Job Class Profile: Cardiovascular Technologist I

Pay Level: LX-28 Point Band: 717-751

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	5	4	4	8	4	3	3	2	6	
Points	233	67	25	38	120	65	62	43	64	717

JOB SUMMARY

The Cardiovascular Technologist I is responsible for operating specialized monitoring equipment during invasive cardiovascular procedures such as cardiac catheterization, coronary angioplasty, cardiac biopsy and pacemaker implant under the direction of a Cardiologist. The technologist monitors patients' vitals, heart rhythm, and blood pressure and operates equipment, documents and generates reports related to procedures.

Key and Periodic Activities

- Performs defibrillation for ventricular fibrillation, cardiopulmonary resuscitation (CPR), pacemaker hook-up, and threshold procedures.
- Monitors and records hemodynamic and electrocardiogram (ECG) data.
- During procedures, uses blood gas analyzers to analyze blood samples and records results such as blood gas information and activating clot time (ACT). Calculates and documents other data (i.e. calculation of valve flow/area, gradients, shunt determinations, cardiac output, cardiac index, oxygen consumption, pulmonary vascular resistance, ejection friction, and other related calculations). During percutaneous coronary intervention (PCI) procedures, records devices used and documents the case performance.
- Records and enters all procedure documentation into an electronic database. Records information such as patient's history, drugs administered, procedure, and procedure results. Organizes and compiles the data into a numerical and graphic formalized report and presents to attending physician. After checking to ensure all data is accurate moves patient to the pre-recovery department.
- Checks and replaces, if required, the temporary pacemaker batteries, analyzer, and transducer for accuracy. Sets up the sterile table used for cardiac catherization procedures.
- Provides technical assistance with pacemaker implant; obtains pacing threshold using pacemaker analyzer, records and monitors ECG during procedure, and prepares procedure report for Cardiologist signature. Under the direction of the Cardiologist, performs basic pacemaker programming and interrogation of pacemaker at time of implant. Under the direction of a qualified electrophysiologist, assists with the insertion of Implantable Cardioverter-Defibrillators (ICD). Prepares related documentation and generates reports of the procedures.
- Monitors equipment functionality and contacts appropriate personnel for servicing.

Key and Periodic Activities
— Checks supplies (balloons and stents) and other procedure inventory and replenishes procedure room as required. — Utilizes various computer systems for data entry, archiving, retrieval, and report generation. Also, accesses these systems for clinical teaching of students from various disciplines. — Supports and participates in approved research projects and protocols as required. — Enters all missing data related to patients medical history or procedure in database. — Utilizes pacemaker analyzer for evaluation of loop recorder implant. — May help with mailouts of information for ICD support meetings.

SKILL

Knowledge
General and Specific Knowledge: — Specialized areas (i.e. Intravascular Ultrasound or Coronary Artery). — Usage of cardiovascular equipment. — Testing procedures and guidelines. **Formal Education and/or Certification(s):** — Minimum: 2- 3 years (post-secondary) Diploma in Cardiovascular Technology. — Entrance to program requires the minimum of a 2 Year Diploma/Degree in Nursing, or Allied Health discipline. — BLS and Defibrillation Certification (annually). — Advanced Cardiac Life Support (ACLS) (biannually). — Required to attend regular inservices on technical equipment, fire response training, and confidentiality seminars. **Years of Experience:** — Minimum: 1-3 years of experience. **Competencies:** — Ability to work independently. — Patient care and focus. — Ability to multitask. — Computer skills.
Interpersonal Skills
— Interpersonal skills are used to listen or provide information, which sometimes can be complex, to patients, physicians, and professionals in the department; to provide care/comfort/nurturing to patients after procedures; to take a medical history, and to deal daily with people who are upset or angry. Interpersonal skills are also used to coach, mentor, or instruct/train staff and students to the department. — Communications occur with patients, employees, students, and supervisor in the immediate work area, department, and outside the department, but within the organization. Contact also occurs with suppliers/contractors, sales representatives, and professional associations.

EFFORT

Physical Effort

- The demands of the job occasionally result in considerable fatigue, requiring periods of rest and a need for strength and endurance.
- Regularly lifts supplies to restock procedure rooms or pacemaker analyzer less than 10 lbs. Occasionally lifts/moves or transports equipment, patients over 50 lbs. who may be heavily sedated or immobilized, from a stretcher to an x-ray table.
- Sits on a regular basis to monitor patients during procedures where there is limited ability to move about; however, occasionally activities involve walking and standing. There is an occasional requirement to physically handle patients in crisis situations to perform CPR, defibrillation, and temporary pacemaker implants and to work in awkward or cramped positions fixing ECG leads or performing CPR, and to use gross motor skills and equipment requiring rapid physical movement and reflexes.
- On a regular basis uses machinery that requires very controlled movement when assisting with procedures.

Concentration

- **Visual** concentration is required during procedures to monitor EKG status of patients to determine changes to heart rate, to check vitals, ECG and oxygen levels. When procedures are completed visual concentration is required to detect complications such as cardiac arrest, shortness of breath, pain, rash, or allergic reactions.
- **Auditory** concentration is required when performing procedures to listen and determine changes in patients ECG and oxygen levels; listen to ensure changes in monitoring equipment are correct; listen to physician's orders for drugs, equipment, and to understand and be able to document procedures.
- Sensory demands such as **touch** are required to attach electrodes and other devices/equipment to patients, and perform CPR and defibrillation procedures.
- The **repetitive** activities performed that require **alertness** are related to performing similar procedures on various patients.
- **Lack of control over the work pace** occurs due to emergencies, constant interruptions (personnel responding to codes, phone calls, overhead pages for physicians), and the demands for the service. There are critical **time pressures** in emergency situations to listen, answer questions, and perform the plan of care as indicated by the physician.
- **Exact results and precision and a higher level of attentiveness and alertness** are required when recording ECG levels, blood pressure, oxygen changes, or abnormal rhythms, when doing valve flow/area and shunt determinations calculations, and when analyzing blood samples for catheterization.

Complexity

- Regularly, tasks or activities are repetitive, well-defined; however, occasionally they are different, diverse, but allow for the use of similar skills and knowledge.
- Problems regularly have obvious solutions, but occasionally have a limited number of guidelines or procedures. Tasks are constantly highly technical and normally can be solved in a team setting.

- Typical challenging problems are performing CPR, defibrillation, preparing temporary pacemaker leads for temporary implants, and doing calculations for valve areas.
- There are guidelines that can be followed to address some issues and advice from cardiologists, other cardiology technologists, and manuals are available. Other resources are policies and procedures, reference materials, patient care coordinator, and manager.

RESPONSIBILITY

Accountability and Decision-Making

- Work tasks are highly monitored and controlled.
- Activities are performed under the direction of a Cardiologist in a team setting. Supervisory approval is required for the purchase of educational supplies and payment for expenditures for work related expenses.
- Uses independent discretion and judgement to call technical support for improper functioning of equipment and when discussing patient situations to keep information confidential. A high level of discretion and judgement is required when dealing with family members who may be upset or grieving.
- The information provided to physicians and the healthcare team relate to diagnostic results. Information and advice is provided to family members, students, and others regarding procedures.

Impact

- Work tasks 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 completed has an impact on patients, within the immediate work area, department, and within and outside the organization.
- The resources that are impacted are on equipment, information (entering patient data into database), finances (supplies and drugs used), material resources, health and safety, and corporate image.
- Examples of errors are making incorrect calculations for valve area or a pulmonary vascular resistance values, recording procedure data incorrectly, and not noticing equipment malfunctions. Consequences or impacts of errors could be moderate or severe depending on the error; however, these are mitigated as the work tasks are completed under the direction of a Cardiologist. There are checks and balances in place, and errors are immediately identified at the time of the incident.

Development and Leadership of Others

- Not responsible for supervision of staff.
- Provides on-the-job advice/guidance, and training to others and assists with clinical teaching of students from various disciplines.

WORKING CONDITIONS

Environmental Working Conditions
— When assisting with procedures, there is a requirement to wear lead aprons covering neck to knees, goggles/glasses, lead neck protector, gloves, hat, mask, and to pay close attention to safety precautions when operating the electrical defibrillator in case of receiving electrical shocks. — There is limited likelihood of receiving minor injuries or illnesses, partial or total disability. Constantly exposed to bodily fluids and waste and regularly to glare from the computer/equipment monitors/screens, limited ventilation, lack of privacy, and radiation. Occasionally exposed to infectious diseases (blood splatter), wet or slippery floors, electrical shocks, awkward or confining workspaces, and sharp objects (needle sticks).