

Managing Biosafety in Large and/or Shared Laboratory Spaces

Guidance for Principal Investigators

Information and best practices for maintaining core biosafety principles in large laboratories (i.e. >20 members) and/or shared laboratory spaces.

Factors Affecting Large and Shared Laboratories

Physical Size of Lab

Large labs and shared spaces may be spread out across several buildings, potentially hindering intra-lab communication and efficient in-person oversight. Conversely, a lab that is too small for the number of researchers may experience issues caused by overcrowding.

Diversity of Research

Large labs and shared spaces often engage in a broad range of research encompassing multiple fields of science. Therefore, the lab may contain a wide variety of hazardous materials and specialized equipment.

Large & Shared Lab Spaces

Number of Researchers

There is an upper limit to any individual's "span of control" (the number of people that can be effectively managed by a single individual). Despite the autonomous nature of many researchers, a large lab or a shared space may pose management challenges for a single PI.

Experience/Turnover of Staff

Large labs and shared spaces may include scientists at all stages of their scientific careers, requiring different levels of oversight. Moreover, with large numbers of researchers rotating through the lab, tracking the health and safety elements associated with all these individuals can be difficult.

Challenges

Common challenges encountered by large labs and shared spaces can include:

- poor general housekeeping
- accumulation of unneeded research samples/equipment/supplies
- hazardous materials and waste which are not properly labeled, stored, or disposed of
- lack of individual accountability
- lack of mechanisms for addressing or resolving concerns in the lab

Management Strategies for Principal Investigators

	Demonstrate a Commitment to Safety	Delegate	Formalize Onboarding and Departure Processes	Establish Housekeeping Guidelines	Monitor Lab Spaces
For All Labs	<ul style="list-style-type: none"> • Include discussions of safety at lab meetings, one-on-one discussions, planning of experiments, etc. • Walk through your lab on a regular basis and use this as an opportunity to reinforce safety as a high priority. • Wear proper personal protective equipment (PPE) while in the lab. • Enforce rules, updating them when new conditions are introduced 	<ul style="list-style-type: none"> • Assign a designated lab member to assist in managing routine tasks. • Transition outgoing and incoming designated lab members over a six month period. • Inform all lab members what duties you have delegated to the designated lab member. • Ensure designated lab members have the authority and respect needed to enforce lab rules. 	<ul style="list-style-type: none"> • Create a system to ensure all new researchers obtain general REHS Labsafety/Biosafety training, as well as lab-specific training and orientation. • Ensure researchers are supervised while learning new procedures until they are ready to work independently. • Create a close-out system to ensure that researchers leave properly label, store, and/or remove their hazardous materials and samples before leaving the laboratory. 	<ul style="list-style-type: none"> • Establish criteria for good housekeeping and ensure rules are consistently enforced across the entire lab. • Share photos of what constitutes good housekeeping. • Use signage to label experiments in progress and/or equipment use. 	<ul style="list-style-type: none"> • Perform quarterly laboratory self-inspections. • Rotate self-inspections through all lab members. • Focus particularly on lab equipment and spaces utilized by multiple researchers when conducting self-inspections. • Self-inspection tools are available online via the myREHS website portal
For Large Labs/Shared Spaces		<ul style="list-style-type: none"> • Assign a designated lab member for each main area in labs spread across multiple buildings. • Consider hiring one or more staff scientist(s) whose job description has lab safety tasks explicitly included. 		<ul style="list-style-type: none"> • Conduct frequent lab clean ups (e.g., at least monthly). Identify and plan for removal of unneeded supplies, equipment, biohazardous waste, etc. 	<ul style="list-style-type: none"> • Perform additional self-inspections more frequently (e.g. weekly). • Assign researchers to provide extra monitoring for specific areas of the lab such as shared spaces.