

# Respiratory Therapists



## Occupational Brief Title Codes:

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## Work Classification Based Related

### D.O.T. Occupations:

- Music Therapists
- Occupational Therapists
- Recreational Therapists
- Speech Pathologists

## Interests Based Related

### G.O.E. Occupations:

- Cardiac Catheterization Technologists
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- Exercise Physiologists
- Nuclear Medicine Technologists

## Skills Based Related

### O\*NET Occupations:

- Dental Hygienists
- Physical Therapists
- Physician Assistants
- Surgical Technologists

## Noteworthy Quote:

*“Respiratory care is a growing field with many opportunities opening up everyday. As a career it offers excellent job security and allows me to work with a diverse group of other medical professionals and patients. I also find helping to care for people extremely satisfying.”*

**Brian Mathews**  
Respiratory Therapist  
Syracuse, New York

**Respiratory therapists** ('res-pi-ra-to-ry 'ther-a-pists) under the direction of a physician, evaluate, treat, and care for patients with breathing disorders.

The respiratory system is the body's breathing network. The brain, heart, lungs, muscles, nerves, and blood all help to get oxygen to the brain and the body. If one part is hurt or not working, breathing may become difficult or stop. Without oxygen, a person will suffer serious brain damage within minutes, and after nine minutes irreversible brain damage can occur.

Blows to the head, drugs or poisons, heart failure, shock, or drowning call for quick treatment to restore breathing. However, persons with asthma, emphysema, and other chronic illnesses also require help to breathe. Premature infants often need help breathing. Respiratory therapy is also concerned with disorders associated with cigarette smoking and air pollution.

## Work Performed

Respiratory therapists first evaluate patients. They examine the chest and air passages and may have patients perform breathing tests to aid in the diagnosis of respiratory ailments. The patient blows into a tube connected to an instrument that measures the flow and volume of air. The reading on the instrument, compared with normal values, can tell therapists whether the patient has lung deficiencies. They may also test the capacity of the lungs and analyze the concentration of oxygen, carbon dioxide, and other gases in the blood and exhaled air.

To analyze the amount of oxygen and carbon dioxide in the body, as well as the acid-base balance in the body, respiratory therapists may do a blood gas test. They draw blood from an artery and put the sample in a blood gas analyzer. They report the results to a physician attending the patient.



*Under the direction of a physician, respiratory therapists evaluate, treat, and care for patients with breathing disorders.*  
Photo by COEI

In treating patients, respiratory therapists may give oxygen, medical gas mixtures, humidity therapy, and aerosol therapy to patients with ailments that affect breathing. These workers follow physicians' orders to treat patients with heart failure, asthma, emphysema, pneumonia, and other pulmonary diseases.

Therapists can assist in the mechanical airing of the patient by connecting the patient to a ventilator, a machine that delivers air into the patient's lungs. They may also use oxygen masks, nasal cannulas, tents, and humidifiers. Patients sometimes inhale medicine in the form of a spray or aerosol when treatment is for the lungs only.

Respiratory therapists spend a great deal of time monitoring and assessing patients using oxygen equipment or ventilators. They check the patients regularly. If patients are having trouble, they recommend and discuss with a physician changes in patient care. They also check the equipment to see that it is working correctly.

Respiratory therapists also treat patients who have had surgery. In some hospitals respiratory personnel visit patients before and after surgery to teach them respiratory exercises that help reduce postoperative respiratory complications. Since the anesthesia slows the patient's breathing and postoperative pain can interfere with coughing, respiratory care helps restore deep breathing. It also helps prevent respiratory complications that might hinder recovery.

Respiratory therapists perform chest physiotherapy on patients who need help removing mucus from their lungs. They percuss and vibrate the rib cages to help loosen and drain mucus from the lungs.

In emergency care respiratory therapists help revive near-drowning victims or sufferers of smoke inhalation. They may treat others having a hard time breathing because of drug poisoning or a head injury. Therapists help restore breathing to patients whose heart action and breathing have stopped.

Therapists also keep records of materials used and charges to patients. Respiratory care units and pulmonary laboratories have computers that monitor patients and print records. These computers instantly spot changes either in a patient or in the equipment. They alert the therapists by printouts or by audiovisual setups.

Increasingly, ventilators and other life-support systems are serving patients at home. In home care, respiratory therapists show patients and family members how to use equipment and how to give respiratory care.

Respiratory therapists are increasingly expected to perform duties that fall outside their traditional role. Among the new tasks are performing cardiopulmonary procedures like electrocardiograms and stress testing, as well as drawing blood samples.

**Certified respiratory therapists** give most of the bedside care to patients. They carry out noncritical respiratory

treatments such as administering oxygen and other gases, conducting breathing treatments, and setting up equipment. They also clean, sterilize, and maintain respiratory equipment. They also record the treatments and therapies the patients receive. They usually work under the supervision of a **registered respiratory therapist**.

### **Working Conditions**

Most respiratory therapists work in hospitals and medical buildings, where they deal with patients and with other health care staff. These specialists spend long periods standing and walking. In an emergency, they work under severe stress. The gases they use are potentially hazardous because they are used and stored under pressure. In addition, like other health care workers, they are at risk of contracting infectious diseases. However, following proper procedures and regular maintenance and testing of the equipment can minimize these risks.

### **Hours and Earnings**

Although respiratory therapists usually have a forty-hour workweek, they may work any shift. They may also work weekends or rotate these shifts.

The earnings of respiratory therapists depend on the employer, the locale, and the education and experience of the workers. According to the Bureau of Labor Statistics, in 2000, earnings for respiratory therapists ranged from around \$13.00 to over \$24.00 an hour. Annual wages ranged from \$28,000 to over \$50,000 a year. Fifty percent earned between \$15.45 and \$20.88 an hour, or \$32,140 and \$43,430 a year. The average was \$18.37 an hour, or \$38,220 a year.

Most hospitals, medical centers, and other large employers offer paid vacations and holidays, medical insurance, sick leave, pension plans, and other benefits. Some offer tuition plans for those who want to complete a program of study or update their knowledge and skills.

### **Education and Training**

Admission into an accredited educational program requires a high school diploma or the equivalent. High school students interested in a career in respiratory therapy should take courses in health and biology. Respiratory therapy also involves an understanding of basic mathematical problem solving and familiarity with chemical and physical principles.

Colleges and universities, community colleges, vocational schools, medical schools, hospitals, and the Armed Forces offer training in this field. Respiratory care programs range from two- to four-years in length, and award an associate or bachelor's degree for successful completion. Upon graduation, candidates are eligible to take a national voluntary examination to become certified respiratory therapists (CRTs). CRTs are then eligible to

take two more examinations to become registered respiratory therapists (RRTs). In 2000, the Committee on Accreditation for Respiratory Care (CoARC), accredited 334 RRT programs and 102 CRT programs in the United States.

Respiratory care programs consist of both class study and clinical training. Subjects include human anatomy and physiology, chemistry, physics, microbiology, and mathematics. Respiratory therapy requires an understanding of principles such as general gas laws, the states of matter, chemical reactions, and the periodic table. They learn to compute medication dosages and calculate gas concentrations. In clinical training, they practice with equipment, procedures, tests, and working with patients. For example, students learn to judge the condition of patients with a breathing illness, ailing kidneys, or heart disease.

### **Licensing, Certification, and Professional Societies**

Forty-two states require the licensing of respiratory therapists. The National Board for Respiratory Care (NBRC) offers voluntary certification and registration to graduates of CoARC-accredited programs. Graduates from 2- and 4-year programs in respiratory therapy may take the CRT examination. CRTs who meet education and experience requirements can then take two additional examinations, leading to the award of RRT. Overall licensing requirements vary by state, but the CRT and RRT examination are generally the standard.

Respiratory therapists may also belong to professional and health care organizations. For example, many respiratory therapists belong to the American Association for Respiratory Care (AARC). AARC has over 35,000 members, and is primarily responsible for ensuring that the standards of care and practice in the profession are developed and maintained. It also develops educational and networking opportunities for its members and monitors both federal and state legislation that might affect the health and health care of this nation.

### **Personal Qualifications**

Persons in respiratory care careers should enjoy working with people. They need patience and understanding in order to be sensitive to patients' physical and emotional needs. They should be detail-oriented, exact, and able to follow instructions. Mechanical ability and manual dexterity are needed to operate complicated equipment.

Respiratory therapists should be able to work as part of a team with doctors, nurses, and other health-care personnel. They should also be able to take responsibility. They must be alert and attentive, and quick to act in a crisis, and able to tolerate the stress that occurs in an emergency.

Occupations can be adapted for workers with disabilities. Persons should contact their school or employment

counselors, their state office of vocational rehabilitation, or their state department of labor to explore fully their individual needs and requirements as well as the requirements of the occupation.

### **Where Employed**

In 2000, respiratory therapists held about 110,000 jobs. About 80 percent of all respiratory therapists are employed in hospitals. They work in departments of respiratory care, anesthesiology, or pulmonary medicine. Others work in clinics, physicians' offices and group practices, in long-term care centers, and as educators. Some respiratory therapists work for oxygen equipment rental firms, in home care, or for ambulance services.

### **Employment Outlook**

The employment of respiratory therapists is expected to increase steadily in the years ahead. The growing number of middle-aged and elderly people in the population, who are the most likely to have cardiopulmonary and respiratory ailments, will heighten the need for respiratory therapists. The impact of environmental problems that have already contributed to the yearly rise in number of reported asthma cases will also increase the need for respiratory therapists.

Another element in the employment of respiratory therapists is the advanced technology now available for treating seriously ill or injured people. For example, the latest treatments for heart attack, cancer, and accident victims, as well as premature babies require the services of trained respiratory care practitioners. Technological and medical advances are also increasing employment opportunities for respiratory therapists in home health care.

### **Entry Methods**

High school graduates should apply for entry to an accredited respiratory care program. They may enroll in a two-year or four-year program for therapists. Graduates of these programs may find jobs through their school placement office. They may also apply to hospitals or other employers of respiratory therapists. Medical journals, newspaper ads, and employment agencies may also list jobs. The American Association for Respiratory Care and other health care organizations also maintain job postings on the internet.

### **Advancement**

Certified and experienced therapists who pass the tests of the National Board for Respiratory Care should have little trouble advancing. In some states, continuing education is required for respiratory therapists through workshops, seminars, and other studies. People who keep up with new medicines and techniques or who earn an advanced degree have a better chance of promotion.

Advancement begins when therapists move from general respiratory care to respiratory care for very ill

patients or those who need special attention and treatment. Experienced, knowledgeable therapists may become specialists in neonatal care or cardiopulmonary care. They may advance to become chiefs, shift leaders, lead respiratory therapists, managers, and then department directors. They may also go into health services administrative work or teaching. Many advanced or teaching positions in health care require a bachelor's or a master's degree.

#### **For Further Research**

**American Association for Respiratory Care**, 11030 Ables Lane, Dallas, TX 75229-4593. Web Site: [www.aarc.org](http://www.aarc.org)

**F. A. Davis Company**, 1915 Arch Street, Philadelphia, PA 19103.

*Critical Thinking: Cases in Respiratory Care.*  
Kathleen J. Wood and Robert L. Wilkins. 151 pages. \$26.95.

**W.W. Norton & Company**, Order Department, Dept. I, Keystone Industrial Park, Scranton, PA 18512.

*Breathe Right Now: A Comprehensive Guide to Understanding and Treating the Most Common Breathing Disorders.* Laurence A. Smolley, Debra Fulghum Bruce, and Rob Muzzio. 288 pages. \$25.00.

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