Job Class Profile:

Cardiovascular Perfusion Technologist

Pay Level:

CG-39

Point Band:

882-915

						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	Total
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	Points
Rating	6	4	4	8	5	5	5	3	6	
Points	280	67	25	38	150	108	103	64	64	899

JOB SUMMARY

The Cardiovascular Perfusion Technologist is responsible for maintaining cardiopulmonary support during operative procedures through the operation and maintenance of highly specialized and technical equipment such as intra-aortic balloon pumps, auto transfuses, cell saver devices, and related equipment. Administers intravenous drugs such as anaesthetics, medical gases, fluids, and blood products, employs therapeutic modalities during procedures, maintains inventories of equipment and supplies, provides in-services training to staff, and prepares records of the procedures performed.

Key and Periodic Activities

- Operates and maintains the heart and lung machine, autotransfusion devices, intra-aortic balloon pump (IABP), and other ventricular assistive devices; administers intravenous drugs, medical gases, fluids, and blood products as required, and as ordered by the physician, employs therapeutic modalities such as hemoconcentration, hypothermia, and hemodilution.
- Reviews patient's medical chart to determine appropriate components for the cardiopulmonary circuit, assesses hemodynamic and blood work results, and makes appropriate changes to equipment and techniques.
- Provides technical services related to equipment including quality assurance, minor repair, assembly, calibration, operation, sterilization, minor adjustments of equipment, routine maintenance, testing, and evaluation of new equipment.
- Provides education in-services to medical and nursing staff and the public and community groups.
- Participates in cardiopulmonary research.
- Orders routine supplies and monitors for adequate inventory levels

SKILL

Knowledge

General and Specific Knowledge:

- Cardiothoracic anatomy, physiology, pathophysiology, and surgical techniques.
- Comprehensive perfusion theory.

- Pharmacology, hemotherapy, and perfusion science.
- Critical Care.
- Specialized knowledge of cardiopulmonary equipment, mechanical pumps, and technology.

Formal Education and/or Certification(s):

Minimum: 2 Year (post) Cardiovascular Perfusion Diploma.

- Entrance into program requires undergraduate degree (Nursing or Respiratory Therapy) with at least 2 years of critical care experience within last five years.
- National certifying exam leading to professional designation, Certified Clinical Perfusionist (CCP).
- Current CPR (annual recertification).

Years of Experience:

— Minimum: 2 to 3 years.

Competencies:

- Critical thinking and problem-solving.
- Communication and organization skills.
- Computer technical skills.
- Machine calibration skills.

Interpersonal Skills

- A range of interpersonal skills are used to listen, ask questions, gather and provide information and direction, provide care and comfort, gain the co-operation of others, and instruct/teach. Additionally, provides expert advice to staff. Skills are used to listen and provide information to members of the surgical team.
- Communications occur with a range of contacts including members of the cardiac team, employees within immediate work area, and patients. Communications also occur with the manager, professional associations, students, suppliers, and sales representatives.
- The most significant contacts are with medical staff and nurses during operative procedures and other employees within the department.

EFFORT

Physical Effort

- The demands of the job occasionally result in considerable fatigue, requiring periods of rest, and a need for strength and endurance.
- Physical effort includes constantly lifting equipment weighing up 25 lbs., such as IABP consoles, cell-savers, and the heart-lung machine. Occasionally pushes or pulls patients weighing over 50 lbs. on stretchers, or transports patients to and from the operating room.
- Constantly sits or stands to monitor patients during procedures where there is limited ability to move about; however, occasionally other activities require walking.
- When setting up machines and other equipment, may kneel and bend in awkward or cramped positions. These activities also require fine finger precision work, gross and fine motor skills and very controlled and rapid physical movement and reflexes.

Concentration

- Visual concentration includes monitoring patient's temperature and monitoring of machines such as hemodynamic parameters, and machine flow rates.
- Auditory concentration is required to listen to physician directions during operating procedures, and to listen attentively to the equipment to ensure its functionality.
- The repetitive activities that require alertness are related to operating life support equipment for extended periods.
- Lack of control over the work pace occurs due to emergencies, equipment failure, or physician requirements. There are critical time pressures to respond and operate life support equipment which requires being on call 24/7.
- Exact results and precision and a higher level of attentiveness and alertness are required when making rapid adjustments to heart and lung machines, when responding to patients hemodynamic changes or to surgical interventions, drug administration, or flow calculations.

Complexity

- Tasks are repetitive/well defined, different but related, allowing the use of similar skills and knowledge.
- Typical challenging problems are responding to changes in a patient's hemodynamic status, making changes to equipment such as adjusting timing on the IABP console, or administering drugs. As well, when equipment malfunctions, responds by making changes or recalibrating machines as quickly and efficiently as possible.
- Problems tend to be addressed in a team setting and occasionally will require creative problem definition, analysis, and the development of solutions. Problems are often unique and multifaceted.
- Reference materials to assist in solving problems include manuals, guidelines, standards of practice, co-workers, and physicians.

RESPONSIBILITY

Accountability and Decision-Making

- Activities are performed in conjunction with the physician, anaesthetist, and other healthcare professionals in a team setting. Decisions are made with regards to operating equipment during operative procedures and there is flexibility given to the set up and running of equipment.
- Formal approval is required for capital equipment purchases, staffing, and overtime.
- Situations where discretion and judgement are exercised is when operating equipment and making decisions related to adjusting or changing procedures/techniques based on the patients' needs or condition.
- Provides physicians and the healthcare team information related to a patient's hemodynamic status and equipment/test results.

Impact

— Work can negatively or positively impact the quality of care provided to the patient. When procedures are performed accurately, a diagnosis can be made for the patient causing a positive impact on health and safety. Negative impact on patients, health and safety and the corporate image could be extreme in the event of an error or mistake and this would require immediate action.

- Work activities have an impact within the immediate work area, department, and within and outside the organization.
- The resources that are impacted are equipment (to ensure they are working properly), information (if correct information is not relayed to the physician), finances (supplies and drugs used), material resources, health and safety, and corporate image.
- Examples of possible errors are delivering air into the patient's circulation while on bypass and administering the wrong medication. There are extreme consequences for patients should life supporting equipment malfunction (could be the result of not checking equipment properly), or if non-critical components malfunction, it would cause delays in procedure.
- Consequences or impacts of errors are mitigated as work is performed in conjunction with other health professionals, where checks and balances are in place, and errors are immediately identified and resolved.

Development and Leadership of Others

- Not responsible for the supervision of staff.
- Provides on-the-job advice/guidance, direction, feedback, training and guidance to new staff as well as training and in-services to medical staff and nurses regarding new equipment.
- Performs as a team leader, either taking a lead on information in the databases (including the National Database System) and identifying statistics, identifying new development in treatments, or acts as a resource for other Perfusionist or the medical staff.

WORKING CONDITIONS

Environmental Working Conditions

- When assisting with procedures, required to wear lead aprons covering neck to knees, goggles/glasses, lead neck protector, gloves, hat, and mask.
- There is a limited likelihood of receiving minor injuries or illnesses and it is not likely that any fractures, partial, or full disability would occur when performing their activities.
- There is constant exposure to bodily fluids, waste and sharp objects. Regularly, there is exposure to unusual/distracting noise, odours, wet or slippery floors, and awkward or confined workspaces such as when sitting during procedures. Occasionally, exposed to infectious diseases, hazardous chemicals, radiation, fumes, limited lighting and ventilation, and glare from the machine monitors and computer screens.