIENTIFIC
Sigma-Aldrich

3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology
3rd Floor - Anatomical Pathology

01/18/2012
08/01/2005
03/17/2004
03/17/2004
03/17/2004
03/17/2004
08/24/2011
09/13/2006
04/01/2002
07/20/2009
03/13/2010
08/03/2009
09/13/2006
03/21/2012
06/29/2007
07/20/2009
08/29/2011
03/16/2006
07/30/2008
05/29/2009
08/29/2011
05/26/2009
02/11/2010
11/03/2011
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Supplier</th>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate Monobasic Monohydrate</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>02/01/2003</td>
</tr>
<tr>
<td>Sodium phosphate, dibasic</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>09/06/2007</td>
</tr>
<tr>
<td>SODIUM SULFATE</td>
<td>AVANTOR PERFORMANCE MATERIALS, INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>08/30/2011</td>
</tr>
<tr>
<td>Sodium Sulfite, Anhydrous</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>08/01/2002</td>
</tr>
<tr>
<td>Sodium tetaborate decahydrate,Borax; Sodium borate decahydrate</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>02/15/2008</td>
</tr>
<tr>
<td>Sodium Thiosulfate Anhydrous</td>
<td>RICHARD ALLAN SCIENTIFIC, A SUBSIDIARY OF THERMO FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>12/22/2005</td>
</tr>
<tr>
<td>Sodium Thiosulfate Solution</td>
<td></td>
<td>3rd Floor - Anatomical Pathology</td>
<td>05/29/2008</td>
</tr>
<tr>
<td>Steiner Clean, Probe Cleaning Solution</td>
<td>Ventana Medical Systems</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/05/2009</td>
</tr>
<tr>
<td>Steiner Diffuser</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/05/2009</td>
</tr>
<tr>
<td>Steiner Diluent</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/05/2009</td>
</tr>
<tr>
<td>Steiner Enhancer</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/05/2009</td>
</tr>
<tr>
<td>Steiner Reducer</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/05/2009</td>
</tr>
<tr>
<td>Steiner Silver</td>
<td>VENTANA MEDICAL SYSTEMS INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/05/2009</td>
</tr>
<tr>
<td>SUDAN BLACK B</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>11/06/2008</td>
</tr>
<tr>
<td>SUDAN IV</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>11/06/2008</td>
</tr>
<tr>
<td>Sulfuric acid 73-98%</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>11/12/2010</td>
</tr>
<tr>
<td>Tartaric Acid, 2-50%</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>12/01/2006</td>
</tr>
<tr>
<td>TARTRAZINE</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>11/06/2008</td>
</tr>
<tr>
<td>ThinPrep Cytolyt Solution</td>
<td>Hologic Inc. (Formerly Cytocorp)</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>02/01/2010</td>
</tr>
<tr>
<td>ThinPrep EA Solution</td>
<td>Cytoc Corporation</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>06/01/2007</td>
</tr>
<tr>
<td>ThinPrep Orange G Solution</td>
<td>Cytoc Corporation</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>06/01/2007</td>
</tr>
<tr>
<td>ThinPrep PreservCyt Solution</td>
<td>Hologic Inc. (formerly Cytocorp)</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>02/01/2010</td>
</tr>
<tr>
<td>ThinPrep Stain Bluing Solution</td>
<td>Hologic (formerly Cytocorp)</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>02/01/2010</td>
</tr>
<tr>
<td>ThinPrep Stain Nuclear Stain</td>
<td>Hologic Inc. (Cytocorp)</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/01/2010</td>
</tr>
<tr>
<td>ThinPrep Stain Rinse Solution</td>
<td>Hologic Inc. (merged w/Cytocorp)</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/01/2010</td>
</tr>
<tr>
<td>THIOFLAVINE T, TG</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>11/06/2008</td>
</tr>
<tr>
<td>THIONIN</td>
<td>SCIENCELAB.COM INC.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>11/06/2008</td>
</tr>
<tr>
<td>Tissue Prep., Paraffin Beads</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>07/20/2009</td>
</tr>
<tr>
<td>Tissue-Tek Hold Release Concentrate</td>
<td>Sakura Finetek USA Inc.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>12/01/2008</td>
</tr>
<tr>
<td>TOLUOLINE BLUE O</td>
<td>FISHER SCIENTIFIC</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>03/11/2010</td>
</tr>
<tr>
<td>Trichloroacetic Acid Solution</td>
<td>Fisher Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>07/20/2009</td>
</tr>
<tr>
<td>Chemical</td>
<td>Supplier</td>
<td>Location</td>
<td>Date</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------</td>
<td>--------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>TRIZMA BASE</td>
<td>Sigma-Aldrich</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>08/05/2011</td>
</tr>
<tr>
<td>Uranyl Nitrate</td>
<td>Mallinckrodt</td>
<td>3rd Floor - Anatomical Pathology</td>
<td></td>
</tr>
<tr>
<td>Van Gieson's Solution</td>
<td>POLY SCIENTIFIC R &amp; D CORP.</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>12/01/2002</td>
</tr>
<tr>
<td>VIREX 256</td>
<td>S.C. Johnson Professional</td>
<td>3rd Floor - Anatomical Pathology</td>
<td></td>
</tr>
<tr>
<td>XYLENES</td>
<td>Richard-Allan Scientific</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>11/05/2007</td>
</tr>
<tr>
<td>Zinc Sulfate</td>
<td>Sigma Aldrich Fluka Supelco Riedel-De Haen</td>
<td>3rd Floor - Anatomical Pathology</td>
<td>01/01/2002</td>
</tr>
<tr>
<td>Heptahydrate ACS Reagent 20501</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Title: UCH Policies and Procedures

Principle:
All laboratory personnel must be familiar with the elements of Standard Precautions and Transmission Based Precautions. These precautions, as well as all hospital policies and procedures, are online. Please see the below instructions for access.

Procedure:
1. Click on “Internet Explorer” icon.
2. Type “https://thesource.uchealth.org” in the address window.
3. Locate tabs at top of page and click on Policies.
4. Under policies paragraph select location University of Colorado Hospital.

Written by: Heather Currens, SCT (ASCP), 8/13/2008
Revised by: Gail Zander, CT (ASCP), 8/24/2016

Attachments: University of Colorado Hospital service Elevator Color Key and Locations

Approval of Procedure:
Medical Director Signature: [Signature]
Date: 8/26/16
Know where you are at all times. It could save someone’s life!

Service Elevator Color Key & Locations

University of Colorado Hospital
Anschutz Medical Campus

We’ve color-coded each of the staff elevators so that you can quickly communicate where you are or locate others, especially in an emergency. Take a few minutes to memorize the colors and locations. It could save a life!
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: UCH Policies and Procedures

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Scott Lucas</td>
<td>Mr. Scott Lucas</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>Mr. Scott Lucas</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: FIRE SAFETY AND EVACUATION PLANS

Principle:
To inform employees of established policy and procedures in the event of fire.

Procedures:

A. All personnel should become familiar with the locations and use of fire extinguishers; pull stations, and fire blankets, especially in the area in which they are assigned. Fire pull stations are located in hospital corridors, usually directly outside door entrance/exits.

B. All UCH buildings are considered "shelter-in-place facilities. Evacuations are only considered if the presence of smoke or fire exists.

C. The Code for a fire or potential fire situation is "CODE RED"

D. When the alarm sounds listen for the direct instructions given and respond according to them. The hospital operator will announce "Code Red" and the location of fire and action required, (determined by hospital safety officer and communicated to hospital operator).

E. If a fire occurs the following actions will be taken: follow A- RACE actions.

   ACTIVATE - Pull the nearest fire alarm pull-box (located in corridor outside main entrance door).
   RESCUE - If safe, assist any injured or disabled persons out of the area. Do not put yourself in danger.
   ALERT - Notify others in the area. Clearly announce loudly, "Fire". From a safe location, call university police from a campus phone at 9-1-1 or from any other phone at (303)724-4444. Give the exact location, what is burning, and your name.
   CONFINE - Close doors as you exit the fire area.
   EXTINGUISH/EVACUATE - Extinguish the fire, if safe. Otherwise, evacuate the building by following the exit signs to the shortest or safest route (see attached evacuation route), but DO NOT USE ELEVATORS. Assemble at your assigned muster point (safe location). Supervisors should try to account for all personnel know to be working in the area of the fire. Report injured or trapped
persons to the fire personnel. DO NOT re-enter the building until the alarms have stopped and/or emergency personnel advise you that it is safe to re-enter.

F. Evacuation Procedure:
   - Follow evacuation route (unless fire or smoke is in pathway of evacuation route in this situation you will follow to nearest exit route clear of path of fire or smoke).
   - Always use stairways to exit, do not use elevators.
   - When the chief of City Fire Department arrives they may make changes in the evacuation routes and plans as they think is necessary.
   - Stay in your evacuation area until the "ALL CLEAR" is announced. Then and only then will you be allowed to return to your area.

G. For use of fire extinguisher please refer to attached fire safety training. More detailed training is available with UCD Fire and Life Safety office. Proper use of Fire extinguisher and fire procedures is emphasized. (See attached notes).

H. Fire drills will be conducted annually in which the safety coordinator will review and walk the evacuation route designated with employees. The UCD fire drill will be completed and this will meet CAP requirement.

I. Fire drills will be conducted by UCH facilities management quarterly. The response for this drill is to inspect your area to ensure automatic doors close and latch properly and ensure strobes are working and flashing and fire alarms are audible in area. The UCH fire drill form will be completed and faxed to Pat Conroy in UCH facilities management at 8-0446.

Written by: David Davis, HT (ASCP), 10/30/1994
Revised by: Gail Zander, CT (ASCP), 1/24/2014

Attachments: Fire safety training, Evacuation routes, UCD Fire Drill form, UCH Fire Drill Form

References: GEN.73900, GEN.75100, GEN.75400

Approval of Procedure:

Medical Director Signature: 

Date: 3/24/14
FIRE SAFETY TRAINING

Nobody really plans on having a fire... The question is: "Are you PLANNING to NOT have a fire?"

CONCEPTS

For fire to occur: Fuel, oxygen, ignition source, and the uninhibited chemical chain reaction
What starts a fire?: Thermal, electrical, mechanical, chemical reactions, nuclear
General fire safety: Limit and properly store combustibles; eliminate/control ignition sources
Evacuation/drills: All alarms are to be considered as real. Fire drills are scheduled.
Special hazards: Flammable liquids/gases and heating processes
University policies: Fire and life safety policies / hallways storage—check Facilities Ops. Website
Life savers: Detectors / sprinklers / close doors / have alternate means of escape
Legal authority: Prevention: UCD Suppression and Investigations: local fire department

FIRE / EMERGENCY ACTIONS (A-RACE)

Alert—Notify others in the immediate area, then Dial 911
Rescue—Assist injured or disabled out of area
Activate—Pull the nearest fire alarm pull-box (usually at or near exit doors)
Contain—Close doors and windows as you exit the area
Evacuate—Follow exit signs to the shortest or safest route to safety

Fire extinguishers are intended to be used immediately before the fire becomes larger. Use a hand-held extinguisher ONLY if it is safe to do so, and you have adequate training.

FIRE EXTINGUISHER CLASSIFICATIONS

A  Ordinary combustibles (wood, paper, rubber, plastic)
B  Flammable liquids and gases, and most greases
C  Energized electrical

D  Combustible metals
K  Kitchen (commercial kitchens with deep fat fryers—new classification as of 1998)

TYPES IN USE

ABC dry chemical
CO2
Clean Agents (FM-200 / Halon / Others)
Water

LOCATIONS

Hallway fire cabinets
Near exits

RULES TO LIVE BY:

1. Know what is burning
2. Use correct fire extinguisher
3. Understand use and limitations
4. Small fires only (incipient stage)
5. ALWAYS have an ESCAPE PATH behind you

(Never “test” a fire extinguisher—the expellant gas will leak out within a few weeks.)

Rev. 11/2007
<table>
<thead>
<tr>
<th>NAME (PLEASE PRINT)</th>
<th>SIGN YOUR NAME</th>
<th>AREA (HISTO, CYTO, ...)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
UNIVERSITY OF COLORADO HOSPITAL
FIRE ALARM OBSERVATION FORM

ALL DEPARTMENTS/AREAS ARE REQUIRED TO COMPLETE THIS FORM AFTER ALL FIRE
ALARMS. Please return to the Safety Department within 24 hours; mail stop: A073; fax: 8-0446

Area Observed: ___________________________  Building: ___________________________

Date: ________________  Time of Alarm: ________________  Time of All Clear: ________________

Name of Observer: ___________________________  Ext: ___________________________

FACILITY

<table>
<thead>
<tr>
<th>CHECK THESE ITEMS</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Exit signs operational/light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Fire/smoke doors close and latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(doors tied to the fire alarm system that release when</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>system is in alarm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Other doors closed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff able to clearly hear the overhead page(s)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. All strobes working/flashing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Fire alarm audible in area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STAFF KNOWS:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Location of O2 shut off valves</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Location of Fire extinguishers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Location of Fire pull stations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Two Exit Routes out of area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Location of Areas of refuge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. What RACE stands for</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other comments/concerns/suggestions:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
EVACUATION ROUTES FOR AMC SATELLITE ANATOMIC PATHOLOGY LABORATORIES

There are six satellite Anatomic Pathology processing laboratories located on the Anshutz Medical Campus: AOP 3126, AOP 6118, and AIP B.2305.25, AIP B.2312, AIP B2309, AIP B2309.1. In keeping with the University of Colorado Denver's Fire and Safety Policy the following procedures have been adopted:

1. There is an evacuation map located in each of these labs immediately adjacent to the door. This map indicates those evacuation routes that lead to the nearest staircase or egress.

2. In the event that the person evacuating the area is unable to use the staircase of the building, i.e. due to physical disabilities, the inner door of the staircase provides a fire safe space for two hours. The person evacuating is to stay contained within this space until fire and rescue arrives.

3. Adhering to the RACE policy (rescue, alarm, contain, and extinguish) it is expected that all employees within an area are to check all rooms and to close all doors of their area when evacuating. Should a person working within a lab have an auditory disability, it is expected that other employees evacuating adjacent areas would alert that person to the alarm and the need to leave the area.

GEN.73900

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 8/29/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: FIRE SAFETY AND EVACUATIONS PLANS

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, MD</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>3/24/14</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td></td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: DISASTER PLANS

Principle:
To establish a procedure for insuring the safety of patients, visitors, and hospital staff in the even of a potential disaster. Disasters can include bomb threat, internal disaster or external disaster.

Procedure:
Once the decision has been made to implement the disaster plan, the operators will announce three times over the public address system the disaster plan is in effect. In response Anatonic Pathology employees will react according the established procedure in UCH policies and procedures.

1. Go to website: https://pnp.uch.edu/
   Click on continue to website and you will find a file "disaster plans" under the header "Category".

Please also refer to guidance posted throughout the laboratories on the Emergency Preparedness Quick-reference guide and green sheet UCH Policies and procedures Emergency Conditions & Basic Staff Response (attached).

It is recommended by UCH Safety Officer to post the attached Bomb Threat info sheet by each phone.

Written by: Heather Currens, SCT (ASCP), 8/13/2008

Revised by: Gail Zander, CT (ASCP), 8/18/2012

Attachments: Bomb threat information sheet (full size), Bomb threat information sheet (shrunken), UCH Policies and Procedures Emergency Conditions & Basic Staff Response.

References: GEN.73800

Approval of Procedure:

Medical Director Signature: 

Date: 8/25/12
CALL
9-1-1

BOMB THREAT
IN PROGRESS
UNIVERSITY OF COLORADO HOSPITAL
BOMB THREAT INFORMATION FORM

Date: ___________________ Time Received: ___________________ Time Ended: ___________________

**Exact Words of Caller** (use reverse side if necessary):

__________________________________________
__________________________________________
__________________________________________
__________________________________________
__________________________________________

**Specific Questions to Ask:**

*When* is the bomb going to explode?

*Where* is the bomb located right now?

*What* does the bomb look like?

*What* kind of bomb is it?

*Why* did you place the bomb?

*What* is your name?

*Where* are you calling from?

**Description of Caller's Voice:**

Male: [ ] Female: [ ] Unable to Determine: [ ]

Young: [ ] Old: [ ] Middle Aged: [ ] Unable to Determine: [ ]

Accent: [ ] Tone of Voice: [ ]

Is the Voice Familiar? and if so, from where?

[ ]

Background Noise?

__________________________________________

**Additional Comments and Observations:**

__________________________________________
__________________________________________
__________________________________________
__________________________________________

Name of Person Receiving the Call:

Department: ___________________ Dept. Phone Number: ___________________

Call UCH Security Services (at 9-1-1) immediately after the completion of call
# Bomb Threat Information Form

<table>
<thead>
<tr>
<th>Date:</th>
<th>Time Received:</th>
<th>Time Ended:</th>
</tr>
</thead>
</table>

**Exact Words of Caller (use reverse side if necessary):**

<table>
<thead>
<tr>
<th>Specific Questions to Ask:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where is the bomb going to explode?</td>
</tr>
<tr>
<td>What does the bomb look like?</td>
</tr>
<tr>
<td>What kind of bomb is it?</td>
</tr>
<tr>
<td>Why did you place the bomb?</td>
</tr>
<tr>
<td>What is your name?</td>
</tr>
<tr>
<td>Where are you calling from?</td>
</tr>
</tbody>
</table>

**Description of Caller's Voice:**

<table>
<thead>
<tr>
<th>Male:</th>
<th>Female:</th>
<th>Unable to Determine:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young:</td>
<td>Old:</td>
<td>Middle Aged:</td>
</tr>
<tr>
<td>Accent:</td>
<td></td>
<td>Tone of Voice:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is the Voice Familiar? and if so, from where?</th>
</tr>
</thead>
</table>

**Background Noise:**

<table>
<thead>
<tr>
<th>Additional Comments and Observations:</th>
</tr>
</thead>
</table>

**Name of Person Receiving the Call:**

<table>
<thead>
<tr>
<th>Department:</th>
<th>Dept. Phone Number</th>
</tr>
</thead>
</table>

Call UCH Security Services (at 9-1-1) immediately after the completion of call.
<table>
<thead>
<tr>
<th>Problem</th>
<th>Description</th>
<th>Initial Response</th>
<th>Secondary Response</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bomb Threat</td>
<td>Any notification of a bomb on campus, usually by an outside caller.</td>
<td>Obtain as much information as possible. Refer to the Bomb Threat Information Form.</td>
<td>Call 911 and report all information. Follow instructions given by UCH Security.</td>
<td>Complete Bomb Threat Information Form.</td>
</tr>
<tr>
<td>Evacuation</td>
<td>Indications: • Visible smoke or fire in the area. • Structural damage. • Chemical release.</td>
<td>3 levels of evacuation • Horizontal – beyond a set of fire doors. • Vertical. • Total building.</td>
<td>Total building evacuation only by order of the Fire Department or Administration.</td>
<td>Know your department’s outside meeting location. Account for all staff / patients.</td>
</tr>
<tr>
<td>*Refer to evacuation plan.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Disaster “Plan D”</td>
<td>Mass Casualty / Act of Terrorism incident.</td>
<td>Refer to the UCH P&amp;P Website “External Disaster Plan.”</td>
<td>Refer to department specific guidelines.</td>
<td>Refer to department specific guidelines.</td>
</tr>
<tr>
<td>Fire “Code Red”</td>
<td>Visible signs of smoke or fire.</td>
<td>R Rescue anyone in immediate danger. A Activate the alarm (dial 911 and pull the alarm). C Contain the fire (close all doors). E Extinguish the fire (if is safe to do so).</td>
<td>Use an extinguisher to put out the fire. P Pull the pin. A Aim at the base of the fire. S Squeeze the handle. S Sweep from side to side.</td>
<td>Do not use elevators until “Code Red All Clear” is announced.</td>
</tr>
<tr>
<td>Follow R.A.C.E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous Materials Spill</td>
<td>Incidental: Small spill presenting NO hazard to trained employee or the environment.</td>
<td>Incidental: Contact the Safety Office for information (8-8351). Trained employee cleans up spill with appropriate personal protective equipment.</td>
<td>Incidental: Follow MSDS recommendations for material disposal. Contact Safety Office for additional information if necessary.</td>
<td>Complete an Incident Report and Spill Response Form and forward to the Safety Office.</td>
</tr>
<tr>
<td></td>
<td>Emergency: Any spill which may present a hazard to people or the environment.</td>
<td>Emergency: Isolate and evacuate the spill area. Call 911 and report the spill.</td>
<td>Emergency: Follow instructions from emergency responders.</td>
<td></td>
</tr>
<tr>
<td>Infant / Child Abduction</td>
<td>Indications that an infant or child abduction has taken place.</td>
<td>• Call 8-5555 and report abduction. • Call 911 (UCH Security).</td>
<td>• Stand by exit doors. Be aware of all infants / children leaving the hospital. Report any suspicious persons.</td>
<td>As determined by Local Police.</td>
</tr>
<tr>
<td>“Code Pink”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Emergency “Code Blue”</td>
<td>An individual is not breathing, acutely not responding, no pulse.</td>
<td>Stay with victim, yell for help, assess for CPR.</td>
<td>Direct someone to Call 8-5555 (Inpatient Areas only, call 911 all other locations) and advise operator of location and situation.</td>
<td>Complete Incident Report.</td>
</tr>
<tr>
<td>Weather Emergency</td>
<td>Weather conditions exist which may require moving patients or may impact staffing.</td>
<td>Hospital Operators will make an overhead announcement instructing staff members on initial response actions.</td>
<td>Follow overhead announcement instructions. Activate department response plans for specific emergency situation.</td>
<td>Upon termination, Operators will announce “All Clear.”</td>
</tr>
<tr>
<td>Workplace Violence</td>
<td>Threats of violence which occur at the workplace or while engaged in work-related activities.</td>
<td>• Call UCH Security at 911 immediately. • Report to manager.</td>
<td>UCH Security – confirm information with HR. Manager – complete incident report and forward to HR.</td>
<td>As determined by HR and Local Police.</td>
</tr>
</tbody>
</table>

REFER TO UCH INTERNAL / EXTERNAL DISASTER PLANS FOR COMPLETE PROCEDURES
# University of Colorado Hospital Policies and Procedures

## Systems Failures & Staff Response

<table>
<thead>
<tr>
<th>Failure Of</th>
<th>What to Expect:</th>
<th>Who To Contact:</th>
<th>Responsibility of User:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Power Failure</td>
<td>Many lights out. Only RED outlets work.</td>
<td>Engineering Services</td>
<td>Ensure that life support systems are on emergency power. Ventilate patients by hand if necessary. Complete cases in progress ASAP. Use flashlights.</td>
</tr>
<tr>
<td>Elevators Out Of Service</td>
<td>All vertical movement will have to be done by stairwells.</td>
<td>Engineering Services</td>
<td>N/A</td>
</tr>
<tr>
<td>Elevator Stopped Between Floors</td>
<td>Elevator alarm bell sounding.</td>
<td>Engineering Services and UCH Security</td>
<td>Keep verbal contact with persons in the elevator and let them know that help is on the way.</td>
</tr>
<tr>
<td>Fire Alarm Systems</td>
<td>No fire alarms or sprinklers.</td>
<td>Engineering Services</td>
<td>Institute fire watch; minimize fire hazards, use phones or runners to report fire.</td>
</tr>
<tr>
<td>Medical Gases</td>
<td>Gas alarms sounding, no O2, medical air, or Nitrous Oxide (NO2).</td>
<td>Engineering Services</td>
<td>N/A</td>
</tr>
<tr>
<td>Medical Vacuum</td>
<td>No vacuum; vacuum systems fail and are in alarm.</td>
<td>Engineering Services</td>
<td>N/A</td>
</tr>
<tr>
<td>Natural Gas: Failure or Leak</td>
<td>Odor, no flames on burners, etc.</td>
<td>Engineering Services</td>
<td>If applicable, open window to ventilate, turn off gas equipment, do not use spark generating devices.</td>
</tr>
<tr>
<td>Nurse Call System</td>
<td>No patient contact.</td>
<td>Engineering Services</td>
<td>Use bedside patient telephone if necessary, move patients if necessary.</td>
</tr>
<tr>
<td>Patient Care - Clinical Equipment</td>
<td>Equipment does not function properly</td>
<td>Bioengineering</td>
<td>Maintain patient safety and care needs. Remove and tag defective equipment.</td>
</tr>
<tr>
<td>Sewer Stoppage</td>
<td>Drains backing up.</td>
<td>Engineering Services</td>
<td>Do not flush toilets, do not use water.</td>
</tr>
<tr>
<td>Telephones</td>
<td>No phone service.</td>
<td>Telecommunications</td>
<td>Use over head paging, cellular phones.</td>
</tr>
<tr>
<td>Ventilation</td>
<td>No ventilation, no heating or cooling.</td>
<td>Engineering Services</td>
<td>If applicable, open windows, restrict the use of odorous/hazardous materials</td>
</tr>
<tr>
<td>Water</td>
<td>Sinks and toilets inoperative.</td>
<td>Engineering Services</td>
<td>Conserve water; used bottled water for drinking.</td>
</tr>
</tbody>
</table>

## Resource Telephone Numbers

<table>
<thead>
<tr>
<th>Administrator On-Call (Operator)</th>
<th>720-848-0000 (0)</th>
<th>Information Services/Help Desk</th>
<th>4-5222 (303-724-5222)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Health</td>
<td>8-6849 (720-848-6849)</td>
<td>Radiation Safety Officer</td>
<td>303-266-8652</td>
</tr>
<tr>
<td>Engineering Services</td>
<td>8-8351 (720-848-8351)</td>
<td>Safety</td>
<td>8-8351 (303-266-7320)</td>
</tr>
<tr>
<td>Hospital Emergency Line</td>
<td>303-352-0860</td>
<td>UCH Security Emergencies</td>
<td>911</td>
</tr>
<tr>
<td>Hospital Manager NEC</td>
<td>8-4296 (720-848-4296)</td>
<td>Non-Emergent</td>
<td>8-7777</td>
</tr>
<tr>
<td>Pager</td>
<td>303-266-9180</td>
<td>Hospital Weather Line</td>
<td>303-352-0860</td>
</tr>
<tr>
<td>Infection Control</td>
<td>303-266-2927</td>
<td>Emergency Department</td>
<td>8-9111 (720-848-9111)</td>
</tr>
</tbody>
</table>
**ANNUAL SIGNATURE REVIEW**

**PROCEDURE TITLE: DISASTER PLANS**

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, M.D</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucia</td>
<td>3/24/14</td>
</tr>
<tr>
<td></td>
<td>M. Scott Lucia</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: Noise Level Assessment in the Laboratory

Principle: Monitor Noise level in the Anatomic Pathology to prevent excessive noise exposure to employees.

Procedures: Loud and excessive noise level values can have a detrimental effect on the hearing of an employee. The laboratory will provide protection against the effects of noise exposure when it is beyond the OSHA recommended level.

In accordance with OSHA 29 CFR 1910.95, if an individual is exposed to noise that exceeds 85 decibel (dBA) within an eight-hour-timed-weighted average (TWA); a hearing conservation program is required.

The UCD Department of Environmental Health and Safety will determine the dBA for the Anatomic Pathology laboratory spaces.

Written by: Deborah V. Woodman, CG (ASCP), 9/3/10
Revised by: Gail Zander, CT (ASCP), 8/21/12
Reference: GEN.77300
Approval of Procedure:

Medical Director Signature: [Signature]
Date: 8/29/12
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: Noise Level Assessment in the Laboratory

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, MD</td>
<td>M. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td>3/24/14</td>
<td></td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td>8/26/16</td>
<td></td>
</tr>
</tbody>
</table>
Title: ERGONOMIC EVALUATION

Principle: To reduce work-related injury due to poorly designed work stations.

Procedure:

- An ergonomic self-evaluation shall be conducted annually for all staff of the anatomic pathology section.

- The self-evaluation will include, but not be limited to the placement of office equipment and computers, positioning of microscope, phone location, and chair selection and adjustments.

- Upon completion of the evaluation, supervisor's and staff shall discuss any necessary changes; equipment needed, and proceed to correct same.

- Whenever necessary the University of Colorado Risk Management may be consulted on ergonomic evaluations.

- Documentation of the annual ergonomic self-evaluations is kept on file in their designated area with supervisor.

Written by: Heather S. Currens, SCT (ASCP), August 31, 2009

Revised by: Katharine Nejkauf, SCT (ASCP), 1/24/2014

Attachments: UCD Ergonomics Checklist

Reference: GEN.77200

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 3/24/19
# Office Ergonomics Checklist

<table>
<thead>
<tr>
<th>Section #1: Workstation Accessory Arrangements</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Are input devices at the same level as the keyboard?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Are primary work materials/input devices located in front of you?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Do you have enough room on your work surface for all of your paperwork and computer accessories?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Are the most frequently used items easy to reach?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Are you able to keep your arms from resting on any hard or square edges?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section #2: Work Habits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Do you take short and frequent breaks throughout the day to reduce fatigue?</td>
<td></td>
</tr>
<tr>
<td>B. Do you frequently change body positions while working?</td>
<td></td>
</tr>
<tr>
<td>C. Do you provide your eyes with vision breaks every hour?</td>
<td></td>
</tr>
<tr>
<td>D. Do you work fairly regular hours without a lot of overtime?</td>
<td></td>
</tr>
<tr>
<td>E. Are you able to meet deadlines without excessive stress?</td>
<td></td>
</tr>
<tr>
<td>F. Are you comfortable and free of pain while working?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section #3: Chair Adjustment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Is your chair height adjustable?</td>
<td></td>
</tr>
<tr>
<td>B. Does your chair support your lower back?</td>
<td></td>
</tr>
<tr>
<td>C. Is there room between the front edge of the seat pan and the back of your knees?</td>
<td></td>
</tr>
<tr>
<td>D. Can you easily reach your work without interference from the arm rests on your chair?</td>
<td></td>
</tr>
<tr>
<td>E. Are your arms and shoulders relaxed without interference from the arm rests on your chair?</td>
<td></td>
</tr>
<tr>
<td>F. When typing or using a mouse, are you able to keep your arms in a comfortable position without resting them on the armrests?</td>
<td></td>
</tr>
<tr>
<td>G. Do your feet rest flat on the floor?</td>
<td></td>
</tr>
<tr>
<td>H. Are your knees bent at approximately a 90 degree angle or less?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section #4: Work Surface/Keyboard Adjustment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. With your chair adjusted properly, is your keyboard/tray at approximately elbow height?</td>
<td></td>
</tr>
<tr>
<td>B. Are your arms resting at your sides rather than stretched out in front of you?</td>
<td></td>
</tr>
<tr>
<td>C. Are your shoulders relaxed and not elevated when you work at your work surfaces?</td>
<td></td>
</tr>
<tr>
<td>D. When typing at your work surface, are your wrists in line with your forearms and not bent upwards, downward, or to one side or another?</td>
<td></td>
</tr>
<tr>
<td>E. Is there at least 2 inches of clearance between the bottom of the work surface and your thighs?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section #5: Monitor Adjustment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. While seated in your proper typing position, is the monitor generally at an arm's length away?</td>
<td></td>
</tr>
<tr>
<td>B. Is the top of your monitor at or just below your eye level?</td>
<td></td>
</tr>
<tr>
<td>C. Is your computer monitor protected from excess glare?</td>
<td></td>
</tr>
<tr>
<td>D. If you wear bifocals or trifocals, are you able to look at the monitor without tilting your head?</td>
<td></td>
</tr>
</tbody>
</table>
Work Habits
- Take short and frequent breaks throughout the day to reduce fatigue.
- Frequently change body positions while working.
- Provide eyes with vision breaks every hour.
- Stretch frequently throughout the day, focusing on areas that are tense.

Posture
- Keep your head balanced over your shoulders. Your ears should line up with your shoulders.
- Sit in the back of the chair.
- Generally, your thighs should be parallel to the floor, creating a 90 degree angle for your hips and legs. If you prefer, raise your chair a little so that your hips are slightly higher than your knees.
- Feet should be flat on the floor or supported on a footrest.
- Shoulders and arms should be relaxed and at 90 degrees when typing.

Chair
- The best adjustability means:
- The arms move up and down; in and out and should not be in your way when you are typing or reaching for things.
- The seat pan moves forward or back to better fit all heights of employees.
- The height of the chair allows you to adjust your chair height so that your legs are at a 90 degree angle, and your feet are flat on the floor or on a foot rest.
- The back of the chair should adjust up and down; forward and back and provide good lumbar support that fits in the curve of your lower back.
- The chair has a tilt feature that allows you to adjust the angle of the seat pan.
- Adjust your seat pan so that there is 2-3” (roughly a fist) of space between the seat and the back of your knees.
- Adjust your chair periodically to prevent cylinders from drying out.

Keyboard
- Keyboard should be at approximately elbow height.
- Arms should be at a relaxed 90 degree angle while typing.
- Shoulders should be relaxed and not raised.
- Wrists should be in line with forearms and not bent upward or downward.
- Keep keyboard flat. If there are legs on the back of the keyboard, fold them in so that you keyboard will lay flat.
- Use a wrist rest if needed.
- There are many styles of keyboards. No one keyboard is best for all people.

Keyboard Tray
- Trays may be helpful if you cannot lower the keyboard height or if you need a negative tilt. A negative tilt means that the keyboard tilts downward away from you (so the top row of numbers are lower than the space bar).
- If using a keyboard tray, make sure that the mouse fits next to the keyboard. Avoid trays that require you to reach further away.
- Make sure the tray is easy to adjust and slides in and out easily.
- Trays may create ergonomic issues such as increased reaching, awkward positions, etc.
Mouse
- Keep wrist flat, not flexed up or down.
- Keep mouse close to maintain a 90 degree angle while mousing.
- Increase your mouse speed so that it moves and clicks more easily.
- Use a mouse rest if needed.
- There are many styles of mice. The best mouse for you fits your hand comfortably and is easy to maneuver.

Monitor
- Monitor should generally be about an arm’s length away or 18-28” from the eyes. The newer models are bigger and easier to see so many people prefer them to be a little further away.
- Eye level should be in the top quarter of your monitor.
- Use monitor risers or a ream of paper if you need to raise your monitor.
- The screen should not have excessive glare.
- If you wear bifocals or trifocals you should be able to look at the monitor without tilting your head. You may need your monitor lower to prevent tilting your head upward.

Phone
- Don’t “scrunch” the phone between your head and shoulder. Hold the receiver.
- Use a headset or speaker phone.

Worksurface
- The keyboard and mouse should be located directly in front of you.
- A copy holder that fits between your monitor and keyboard is preferable to one that sets off to the side of the monitor.
- There should be enough room on your work surface for your paperwork and computer accessories. Most frequently used items should be easy to reach.
- Keep arms from resting on hard or square edges.
- There should be at least two inches of space between your desk and the top of your thighs.

Laptops
- Dock laptop whenever possible to avoiding tilting head down.
- Use external mouse and keyboard for more adjustability.

Additional Information
- Clutter creates ergonomic issues because it may lead to bad body mechanics such as twisting, lack of leg space, over-reaching, etc.
- Stand and walk at least once an hour.
- Stretch and exercise regularly to keep flexibility and strength.
- Drink half of your body weight in ounces of water every day. For example, a 200 pound person should drink 100 ounces of water per day. For every ounce of caffeine you drink, offset it with another ounce of water.
Mouse
- Keep wrist flat, not flexed up or down.
- Keep mouse close to maintain a 90 degree angle while mousing.
- Increase your mouse speed so that it moves and clicks more easily.
- Use a mouse rest if needed.
- There are many styles of mice. The best mouse for you fits your hand comfortably and is easy to maneuver.

Monitor
- Monitor should generally be about an arm’s length away or 18-28” from the eyes. The newer models are bigger and easier to see so many people prefer them to be a little further away.
- Eye level should be in the top quarter of your monitor.
- Use monitor risers or a ream of paper if you need to raise your monitor.
- The screen should not have excessive glare.
- If you wear bifocals or trifocals you should be able to look at the monitor without tilting your head. You may need your monitor lower to prevent tilting your head upward.

Phone
- Don’t “scrunch” the phone between your head and shoulder. Hold the receiver.
- Use a headset or speaker phone.

Worksurface
- The keyboard and mouse should be located directly in front of you.
- A copy holder that fits between your monitor and keyboard is preferable to one that sets off to the side of the monitor.
- There should be enough room on your work surface for your paperwork and computer accessories. Most frequently used items should be easy to reach.
- Keep arms from resting on hard or square edges.
- There should be at least two inches of space between your desk and the top of your thighs.

Laptops
- Dock laptop whenever possible to avoiding tilting head down.
- Use external mouse and keyboard for more adjustability.

Additional Information
- Clutter creates ergonomic issues because it may lead to bad body mechanics such as twisting, lack of leg space, over-reaching, etc.
- Stand and walk at least once an hour.
- Stretch and exercise regularly to keep flexibility and strength.
- Drink half of your body weight in ounces of water every day. For example, a 200 pound person should drink 100 ounces of water per day. For every ounce of caffeine you drink, offset it with another ounce of water.
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: ERGONOMIC EVALUATION

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN.73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Scott Lucia</td>
<td>Mr. Scott Lucia</td>
<td>8/29/12</td>
</tr>
<tr>
<td>Mr. Scott Lucia</td>
<td>Mr. Scott Lucia</td>
<td>3/24/14</td>
</tr>
<tr>
<td>Mr. Scott Lucia</td>
<td>Mr. Scott Lucia</td>
<td>8/26/16</td>
</tr>
</tbody>
</table>
Title: Handling of Creutzfeldt - Jakob Disease Specimens

Principle:
Creutzfeldt – Jakob disease (CJD) is a fatal neurological disease, thus specific handling of infected tissues is required in order to reduce the potential for transmission of the disease. The Department of Anatomic Pathology at University of Colorado Denver will not process suspected tissue infected with CJD. The Colorado Department of Public Health and Environment recommends that all cases of CJD or suspected CJD samples to be send to NPDSPSC at Case Western Reserve University.

Procedure:

1. Please see attached instruction and test request form for shipping specimens to:
   National Prion Disease Pathology Surveillance Center
   Case Western Reserve University
   2085 Adelbert Road, Room 419
   Cleveland, Ohio 44106

   More information can be located on NPDSPSC website:
   www.cjdsurveillance.com

2. Formalin, alcohol fixation or 10% bleach is NOT a sufficient method to disinfect items or surfaces that come in contact with prion infected tissue or fluid.

3. When possible provide instructions and supplies to department collecting specimen. If any instruments or surfaces come in contact with infected tissue specific protocols for cleaning instruments and surfaces must be followed. For specific instructions on disinfection see UCH policies and procedures. UCH policies and procedures can be found at: https://pnp.uch.edu and go to infection control hyperlink and go to next page and select precautions for patients with Creutzfeld-Jakob Disease, and other Transmissible Spongiform Encephalopathies.

4. In cases that were not suspected of being CJD, but proved to be after review of the slides, The paraffin blocks are incinerated and the slides are stored inside a biohazard bag in a secured location.

Written by: Gail Zander, CT (ASCP), 2/26/2014
Revised by: Gail Zander, CT (ASCP), 8/18/2014
Attachments: NPDPSC contact and mailing instructions, NPDPSC Test request form

Approval of Procedure:

Medical Director Signature: [Signature]

Date: 8/26/14
Contact & Mailing

Mailing Instructions:

General Instructions

All specimens should be shipped using Federal Express. Specimens should be shipped Monday through Thursday to avoid Saturday and holiday delivery. For tracking purposes, a copy of the Federal Express Airbill should be faxed (216-368-2545 or 216-368-4000) to the NPDSPC on the day of shipment.

All shipments should be addressed to:

National Prion Disease Pathology Surveillance Center
Institute of Pathology
Case Western Reserve University
2085 Adelbert Road, Room 418
Cleveland, Ohio 44106-4907
Tel: 216-368-0587
Email: cjd surv@case.edu

Please send a completed Test Request Form with all samples. The NPDSPC requires any available clinical information when sending tissue and/or blood to assist us in making the most accurate diagnosis possible. The NPDSPC is CLIA certified and fully compliant with HIPAA regulations.

Instructions by Type of Sample

Blocks/slides: Slides should be placed in plastic slide holders and mailed in a bubble wrap envelope. Blocks should be mailed in a bubble wrap envelope.

Blood: Ship at room temperature in protective bubble wrap or Styrofoam on the day that the blood is collected. The NPDSPC processes blood samples for special cases only, and all blood samples must be accompanied by a signed Testing and Reporting Policies Form as well as clinical and/or family history. Please contact the Center Manager at 216-368-0587 for more information if needed.

CSF: Ship using a Styrofoam container with sufficient dry ice (5lbs/24hrs). The NPDSPC requests a urine sample for research purposes with all CSF samples if available.

Urine: Ship double boxed using a Styrofoam container with sufficient dry ice (5lbs/24 hrs).

Fixed tissue: Ship double boxed without dry ice.

Frozen tissue: Ship double-boxed using a Styrofoam container with sufficient dry ice (5lbs/24hrs). Please include a signed Testing and Reporting Policies Form with frozen tissue samples. The NPDSPC sequences the prion protein gene for all positive cases. Please contact the Center Manager at 216-368-0587 for more information if needed.

Note: Frozen and fixed tissue should be shipped using a UN class 6.2 approved container. Please send fresh and frozen tissue samples in separate containers to avoid freezing of the fixed tissue which results in artifacts.

For More Information

General and shipping questions can be directed to the NPDSPC at 216-368-0587 or by email cjd surv@case.edu.

Specific questions related to completing the Federal Express Airbill should be directed to Federal Express at 1-800-463-3339 or http://www.fedex.com.

Specific questions related to shipping infectious material should be directed to World Health Organization (WHO) at http://www.who.int/medicines/medc7_3.pdf. (Note: You must have Adobe Acrobat Reader to view this file.) Examples for filling out the Dangerous Goods Declarations without dry ice can be found on page 17 and for Dangerous Goods Declarations with dry ice on page 18.

If you need the Adobe Acrobat Reader, you may download the reader for free by clicking on the icon to the right.

http://www.cjdsurveillance.com/contact.html
Test Request Form

Please provide the following information for all samples submitted to the NPDSC, 2085 Adelbert Road, Room 418, Cleveland, OH 44106-4907. Please note that it is required that you complete the entire form. This information aids the NPDSC in accomplishing its goal of accurate diagnostics and therefore more complete prion disease surveillance. For more information on our shipping protocols, please visit our website: http://www.cidsurveillance.com.

1. **Attending/Referring Physician**

   Name: ___________________________ Phone: _______________ Fax: ___________________________
   
   Hospital/Institution: ________________________________________________________________
   
   Street address: __________________________________________________________________
   
   City/State/Zip code: _______________________________________________________________
   
   ✷ The physician will be contacted and should be available for any brief telephone inquiry about this case

2. **Drawing/Sending Laboratory**

   Name: ___________________________ Phone: _______________ Fax: ___________________________
   
   Laboratory/Hospital: _______________________________________________________________
   
   Street address: __________________________________________________________________
   
   City/State/Zip code: _______________________________________________________________

3. **Samples enclosed. (Please check all that apply.)**

   - CSF (Please note that we request urine be sent with all CSF samples, if available.)
     
     *If NPDSC is to bill patient directly for testing, please also complete and submit the CSF Billing Requisition Form. Otherwise lab will be billed for this test.*
     
     Collection Date: ______
   
   - Urine (Urine will only be stored for future research purposes.)
     
     Collection Date: ______
   
   - Blood (Please see our blood protocol for special instructions before sending.)
     
     Collection Date: ______
   
   - Fixed brain biopsy tissue in 10% neutral buffered formalin
     - Treated in ____% formic acid for 30 mins (Range of formic acid should be between 88-98%).
     - Follow formic acid treatment with 10% formalin rinse.
     
     Biopsy Date: ______
   
   - Frozen brain biopsy tissue
     - Stored at:   -70°C (recommended) -20°C Refrigerator 4°C
     
     Biopsy Date: ______
   
   - Fixed brain autopsy tissue in 10% neutral buffered formalin for 2 weeks before sending
     - Grossed
     - Not grossed (If not grossed, do not treat with formic acid)
     - Grossed & Treated in ____% formic acid for 1 hour (Range of formic acid should be between 88-98%).
     (If grossed and treated, follow formic acid treatment with 10% formalin rinse)
     
     Autopsy Date: ______
   
   - Frozen brain autopsy tissue
     - Stored at:   -70°C (recommended) -20°C Refrigerator 4°C
     
     Autopsy Date: ______
4. **Patient Information**

Name: ____________________________ ID# ____________________________

Date of birth: ____________________ Sex _______ Race __________________

Onset (month/year): ______________ Date of death (if applicable): ______________

City, state and county of residence: __________________ Current/previous occupations: ______________

City and state of death (if applicable): __________________

5. For all blood and tissue samples sent to the NPDPSN, we REQUIRE that a full clinical history be submitted to aid us in making our diagnosis (if sending blood sample on an asymptomatic patient, you must submit family history). Has clinical history been submitted on this patient?

☐ Yes, it is enclosed in this package  ☐ No, it will be sent under separate cover

☐ Yes, it has been submitted previously

6. Has the patient served in the military?

☐ Yes  ☐ No

7. Does the patient have clinical history consistent with any of the following?

☐ Rapid dementia  ☐ Cerebral infarction  ☐ Acute brain trauma

☐ Brain lymphoma  ☐ Paraneoplastic encephalopathy  ☐ Asymptomatic (for blood samples)

☐ Viral encephalitis

8. Does the patient have any family history of CJD or early onset dementia? If yes, please also submit information on family history.

☐ No  ☐ Yes, early onset dementia  ☐ Yes, CJD (describe relationship below)

9. Please check if the patient may have any risk for the iatrogenic form of CJD due to the following factors:

☐ Human growth hormone (hGH)  ☐ Human pituitary gonadotrophin (hGHNP)

If either box above is checked, please list start and end dates of treatment:

☐ Intradural brain or spinal cord surgery. Please list date and location of surgery:

☐ Dura mater graft. Please list date and location of graft:

☐ Corneal transplant. Please list date and location of transplant:

10. Does the patient have a known history of foreign travel or eating wild game?

☐ Yes, foreign travel: Where and when?

☐ Yes, patient consumed wild game: What type and from what state(s)?

☐ Yes, patient has a known history of hunting wild game: What state(s) and when?

11. Did the patient donate/receive blood?  ☐ No  ☐ Unknown

☐ Yes, donated: In what year(s) and city/state?

☐ Yes, received: In what year(s) and city/state?
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: Handling of Creutzfeldt - Jakob Disease Specimens

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. CYP.02500

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scott Lucia, M.D.</td>
<td>Dr. Scott Lucia</td>
<td>3/24/14</td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td>8/25/14</td>
<td></td>
</tr>
<tr>
<td>Dr. Scott Lucia</td>
<td>8/26/16</td>
<td></td>
</tr>
</tbody>
</table>
Title: UV Light Exposure

Principle:
To prevent or reduce ultraviolet light exposure from instrument sources for all personnel working in Anatomic Pathology. UV light may cause corneal or skin burns from direct or deflected light sources.

Procedure:
In Anatomic Pathology the only source of UV light is Biological Safety Cabinets. Signs will be posted on Biological Safety Cabinets that this device produces potentially harmful ultraviolet (UV) light. Protect eyes and skin from exposure while light is switched on.

Written by: Gail Zander, CT (ASCP), 8/25/2014

Approval of Procedure:
Medical Director Signature: [Signature]

Date: 8/26/14
ANNUAL SIGNATURE REVIEW

PROCEDURE TITLE: UV Light Exposure

Signature on this page insures that each procedure has been reviewed annually. Any changes will be reflected on the procedure by the revised date. GEN. 73200

<table>
<thead>
<tr>
<th>MEDICAL DIRECTOR</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Scott Lucia, M.D.</td>
<td>M. Scott Lucia</td>
<td>8/26/14</td>
</tr>
<tr>
<td>M. Scott Lucia</td>
<td>8/26/16</td>
<td></td>
</tr>
</tbody>
</table>

...