
Introduction

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In 1997, the Institute for Laboratory Animal Research (ILAR¹) published *Occupational Health and Safety in the Care and Use of Research Animals* (NRC 1997). This document has been widely accepted as a basis for the design and operation of successful occupational health and safety programs for animal research facilities. The *ILAR Guide for the Care and Use of Laboratory Animals* (NRC 1996), which cites the occupational health and safety (OHS¹) document as a key reference for OHS programs, is the primary reference document used by the Public Health Service and the Association for Assessment and Accreditation of Laboratory Animal Care, International.

ILAR's 1997 OHS guide includes a discussion of the various hazards associated with animals in a research environment. Included are potential physical, biological, chemical, and zoonotic hazards. More central to OHS programs is the discussion of the design and implementation of a comprehensive program. The administrative structure and approaches to designing an effective program that are described have been widely adapted in research facilities. This issue of *ILAR Journal* is intended to update information presented in *Occupational Health and Safety in the Care and Use of Research Animals*, particularly in the areas of ergonomics, chemical safety, biohazards, allergy, personal protective equipment (PPE¹), and occupational medicine.

The topic of ergonomics in the animal research setting has received increased attention over the last several years, with musculoskeletal disorders presenting perhaps the single greatest risk to worker health and safety. As occupational health and safety programs have become more refined, attention has turned to potential hazards of the job activity itself. Seemingly simple tasks, in fact, pose significant risk to the animal care worker. This issue includes a detailed discussion of the physical demands placed on the animal care worker and a practical program to assess and manage ergonomic factors in the animal research facility (Kerst 2003).

In recent years, enormous advances have been made in biological technology. The application of many of these

techniques is being tested extensively in laboratory animals. As Richmond and colleagues (2003) describe, the increased attention to biosecurity and potential bioterrorism, as well as research involving emerging and re-emerging diseases, has resulted in increasing questions and concerns relating to the safety of personnel in animal laboratories. Elsewhere in the issue, Thomann (2003) discusses the same type of concerns that exist relative to chemical hazards in the laboratory.

Allergy continues to be one of the most common medical conditions affecting individuals who work with laboratory animals. Bush and Stave (2003) update recently published information on this topic (Wofle and Bush 2001). With reportedly half of all workers at risk of developing laboratory animal allergy, the goal of occupational medicine programs should clearly be prevention, which is possible by implementing strategies that decrease exposure to allergens. The professionals involved in managing the medical surveillance program are key in identifying persons at risk, as well as early recognition of symptoms of laboratory animal allergy.

The use of PPE has long been part of protecting employees and is considered part of the occupational health and safety program. There is little controversy concerning conventional protection methods. However, with the increasing diversity of research programs, there is growing confusion regarding the proper selection and use of personal protective equipment for certain situations. Significant confusion often surrounds the issue of respiratory protection, and the plethora of available equipment makes it essential to understand the features and limitations of the many choices available. In this issue, the use of PPE for respiratory protection is specifically discussed, with emphasis on the selection, use, and limitations of available equipment (Sargent and Gallo 2003). The use of PPE is also discussed in the context of protecting the worker and reducing exposure to allergens and chemical and biological hazards.

Over the years, occupational medicine has become recognized as an integral component of a successful occupational health and safety program. In the past, more often than not, occupational medicine was considered a service responsibility in a supporting role. Services such as immunization (rabies, tetanus), health evaluation (tuberculin testing), and emergency medical treatment have long been provided by an institution's occupational medicine service, but typically on the request of the research program managers. Involvement in the research programs was typically reactive rather than proactive as an integral part of the over-

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¹Abbreviations used in this Introduction: ILAR, Institute for Laboratory Animal Research; OHS, occupational health and safety; PPE, personal protective equipment.

all program. In recent years, risk management has clearly expanded from identifying hazards and protecting employees to evaluating the job and the relative risk to the individual employee. A detailed overview of current thinking in occupational medicine programs is provided in this issue (Wald and Stave 2003).

We hope that this *ILAR Journal* issue on OHS will provide a substantial update of current thinking in the management of occupational risk in laboratory animal facilities.

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