

Respiratory Protection Competencies for the Occupational Health Nurse

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ABSTRACT

Approximately 5 million workers employed at 1.3 million work settings are required to wear some form of respiratory protection as part of their jobs. Occupational health nurses can protect the respiratory health of America's workforce. In 2012, the American Association of Occupational Health Nurses Grants Committee Working Group conducted a nationwide survey of occupational health nurses to assess their knowledge, comfort, skills, and abilities relative to respiratory protection. The Working Group used the survey findings as a foundation for the development of respiratory protection competencies for occupational health nurses and a guide for the development of educational modules. [*Workplace Health Saf* 2014;62(3):96-104.]

Occupational and environmental health nurses have protected and promoted the health of America's workers since the turn of the 20th century. By maintaining and improving the health of the nation's workforce, occupational and environmental health nurses contribute significantly to the health of the nation. These nurses use both general nursing knowledge and skills and specialized occupational health and safety knowledge to provide nursing care in a variety of worksites, including farms, factories, health care facilities, construction sites, and mines. More than 5 million workers at 1.3 worksites may be exposed to respiratory hazards, including physical, biological, and chemical particles and vapors, and are required to wear respiratory protection (Occupational

Safety and Health Administration [OSHA], 2011). Unfortunately, respiratory protection is not always effective in protecting workers' health, resulting in specific pulmonary diseases and systemic infections and illnesses that sometimes lead to disability and death.

Occupational and environmental health nurses must develop competence in identifying respiratory hazards and developing programs to eliminate the hazard or protect potentially affected workers (Cleaver, Rogers, Schultz, & Liverman, 2011). Specifically, occupational and environmental health nurses must conduct workplace assessments, develop health and safety policies, provide effective respiratory protection education programs, and comply with federal, state, and local regulations and standards to reduce the effect of respiratory hazards on the health and safety of workers. For example, a well-documented pattern of marginal respiratory protection practices for health care workers was instituted as far back as the SARS epidemic and most recently the threatened H1N1 epidemic (Banach, Bielang, & Caffee, 2011; Daugherty, Perl, & Needham, 2009; de Perio et al., 2012; Gamage et al., 2005; Lautenbach, Saint, Henderson, & Harris, 2010; Nichol et al., 2013; Wise, de Perio, & Jhung, 2009).

The National Institute for Occupational Safety and Health (NIOSH) National Personal Protective Technology Laboratory (NPPTL) requested that the Institute of Medicine appoint an ad hoc Committee on Respiratory Protection Curriculum for Occupational Health Nursing Programs and charged it with examining existing

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respiratory protection curricula in academic occupational health nursing programs and developing recommendations to improve education and training on the selection (including situation assessment), use, care, and maintenance of respirators (Cleaver et al., 2011). The nine member Institute of Medicine Committee included individuals with expertise in occupational health nursing and medicine, personal protective equipment design and training, industrial hygiene and occupational health, clinical medicine, and nursing education. The committee used several methods to reach its conclusions and recommendations, including a literature search and review of materials including the American Association of Occupational Health Nurses (AAOHN) core competencies and curriculum.

The committee conducted a public workshop in March 2011 to gather information, gain a clearer understanding of existing respiratory protection curricula in occupational health nursing programs, and develop recommendations to improve nursing education on the selection (including situation assessment), use, care, and maintenance of respirators. Presentations from and discussions with experts from graduate academic and continuing education occupational health nursing programs educated the committee about occupational health and safety, respiratory protection, and occupational health nursing practice. Presenters included occupational health nursing and industrial hygiene faculty from graduate academic and continuing education programs, representatives from nursing (e.g., American Nurses Association [ANA]) and occupational health nursing (e.g., AAOHN) professional associations, a representative from the American Board of Occupational Health Nurses (ABOHN), a representative from the NIOSH NPPTL staff, and occupational health and safety stakeholders. NIOSH NPPTL staff also conducted a survey regarding respiratory protection curricula offered by six NIOSH Education and Research Center occupational health nursing graduate programs and the North Carolina Division of Public Health. The committee's deliberations resulted in seven recommendations (Cleaver et al., 2011) (**Sidebar 1**).

AAOHN Initiatives

Early in 2012, at the direction of the AAOHN Board of Directors, the AAOHN Grants Committee explored ways to address the Institute of Medicine's recommendation. To adequately address a larger occupational health nurse pool, many of whom have respiratory protection responsibilities for workers, and to be inclusive of as many occupational health nurses as possible, the committee invited the Association of Occupational Health Professionals in Healthcare (AOHP), ABOHN, and ANA to join AAOHN on an advisory team.

In May 2012, the advisory team conducted a nationwide survey of occupational health nurses to assess their comfort, knowledge, skills, and abilities related to respiratory protection (Burgel et al., 2013). The way occupational health nurses gained respiratory protection knowledge varied by level of competence in and comfort with respiratory protection, highest level of education attained, certification status, if a member of AAOHN, AOHP, or ANA, and by

SIDEBAR 1

Recommendations of the Committee on Respiratory Protection Curriculum for Occupational Health Nursing Programs

1. The American Association of Occupational Health nurses (AAOHN) will conduct a survey in collaboration with the National Personal Protective Technology Laboratory (NPPTL) and other professional organizations, inquiring about occupational health nurses' roles and responsibilities related to respiratory protection and nurses' education and training needs in this area.
2. Occupational health nurses should achieve and maintain knowledge and skills related to respiratory protection appropriate to their scope of practice.
3. Nursing education programs at all levels should include respiratory protection content appropriate to graduates' role and scope of practice.
4. Occupational health nurse educators should ensure essential respiratory protection content is included in graduate occupational health nursing programs and integrated into continuing education courses for these nurses.
5. Occupational health nursing education programs should develop, expand, and evaluate innovative teaching methods and resources to establish best practices in respiratory protection.
6. NPPTL should develop and maintain online resources about respiratory protection for the education of occupational health nurses.
7. NPPTL staff, in collaboration with relevant professional organizations, should explore the development of interdisciplinary core competencies related to respiratory protection that could be used to guide the education of occupational health nurses and other occupational health and safety professionals.

industry sector. The advisory team used the survey findings to submit a grant application to NIOSH, which approved and funded the proposal in August 2012 to develop respiratory protection competencies for occupational health nurses and other nurses responsible for protecting respiratory function (addressing a portion of Recommendations 7 and 2) and use the respiratory protection competencies to guide the development of instructional modules regarding respiratory protection (Recommendation 2). The work reported here was part of the Respiratory Protection Education, Competency, and Training Project, sponsored by NIOSH No. 254-2012-M-52637.

Why Competencies?

By achieving competence in respiratory protection, occupational health nurses can improve and expand the

care they deliver to workers. To develop competency, knowledge, and skill often requires education and skill-building. But before educational offerings are designed, the intended learner outcomes must be clearly identified to guide the development of educational objectives. Thus the development of the respiratory protection competencies, modeled after the AAOHN *Competencies in Occupational and Environmental Health Nursing* (2007), were an initial step in the process.

For practicing nurses, these competencies reflect proficiencies needed to perform a particular task or play a defined role (Oerman & Gaberson, 2013). Competencies are guidelines applicable to every occupational health nurse who may take on a variety of practice roles and address the continuum of practice experiences. AAOHN (1999) defines competencies as an outcome-oriented statement that describes the mastery of a particular skill or ability. For continuing competency, the primary responsibility rests with the health care professional who is expected to cope with an evolving scope of practice.

Benner's (1984) work, while focused on hospital nursing practice, has relevance for all types of nursing practice. Benner delineated five levels of expertise and practice from novice to expert; AAOHN uses three of Benner's levels (novice, proficient, and expert).

METHODS

A respiratory protection oversight team composed of six original advisory team members and four new members used a modified Delphi method to develop, review, and approve the respiratory protection competencies. The Delphi method is widely used to build consensus on a topic. Its advantages are anonymity and the avoidance of bias due to the influence of a single individual (Huss & Shadford, 2007). The Delphi method uses a series of reviews by a panel of experts who are asked to complete several rounds of drafts of, in this case, the proposed respiratory protection competencies. Multiple iterations were reviewed to achieve consensus by the expert panel. Responses to each round of reviews were analyzed by the oversight team to identify commonly occurring themes, summarized, and returned to the experts for review until consensus was achieved (Polit & Beck, 2008).

The Team

To establish content validity (Grant & Davis, 1997), the team formed to oversee the development of the respiratory protection competencies included recognized respiratory protection experts from the same four professional nursing organizations whose members had developed and administered the Respiratory Protection Survey and who have responsibility for the health and safety of workers at risk for experiencing occupational respiratory hazards. Five of the invited experts and the team leader were doctoral-prepared clinicians or academicians. Five more members were master's-prepared clinicians with significant respiratory protection experience in their practices. Several had published respiratory protection articles in peer-reviewed journals or books. Several members had publicly presented continuing education seminars on respiratory protection.

A nationally known respiratory protection expert from the NIOSH NPPTL served as consultant to the team. All members of the team contributed individually to the development, revision, and approval of the final version of the respiratory protection competencies document.

Procedures

During a series of telephone meetings, the team developed a framework for competency development based on three levels of achievement and level definitions, included in the *Competencies in Occupational and Environmental Health Nursing* (AAOHN, 2007). The initial items for the competencies were drafted from the 12 aspects of a respiratory protection program used to assess occupational health nurse competency and comfort from the 2012 Respiratory Protection Survey (Burgel et al., 2013) (Table 1). Currently, no specific OSHA respiratory protection competencies have been developed, so the first draft (*Aspects of the Respiratory Protection Competencies*) was closely aligned with the nine requirements of 1910.134 of the Occupational Health and Safety Administration Standard for Respiratory Protection (OSHA, 2011) (Table 2).

Review Experts

A modified two-round Delphi method was used to provide a qualitative peer review of the respiratory protection competencies. Reviewers were selected based on their clinical expertise with respiratory protection, their work with the Institute of Medicine's Respiratory Protection Report, their knowledge of competency and credentialing processes, occupational respiratory protection research or respiratory protection knowledge, or skills necessary to teach this content. The team expected that the reviewers had respiratory protection experience because they wanted to ensure that the drafted competencies adequately reflected the practice domain. Anticipating a 50% response rate, 17 occupational and environmental health respiratory protection experts were invited via e-mail to participate in the reviews.

Round 1. For the first round of review, experts received an explanation regarding the impetus for developing the competencies, including the Institute of Medicine's Respiratory Protection Report and the Respiratory Protection Survey with resulting publication of results. They received instructions and the first draft of the respiratory protection competencies. The team requested that participants respond within 4 weeks, an extended period due to a holiday season (December/January 2012). Participants were asked to provide feedback and suggestions with rationale and to offer comments on clarity and feasibility of implementation by most occupational health nurses with respiratory protection responsibilities. Nine reviewers participated.

At the end of the first round of expert panel review, the team met to conduct a qualitative analysis of the review results, which resulted in the following recommendations:

1. Use the 11 Standards of Occupational and Environmental Health Nursing and fit the aspects of respi-

TABLE 1

12 Aspects of a Respiratory Protection Program

1. Writing a respiratory protection policy
2. Identifying and assessing potential respiratory hazards that may be encountered in the workplace
3. Understanding how engineering controls and work practices are designed and evaluated to ensure employee exposures are limited
4. Proper selection of appropriate respiratory protective equipment
5. Training employees
6. Inspection, cleaning, and repair of respiratory equipment
7. Evaluating program by assessing employee views on program effectiveness
8. Medical evaluation of employees regarding respiratory fitness
9. Performing a fit test
10. Teaching recommended user seal check method
11. Spirometry testing
12. Emergency preparedness training (respiratory protection)

ratory protection competencies into the framework of assessment, diagnosis, outcomes identification, planning, implementation, evaluation, resource management, professional development, collaboration, research, and ethics (AAOHN, 2012).

2. Remove procedures such as spirometry because many occupational health nurses practicing in health care settings do not perform some of these functions. (Some functions may be handled by other professionals, such as respiratory therapists or technicians, who are not covered by these competencies.)
3. Increase the knowledge and skill level to more clearly address level of practice.
4. Match the competency level with behavioral action terms that will support the assessment of the performance level of the competency.

Based on reviewers' comments, the team revised the competencies, including fitting the *Aspects of the Respiratory Protection Competencies* into the 11 Occupational and Environmental Health Nursing Standards, shifting many aspects from one level to another, and improving the taxonomy and language of the various components. Before the respiratory protection competencies were released for the second round of expert panel review, each of the 11 aspects was reviewed against quantitative scores

TABLE 2

9 Required Program Elements for Occupational Health & Safety Standard for Respiratory Protection

1. Procedures for selecting respirators for use in the workplace
2. Medical evaluations of employees required to use respirators
3. Fit testing procedures for tight-fitting respirators
4. Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations
5. Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators
6. Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere supplying respirators
7. Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations
8. Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance
9. Procedures for regularly evaluating the effectiveness of the program

from the Respiratory Protection Survey (Burgel et al., 2013).

Round 2. Round 2 (March 2013) resulted in a 47% reviewer response rate. At the end of the second round of expert panel reviews, the team again met to qualitatively analyze the feedback that included the following:

1. Comments related to the complexity created when using the 11 Occupational and Environmental Health Nursing Standards.
2. Taxonomy still needed improvement and leveling consistent with novice to expert competencies.
3. Lack of emphasis on the nurse's role in training workers and management of respiratory protection programming.
4. The duplication of competencies on more than one level.

The team revised the competencies by simplifying and replacing the 11 standards with eight categories of Occupational and Environmental Health Nursing Competencies: Clinical Practice; Workforce, Workplace and the Environment (Surveillance); Regulation and Legislation; Management, Business and Leadership; Health Promotion and Disease Prevention; Health and Safety Education and Training (Workers); Research; and Professionalism (AAOHN, 2007). Spirometry was retained

TABLE 3

Occupational and Environmental Health Nurse Competency Levels for Respiratory Protection

<i>Category of Competency</i>	<i>Competent</i>	<i>Proficient</i>	<i>Expert</i>
Clinical Practice	<ol style="list-style-type: none"> 1. Conduct medical assessment (using Appendix C to section 1910.134 OSHA Medical Evaluation Questionnaire and other standards and guidelines), as appropriate 2. Interpret findings of the medical assessment to determine respiratory status of the worker 3. Collaborate and consult with other professionals (e.g., physicians, safety, industrial hygiene, infection control) to establish expected outcomes for worker respiratory health and protection 	<ol style="list-style-type: none"> 1. Assess potential respiratory hazards that workers may encounter in the work environment 2. Initiate appropriate goal-directed interventions using results of clinical, environmental sampling, and trending data to minimize worker exposure to respiratory hazards and attain expected, positive respiratory health outcomes 	<ol style="list-style-type: none"> 1. Interpret worker respiratory health outcomes 2. Lead the team in the development of appropriate respiratory protection programmatic changes
Workforce, Workplace and the Environment (Surveillance)	<ol style="list-style-type: none"> 1. Administer spirometry testing (according to NIOSH-approved spirometry training guidelines, if indicated), based on worker responses to respiratory questionnaire and protocol 2. Identify and recommend areas that may need engineering and administrative controls and/or personal protective equipment based on the potential risk for worker exposure expected, positive respiratory health outcomes 3. Select appropriate respiratory protective equipment based on the hazard(s) identified and the respirator's assigned protection factor 4. Perform respirator fit testing (as indicated) and teach manufacturer's recommended user seal check method <ol style="list-style-type: none"> a) Qualitative testing (e.g., Bitrex, Saccharin, Amyl Acetate/Banana Oil, and/or Smoke) b) Quantitative testing (e.g., PortaCount, Controlled negative pressure [CNP]) 5. Perform appropriate respiratory protection equipment maintenance, including inspecting, disinfecting, replacing, or sending defective equipment for repair 6. Ensure availability and access to appropriate respiratory protection 7. Participate in periodic clinical walkthroughs to inspect workers' proper use of respiratory protection 	<ol style="list-style-type: none"> 1. Monitor worker surveillance trends and medical examination results related to respiratory hazards for employees who are exposed 2. Identify the potential for previously unrecognized exposures 3. Assess, analyze, and manage respiratory hazards 4. Recommend engineering and administrative controls and/or personal protective equipment to minimize risk of worker exposures 	<ol style="list-style-type: none"> 1. Modify surveillance approaches to ensure early and comprehensive identification of respiratory hazards 2. Develop and manage the respiratory protection program and related components of the emergency management plans

TABLE 3 (cont'd)

Occupational and Environmental Health Nurse Competency Levels for Respiratory Protection

Category of Competency	Competent	Proficient	Expert
Regulation and Legislation	<ol style="list-style-type: none"> 1. Maintain current knowledge of legal standards pertaining to federal and state respiratory protection 2. Advocate for respiratory protection regulations that are in the best interest of worker health 	<ol style="list-style-type: none"> 1. Monitor respiratory legislation to ensure that all aspects of the respiratory protection program are in compliance 	<ol style="list-style-type: none"> 1. Ensure maintenance of legal compliance with the respiratory protection standard 2. Respond to respiratory legislative matters
Management, Business, and Leadership	<ol style="list-style-type: none"> 1. Track trending of data over time to identify early changes in respiratory health outcomes 2. Identify key components of the OSHA Respiratory Protection Standard 1910.134 that apply to facility 3. Identify opportunities for improvement of the facility's respiratory protection program 	<ol style="list-style-type: none"> 1. Promote policy development and implementation to protect and promote worker health and a healthy work environment 2. Recommend to health care team expected outcomes and solutions for maintaining/improving worker respiratory health based on workplace assessment findings 3. Based on workplace assessment findings, recommend to health care team expected outcomes and solutions for maintaining/improving worker respiratory health and protection 4. Identify internal and external resources, assets, and capabilities that may be used for emergency response to any hazardous exposures requiring respiratory protection 5. Provide input into the evaluation of the effectiveness of the respiratory protection program 6. Monitor and evaluate appropriate use of respiratory protection and worker health status, including readiness for emergencies in collaboration with other stakeholders, supervisors, managers, safety, infection control, industrial hygiene, health care providers, and environmental professionals 7. Collaborate with and provide information to stakeholders, supervisors and managers, safety, infection control, industrial hygiene, health care providers, and environmental protection to monitor and evaluate appropriate use of respiratory protection and worker health status, as well as readiness for emergencies 	<ol style="list-style-type: none"> 1. Function as the program administrator with knowledge of respiratory protection, contamination toxicity, aerosol behavior, and pathophysiology to develop organizational policies and procedures to reinforce implementation of recommended controls and ensure effective monitoring of worker health and protection 2. Serve as a consultant to unions, business, and government related to respiratory protection 3. Develop continuous quality improvement methods to maintain the effectiveness of worker respiratory health programs, including use of recommended controls, respiratory protection, program satisfaction, and education

TABLE 3 (cont'd)

Occupational and Environmental Health Nurse Competency Levels for Respiratory Protection

<i>Category of Competency</i>	<i>Competent</i>	<i>Proficient</i>	<i>Expert</i>
Health Promotion and Disease Prevention	<ol style="list-style-type: none"> Promote respiratory protection program and annual safety training to protect and promote workers' proper use of respiratory protection Collect data on respirator use and compliance of workers 	<ol style="list-style-type: none"> Implement a goal-directed respiratory protection program and plans that protect workers Employ behavior change and motivating techniques with workers to support their consistent and correct use of respiratory protection 	<ol style="list-style-type: none"> Influence and/or support a culture of health and safety regarding respiratory protection Design data collection forms to facilitate accurate data for analysis Analyze audit trends of respirator use and provide recommendations to improve worker compliance with respiratory protection
Health and Safety Education and Training (Workers)	<ol style="list-style-type: none"> Educate workers when, what kind, and how to use respiratory protection, including <ol style="list-style-type: none"> donning and doffing of respirators (e.g., differentiate masks, respirators, and other types of personal protective equipment) how different types of respiratory equipment mitigate exposure to droplets, aerosols, dusts, mists, fumes, vapors, and gases Monitor annual education requirements 	<ol style="list-style-type: none"> Educate union representatives, supervisors, purchasing agents, and others about respiratory protection use and respiratory health Evaluate annual education compliance 	<ol style="list-style-type: none"> Educate or be responsible for educating other health professionals and the community about respiratory health and respiratory protection Mentor other occupational and environmental health nurses in respiratory protection Develop a plan to improve annual and ongoing education for respirator use
Research	<ol style="list-style-type: none"> Apply research findings together with clinical judgment and worker preferences to improve worker protection 	<ol style="list-style-type: none"> Share research findings with the respiratory protection program team Make recommendations for new research initiatives for worker respiratory health and protection, as well as participate in designed worker health research 	<ol style="list-style-type: none"> Design, conduct, mentor, and advocate for ongoing surveillance/research initiatives to evaluate and reinforce the operation of respiratory protection programs and worker practices
Professionalism (Occupational and Environmental Health Nurse)	<ol style="list-style-type: none"> Create a professional development plan to develop and maintain competency in worker respiratory protection, including <ol style="list-style-type: none"> initial NIOSH-approved spirometry and recertification trainings how different types of respiratory protection mitigate exposure to droplets, aerosols, dusts, mists, fumes, vapors, and gases Use an ethical and legal framework to preserve worker rights while promoting worker respiratory protection 	<ol style="list-style-type: none"> Serve as a resource/mentor among those who are novices in respiratory protection programs Monitor the implementation of policies and procedures, ethically and legally, that guarantee workers' rights for respiratory protection 	<ol style="list-style-type: none"> Manage the respiratory protection program content in occupational health nurse training or education

and various aspects were moved to multiple levels within the competencies because Respiratory Protection Survey results indicated that one of the learning methods associated with higher competence and comfort was participation in a NIOSH spirometry course (Burgel et al., 2014). The taxonomy was improved, “training” was interspersed throughout the levels, and duplication was removed.

FINDINGS

Table 3 displays the final Occupational and Environmental Health Nurse Competency Levels for Respiratory Protection. Respiratory protection competencies for occupational health nurses have three levels of practice for each competency: competent, proficient, and expert. There are eight categories of competency: clinical practice, workplace surveillance, regulation and litigation, management/business/leadership, health promotion and disease prevention, health and safety education/training, research, and professionalism. There are nine required elements for a respiratory protection program: procedures for selecting respirators; medical evaluation of employees; fit-testing for tight-fitting respirators; procedures for use of respirators in routine and emergency situations; procedures to ensure adequate air quality, quantity, and flow; training employees about potential respiratory hazards in routine and emergency situations; training employees in the proper use of respirators; and program evaluation.

LIMITATIONS

To ensure full implementation, the respiratory protection *Competencies for Occupational and Environmental Health Nurses* must be widely distributed to and adopted by occupational health nurses in practice, academia, and research. A strong set of respiratory protection test items should be included on the occupational health nurse and occupational health nurse specialist certification examinations. The competencies should be fully communicated to colleagues and partners in occupational health (e.g., industrial hygienists, infection control professionals, safety professionals, and management). These colleagues, knowledgeable vendors, and companies that manufacture, test, and distribute respiratory protection equipment can encourage occupational health nurses to become fully competent in respiratory protection.

CONCLUSION

A two-round modified (qualitative) Delphi method was used to develop respiratory protection competencies for occupational and environmental health nurses. The final matrix of competencies can be used by clinicians to evaluate their own performance. The competencies can also be used by practice leaders to improve the quality of care delivered by staff to workers, develop policies and procedures that support the respiratory protection program, and as performance evaluation criteria for staff. The occupational health nurse respiratory protection competencies will assist clinicians in the assessment of their current programs and the development of future programs.

Researchers can use the competencies to measure the quality of respiratory protection programming; the more

IN SUMMARY

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- 1 Occupational and environmental health nurses must learn to conduct workplace assessments, develop health and safety policies, and provide effective respiratory protection education programs to reduce the effects of respiratory hazards.
- 2 The findings from a nationwide survey of occupational and environmental health nurses relative to respiratory protection, input from a nationally known respiratory protection expert from NIOSH, and a panel of experts were used by the oversight team to develop the respiratory protection competencies for occupational and environmental health nurses.
- 3 The respiratory protection competencies should be used by occupational and environmental health nurses to evaluate their current respiratory protection policies and programs and develop new ones as appropriate.

proficient and expert the nurse, the better the quality of care. The competencies can serve as the basis for an assessment tool and represent the cornerstone of successful respiratory protection programs. Plus the competencies can be used to evaluate conclusions drawn from research. Sometimes researchers complete studies but few recommendations for interventions can be presented. In the case of respiratory protection competencies, researchers can have confidence that they were thoroughly reviewed by practitioners, academics, and researchers.

The competencies can be used by academicians to inform the development of educational curricula and materials. The competencies can be used in grading graduate and doctoral nursing students who achieve proficiency and expert levels of practice and can manage programs. These graduates can mentor undergraduates, staff nurses, and those nurses new to respiratory protection. Continuing education and professional development specialists can use the competencies to guide and educate occupational health nurses in completing competency levels appropriate to their practice, ultimately achieving competencies at several levels within the *Competencies in Occupational and Environmental Health Nursing*.

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