

Guidelines for the Safe Handling of Animals Exposed to LPS in Research

1. Endotoxin (bacterial Lipopolysaccharide, or LPS) is a component of the cell wall of gram-negative bacteria. Although it occurs naturally in the environment (in agricultural settings, and in the home particularly if there are household pets) it can exacerbate asthmatic symptoms in susceptible individuals.
2. Potential hazards of working with the agent include sharps, splashes, ingestion, and chronic inhalation.
3. The appropriate Animal Biosafety Level for work with LPS is Level 1 (ABSL-1).. (see http://www.cdc.gov/od/ohs/biosfty/bmb15/BMBL_5th_Edition.pdf).
4. Personal protective equipment (PPE) requirements for all procedures involving LPS (i.e. injecting the animal, changing the bedding, cleaning up spills of agent) – include wearing gloves and lab coat for all procedures involving handling of LPS and animals exposed to LPS, and for cleaning spills.
 - a. We have engineering controls to protect workers from potentially hazardous aerosols. All aerosol exposures are performed in a biological safety cabinet, within an exposure chamber.
 - b. All exposures by injection are performed carefully to minimize the risk of accidental exposures to staff.
5. Standard animal care precautions are sufficient once animals are moved to a clean cage. Animal bedding should not become contaminated with LPS as the animals are not likely to shed the toxin.
6. Sharps used in this protocol should be discarded immediately after use in appropriate sharps containers and then autoclaved.
7. Spill procedure – wearing protective clothing and gloves, the area will be wiped up with absorbent material and decontaminated with a freshly made bleach solution. All contaminated material will be placed in a red biohazard container.
8. Training of all personnel who handle LPS or work with infected animals will be performed by the PI. All employees, in addition to receiving animal handling training must be completely familiarized with the proper procedure for handling LPS.
9. Exposure follow-up:
 - a. Report exposure immediately by reporting to Employee Health during normal work hours, or UMMC emergency room after work hours.
 - b. Complete the Employee Injury report at <https://secure.umc.edu/meds/servlet/InjuryForm>.
10. Animal carcass disposal: sacrificed animals will be sealed in plastic bags and frozen until they are collected for disposal in UMMC's Regulated Medical Waste containers in LAF.