

**MEDICAL UNIVERSITY OF SOUTH CAROLINA**  
**POLICY FOR ADMINISTRATION OF HAZARDOUS**  
**PHARMACEUTICAL AEROSOLS**

**Revised: 9/2007**

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The use of aerosolized medication in health care institutions is rapidly expanding. There are numerous advantages to using these medications for treatment of pulmonary diseases; however, aerosol delivery methods can result in exposure to health care workers. Because of the small particle size and difficulty in controlling the spread of aerosols, the risk of occupational exposure to health care workers is increased.

Most of the concerns regarding occupational exposure to pharmaceutical aerosols have been focused on the uncontrolled use of ribavirin and pentamidine. The occupationally exposed population consists primarily of pediatric nurses, infectious disease nurses, oncology nurses, and respiratory therapists.

Health effects such as rashes, breathing difficulties, ocular irritation and contact lens damage have been reported by health care workers who have been exposed to hazardous aerosolized medications. There is very little scientific information on the health effects of chronic exposures to humans, but teratogenic effects in animal studies have raised concern in health care workers who may be in their reproductive years.

In an effort to minimize exposures to our employees, the following work practices should be employed when administering hazardous aerosolized medications:

1. Training programs should be developed to educate employees on the potential risks of overexposure. This training should be provided to everyone who enters a room while these medications are being administered.
2. An updated inventory of Hazardous Pharmaceuticals must be available to all employees working in areas where they are stored.

3. Material Safety Data Sheets (MSDS) must be available for all materials listed on the inventory.
4. Scavenging equipment should be installed and used on administration equipment. Administration and scavenging equipment should be inspected by respiratory therapy staff on a regular basis.
5. Administration should occur in isolation rooms that conform to American Institute of Architects recommendations. These rooms should have twelve air changes per hour and exhaust directly to the outside. If isolation rooms are not available the use of portable negative pressure equipment should be used. This equipment must filter the room air via high efficiency particulate air (HEPA) filtration. HEPA filters must be inspected routinely.
6. The aerosol generator must be turned off for a minimum of five minutes prior to the unprotected health care worker entering the room to provide routine care.
7. Employees should be discouraged from wearing contact lenses during administration since the aerosols will deposit on them and possibly cause ocular irritation.
8. If an employee has to enter a room during administration, they should wear a National Institute of Occupational Safety and Health (NIOSH) approved N95 respirator. The use of this type of respirator must comply with Occupational Safety and Health (OSHA) Standard 29 CFR 1910.134. Contact Occupational Safety and Health Programs for assistance in respirator selection and qualitative fit testing. (2-3604).
9. Post warning sign that will alert employees entering a room where aerosolized medication is being administered.