JOB SUMMARY
Selects, assembles, operates, monitors, and maintains artificial extracorporeal circulation apparatuses used to support or replace a patient's cardiac and/or pulmonary function during a variety of surgical and therapeutic procedures.
(Additional details below)

QUICK FACTS
The Wage
- 2008 - 2009 $26.39-32.89 per hour
- 2009 - 2010 $27.18-33.88 per hour

TRAINING / EXPERIENCE NEEDED
- Graduate of a recognized accredited Cardiovascular Perfusion program and eligible to be certified by the Canadian Society of Clinical Perfusion.
- One year recent related experience or an equivalent combination of education, training and experience.

SKILLS AND ABILITIES NEEDED
- Ability to operate related perfusion equipment.
- Ability to communicate effectively both verbally and in writing.
- Ability to deal effectively with others, including medical and nursing staff, patients and hospital department Directors.
- Physical ability to carry out the duties of the position.
- Ability to organize work.

RELATED LINKS
- Canadian Society of Clinical Perfusion

POST-SECONDARY INSTITUTIONS
- The Michener Institute for Applied Health Sciences (link) – Cardiovascular Perfusion Graduate Diploma

PROGRAM LENGTH
- 16 months full time

ADMISSION REQUIREMENTS
Applicants to the Cardiovascular Perfusion program must possess qualifications from either of these two options:
Option A
- Bachelor's degree AND
- Respiratory therapist (RRT) or Registered Nurse (RN), AND
- Critical care experience within the last 5 years
- Equivalent qualifications will be assessed on an individual basis

Option B
- Bachelor's degree AND
- Successful completion of the following university courses:
  - Anatomy (with Lab) or Physiology
  - Algebra or Calculus
  - General Physics (including lab component)
  - Physical Chemistry
  - General Sociology, Psychology, or Philosophy

Suggested Courses:
- Organic Chemistry
- Biochemistry

Michener Institute requirements, More details. Subject to change. Requirements will vary between educational facilities.
JOB TASKS - A SAMPLE

- Assembles, selects, monitors, maintains and operates perfusion equipment to support or replace the patient's respiratory and circulatory functions. This equipment includes: blood pumps, blood oxygenators, heart-lung machines, intra-aortic balloon pumps, long term extra-corporeal membrane oxygenation apparatuses, ventricular assist devices, and other extra-corporeal circulation equipment.

- Consults the medical staff and makes decisions regarding the application of techniques such as hemodilution/hemoconcentration, hypothermia/hyperthermia, and blood salvage techniques. Monitors equipment and physiological responses and makes adjustments as required.

- Administers drugs, blood products, anaesthetic vapours, and crystalloid solutions, as specified and approved by the Pharmacy and Therapeutics Committee, and as directed by the surgeon and/or anaesthetist.

- Maintains, assembles, and operates monitoring and support equipment for cardiovascular and thoracic procedures.

- Maintains, assembles, and operates the cell saver in the operating rooms.

- Assists the surgeon and anaesthetist with the preparation and insertion of non-invasive and invasive monitoring devices in the operating room such as transesophageal echocardiographs, electrocardiographs, Swan-Ganz catheters, arterial and venous catheters, and intra-aortic balloon catheters by inserting radial artery monitoring lines and scrubbing and assisting with radial artery cut down.

- Provides intra-operative and follow-up heparin/protamine analysis for cardiac and other surgical procedures as required.

- Conducts quality assurance and safety checks and maintains perfusion equipment such: heart-lung machines, temperature control modules, intra-aortic balloon pumps, blood gas and electrolyte analysers, heparin management systems, cell savers, trancosophageal echocardiograph equipment, and physiological monitoring devices. Equipment that is malfunctioning is reported to the Biomedical Engineering department.

- Performs blood flow measurements on cardiac and other procedures.

- Assists in the transfer of post surgical cardiac patients to the cardiovascular unit. Connects and calibrates all the monitoring lines to the computerized monitoring systems in the cardiovascular unit upon transfer.

- Performs blood gas and electrolyte analysis in the operating room.

- Maintains related patient records of the cardiopulmonary bypass surgical procedures. Reviews for completeness and accuracy, making additions and revisions as necessary.

- Participates in the perfusion education program by training perfusion practicum students in the operating room and demonstrating perfusion procedures and equipment operation.

- Participates in the evaluation and selection of supplies and equipment.

- Practices emergency procedures to maintain skills in emergency procedure protocols as outlined in the departmental Policies and Procedures Manual.

- Participates in an ongoing program of seminars and research projects in the hospital and attends approved provincial, national, and international seminars to maintain required professional accreditation.

- Performs other related duties as assigned.