BIOLOGICAL EMERGENCY AND SPILL PROCEDURES

I. BIOLOGICAL SPILLS

a. A MINOR BIOLOGICAL SPILL is one that can be handled safely by laboratory personnel without the assistance of safety and emergency personnel. Minor spills include:
   i. The release of BSL-1 organisms without splashing or agitation.
   ii. The release of a small volume of BSL-2 organisms without splashing or agitation.

b. A MAJOR BIOLOGICAL SPILL is one that requires outside assistance (Call 7-3000). These include:
   i. The release of BSL-2 organisms resulting in excessive splashing and agitation.
   ii. The release of a large volume of BSL-2 organisms (there is enough present to seek its own level or in other words, to run to a low point).
   iii. The release of ANY BSL-3 organisms.

II. COMPONENTS OF A SPILL RESPONSE

a. Each laboratory should have a Spill Response Plan and a Spill Kit on hand. The Spill Response Plan should be available to all personnel and contains 4 elements: the use and availability of appropriate PPE, assessments of the nature and extent of various spills, the use of appropriate disinfectants, and disposal.

b. The kit should be maintained in a white 6-gallon leak-proof bucket and contain the following:
   i. Concentrated household bleach – check expiration date.
   ii. Spray bottle for making 10% bleach solution.
   iii. Forceps or tongs for handling sharps.
   iv. Paper towels or other suitable absorbent.
   v. Biohazard bags of various sizes.
   vi. Disposable gloves.
   vii. Disposable foot covers.
   viii. Face protection – at minimum safety glasses and mask.
   ix. Disposable apron, gown or Tyvek suit.

III. SPILL ON BODY

a. Remove contaminated clothing.

b. Vigorously wash exposed area with soap and water for at least 1 minute.

c. If eye exposure occurs, use eye wash per instructions.
d. Obtain medical attention if necessary.
e. Report spill to supervisor and BSO.

IV. INSIDE THE BIOSAFETY CABINET
  a. Wait at least 5 minutes to allow BSC to filter aerosols.
  b. Wear lab, coat, sleeve guards, safety glasses, and gloves during clean-up. You may want to double glove in the event the outer pair becomes contaminated.
  c. Allow BSC to run during clean-up.
  d. Apply disinfectant for a minimum 20 minute contact time.
  e. Wipe up spill with disinfectant-soaked paper towels or absorbent pillows.
  f. Wipe the walls, work surfaces, inside of sash and any equipment with disinfectant-soaked paper towels.
  g. Lift exhaust grill and tray and wipe all surfaces.
  h. Discard contaminated disposable materials using appropriate biohazardous waste disposal procedures.
  i. Wipe down contaminated reusable items with disinfectant then place in biohazard bags or autoclave pans with lids for autoclaving.
  j. Those items that are non-autoclavable should be wiped down with disinfectant and kept wet for a minimum of 20 minutes before removal from BSC.
  k. Remove protective clothing when done and place in biohazard bag for autoclaving.
  l. Run the BSC for 10 minutes after clean-up before reusing.
  m. WASH HANDS.

V. IN THE LABORATORY, OUTSIDE OF BSC
  a. Call the BSO if a major spill.
  b. Clear the room of all personnel.
  c. Remove any contaminated clothing and place in biohazard bag for autoclaving.
  d. Wait at least 30 minutes for aerosols to settle before reentry.
  e. Put on either a Tyvek suit or disposable gown, disposable foot covers, gloves, and safety glasses.
  f. Place dry paper towels on the spill then layer a second set of disinfectant-soaked towels over the spill.
  g. Starting from the outside and working in, carefully soak the spill with disinfectant being careful to minimize aerosolization.
  h. Decontaminate all items within the spill area. Wait at least 20 minutes contact time with the disinfectant.
  i. Wipe equipment and reusable items with the disinfectant.
  j. Discard contaminated disposables in biohazard bags.
  k. If sharps are present, use a mechanical device such as a dust pan and brush to pick up the spill and place contaminated sharps in an approved sharps container.
VI. **INSIDE A CENTRIFUGE**  
 a. Clear area of personnel.  
 b. Wait at least 30 minutes for aerosols to settle before clean-up.  
 c. Wear a lab coat, gloves, and safety glasses during clean-up.  
 d. Wipe rotors and buckets with disinfectant then remove to nearest BSC for more extensive decontamination.  
 e. Thoroughly disinfect inside of centrifuge with a minimum contact time of 20 minutes.  
 f. Dispose of contaminated materials using appropriate biohazardous waste disposal procedures.

VII. **REPORTING OF ACCIDENTS**  
 a. Major spills and personnel exposure incidents should be reported by the PI or supervisor to the BSO. The BSO in conjunction with the IBC Chair will conduct an investigation of the laboratory accident. The goal of the investigation is to analyze the events surrounding the accident to prevent or minimize its reoccurrence and to identify those personnel involved in the event further medical surveillance is needed.  
 b. Please report incidents that did not result in an exposure (near miss) to the BSO. Evaluation of near misses can lead to alternative work practices and implementation of engineering controls to minimize future incidents.

VIII. **SHARPS INJURY**  
 a. Whenever an injury occurs involving a sharp (needle, broken glass, etc.) and human material (body fluid, tissue, cell line), the BSO must be notified. The subsequent investigation will determine if a safer device or work practice can be used to reduce or prevent the accident from reoccurring.

IX. **OUTSIDE THE LABORATORY, IN TRANSIT**  
 a. To prevent or minimize a spill, transport materials in an unbreakable, leak-proof, sealed primary container placed inside a secondary unbreakable, leak-proof, sealable container. All three containers should labeled with the universal biohazard symbol.  
 b. Should a spill occur in a public area, do not attempt to clean up without appropriate PPE.  
 c. Secure the area around the spill.  
 d. Call the Biosafety Office 7-6889 or 7-3000.  
 e. Stand by for further assistance if required.