Perfusionist

A perfusionist is a skilled person, qualified by academic and clinical education, who operates extracorporeal circulation equipment during any medical situation in which it is necessary to support or temporarily replace the patient's circulatory or respiratory function. The perfusionist is knowledgeable concerning the variety of equipment available to perform extracorporeal circulation functions and is responsible, in consultation with the physician, for selecting the appropriate equipment and techniques to be used.

History

The field of cardiovascular perfusion emerged in the mid-1960s, with most of its practitioners trained on the job until the mid-1970s. Trainees often come from other disciplines: nursing, respiratory therapy, biomedical engineering, surgical technology, monitoring technicians, and the laboratory sciences.

In 1972, the American Society of Extra-Corporeal Technologists (AmSECT) began a program of certification for perfusionists. In 1975, this program was turned over to a new agency established to conduct certification as an independent activity: the American Board of Cardiovascular Perfusion (ABCP). The ABCP also adopted minimum standards for training programs as developed by AmSECT and began evaluation and accreditation activities. The following year, the AMA Council on Medical Education (CME) granted recognition of the occupation.

The *Standards (Essentials) and Guidelines for an Accredited Educational Program for the Perfusionist* was adopted in 1980, and accreditation of programs began in 1981. The *Standards* was recently revised in 2005.

Career Description

A perfusionist is a skilled allied health professional, trained and educated specifically as a member of an open-heart, surgical team responsible for the selection, setup, and operation of a mechanical device, commonly referred to as the heart-lung machine.

During open heart surgery, when the patient's heart is immobilized and cannot function in a normal fashion while the operation is being performed, the patient's blood is diverted and circulated outside the body through the heart-lung machine and returned again to the patient. In effect, the machine assumes the function of both the heart and lungs.

The perfusionist is responsible for operating the machine during surgery, closely monitoring the altered circulatory process, taking appropriate corrective action when abnormal situations arise, and keeping both the surgeon and anesthesiologist fully informed.

In addition to the operation of the heart-lung machine during surgery, perfusionists often function in supportive roles for other medical specialties in operating mechanical devices to assist in the conservation of blood and blood products during surgery, and provide extended, long-term support of patients' circulation outside of the operating room environment.

Employment Characteristics

Perfusionists primarily work in the operating room during cardiac surgery procedures, and may be employed by the hospital, by surgeons, or as employees of a contract independent group practice. The majority of procedures are performed during regular weekly work hours. As a critical member of the clinical team, perfusionists are required to take call and be available for emergency procedures, which can occur at any time. The call schedule depends on the number of perfusionists employed by the institution.

Salary

Perfusionists are well compensated for their services. According to the American Society of Extra-Corporeal Technology (AmSECT), the average base salary range for practicing perfusionists is as follows:

- Recently graduated perfusionist: $60,000-$75,000
- Perfusionist with 2 to 5 years experience: $70,000-$90,000
- Perfusionist with 6 to 10 years experience: $80,000-$100,000
- Perfusionist managers: over $100,000

For more information, refer to *www.ama-assn.org/go/hpsalary*.

Educational Programs

Length. Programs are generally one to four years, depending on the program design, objectives, prerequisites, and student qualifications. Certificate programs require that applicants have a bachelor's degree.

Prerequisites. Prerequisites vary depending on the length and design of the program. Most programs require college-level science and mathematics. A background in medical technology, respiratory therapy, or nursing is suggested for some programs.

Curriculum. Curricula of accredited programs include courses covering heart-lung bypass for adult, pediatric, and infant patients undergoing heart surgery; long-term supportive extracorporeal circulation; monitoring of patients undergoing extracorporeal circulation; autotransfusion; and special applications of the technology. Curricula include clinical experience, which incorporates and requires performance of an adequate number and variety of circulation procedures.

Inquiries

Careers

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Certification

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