

**Job Class Profile:            Laboratory and X-Ray Technician****Pay Level:                        LX-26                        Point Band:                        647-681**

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	5	3	4	5	3	3	4	2	6	
Points	233	50	25	24	90	65	83	43	64	677

**JOB SUMMARY**

The Laboratory and X-Ray Technician is responsible for collecting specimens and performing a variety of laboratory tests and procedures. Work also involves operating a variety of technical equipment and the Picture Archive Communication System (PACS) to manipulate and annotate images, and perform the more routine diagnostic imaging procedures.

**Key and Periodic Activities**

- Greets patients, reviews requests for tests/examinations, ensures accurate identification, and explains procedures/tests.
- Performs phlebotomy functions and/or takes other bodily specimens from inpatients and outpatients or receives samples from surrounding clinics.
- Enters required information into either log book or on electronic information systems.
- Prepares and performs routine laboratory tests (i.e. Complete Blood Count (CBC), cell counts, lipid, creatinine, pregnancy tests, blood grouping, cross match, etc.) manually or with the use of analyzers, and notifies the attending physician of any critical results.
- Centrifuges and procures blood products, and prepares specimens for shipment to larger laboratories for more specialized testing.
- Positions patients for x-rays, sets up and scans so that radiographic images are stored in the electronic PACS system. Tests performed are typically basic diagnostic imaging scans such as chest, ribs, spine, skull, facial, extremities and abdomen x-rays, etc., using stationary or portable equipment. In some situations, may perform certain special procedures.
- Retrieves images from PACS system, reviews the image for quality, annotates (i.e. notes placement, left or right side), and submits to PACS.
- Checks and maintains laboratory and diagnostic imaging equipment, runs quality control procedures, cleans and performs minor repairs and adjustments to equipment.
- Performs quality control procedures in the laboratory and on computed radiology systems.
- Orders and ensures proper inventory levels of supplies are maintained.
- Books laboratory and diagnostic imaging patient appointments.
- Compiles and submits monthly statistics for the Laboratory and Diagnostic Imaging Departments.

### Key and Periodic Activities

- Answers telephone inquiries from physicians, provides verbal reports to healthcare personnel, and gives information regarding preparation for tests/procedures.

## SKILL

### Knowledge

#### General and Specific Knowledge:

- Laboratory methods, procedures, and quality control.
- Organizational policies and procedures.
- Medical Sciences disciplines.
- Health and safety guidelines.
- Cleaning and sterilization techniques.
- Technical knowledge of equipment and its operation, and transportation of dangerous goods.

#### Formal Education and/or Certification(s):

- Minimum: Completion of a two year combined Laboratory and X-Ray Technology Program; or Completion of the Medical Laboratory Assistant Program (approximately 1 year), supplemented by a one year certificate in Diagnostic Imaging Technology.
- This class may be registered with the Canadian Society for Medical Laboratory Sciences (CSMLS) and/or the Canadian Association Medical Radiation Technologists (CAMRT).

#### Years of Experience:

- Minimum: 1 – 2 years of experience.

#### Competencies:

- Ability to use Laboratory and Diagnostic Imaging Information Systems.
- Manual dexterity.
- Multi-tasking.
- Organizational/time management skills.
- Oral and written communication skills.

### Interpersonal Skills

- A range of interpersonal skills are used to listen to others to gain information and advice, communicate with co-workers to ensure an efficient service is provided, provide care and comfort to patients or their family members, if they are anxious, nervous, or upset, provide patients with routine verbal and written instructions on specimen collection or procedures and deal with upset/angry people when tests/procedures are delayed and on a lesser basis to instruct/teach students or new staff, and to gain the cooperation of others.
- Communications occur with employees in the immediate work area, department/group, patients, suppliers, government departments, the public, funeral homes, professional advisors, and students related to various issues, as well as, technical services to repair equipment, and with courier service employees to facilitate deliveries.

- The most significant contacts are with employees within the immediate work area/department, employees in other departments, patients, and lead technologists.

## EFFORT

### Physical Effort

- Work demands regularly require exerting physical effort resulting in considerable fatigue requiring periods of rest and there may be a requirement strength and endurance.
- Regularly lifts or moves objects less than 10 lbs (i.e. tubes, sample, specimens, reagents), and objects 10 – 25 lbs (i.e. cases of tubes, specimen bottles and reagents, coolers with ice and samples, water jugs, etc.). Occasionally lifts transportation bags and coolers in preparation for specimen transportation that may be in the 25-50 lb range. May also be required to lift or move objects or patients over 50 lbs requiring gross motor skills, physical handling, pushing, and pulling (i.e. patient in their bed to collect blood, assist nurse/ambulance attendant move patients from stretchers to x-ray tables, lift children onto x-ray table, help elderly patients properly position themselves for procedures, and move portable x-ray machines).
- Regularly sits to perform tests, to view test results on the computer, register patients, and to print labels. Uses hand tools that require accuracy and steadiness or very controlled movement to obtain specimens, change reagents, or perform certain tests. Stands and sometimes for extended periods, walks to and from procedures, bends or stretches into awkward positions when performing specimen collection procedures or tests or transporting patients to and from x-ray table and/or stretcher; and cleaning, calibrating, or moving laboratory equipment. Constantly requires fine finger and precision work when using needles to extract specimens, when palpating for veins, using pipetting to make up reagents and dilutions, when entering data into the computer, and preparing specimen labels.

### Concentration

- **Visual** concentration is required to use needles to collect samples, read doctor's orders on requisitions, prepare and measure dilutions, solutions, or specimens, perform microscope work, observe patients during blood collection to ensure their health and safety, ensure correct information is attached to specimens and requisitions, check patient's information, scan and/or enter data or view results on the computer, look up reports, position a patient for procedures, assess whether a patient needs assistance during testing, and when completing computer work.
- **Auditory** concentration is required to listen to patients, doctors or other staff for information on specimens, tests, and or guidance on procedures, to answer and response appropriately to telephone calls, and to listen for alarms or beeps from diagnostic equipment, freezers, and incubators.
- Other sensory demands such as **touch** are used to palpate veins or other body parts during specimen collection and to properly position patients for testing.
- **High levels of attentiveness and carefulness** is required when entering data, observing patients during collection procedures to ensure they do not faint, when performing tests/procedures on aggressive patients for safety reasons, upon receipt of specimens to ensure patient information corresponds with the physicians orders and is correct on the specimen, when working around specimens or patients that may be infectious, when tests or procedures are complicated, and when working around flammable solvents.

- **Repetition requiring alertness** occurs when pipetting serums, examining and labeling specimens, entering specimen results, and compiling reports.
- **Exact results and precision** is required when collecting specimens, inserting needles, affixing labels to specimens, mixing or pipetting solutions, entering data, and reporting results, and when performing procedures on patients so as not to over or under expose them to radiation and to ensure they are positioned properly so retesting is not required.
- There is work under **time pressures and deadlines** when handling perishable samples, to perform tests some of which are urgent or “stat” requiring a quick turnaround time (i.e. life or death situations), and to complete documentation, or reports. **Interruptions** occur because of requests for information, when issues arise unexpectedly, or when priorities in workload change.
- There is **lack of control over the pace of the work** as often times there are unpredictable numbers of samples/specimens received or patients requiring procedures, when there are equipment malfunctions, breakdowns, or power outages, staff shortages, and patients with complicated medical conditions.
- **Eye/hand coordination** is required when making reagents, pipetting, pouring samples from one container to another, handling and inserting needles into patients’ veins, operating various types of laboratory equipment/machines, performing maintenance on equipment where there are very small parts that need to be changed, performing various tests/procedures, entering data into the computer, and collecting and preparing samples.

### Complexity

- Work typically involves a series of tasks that are quite different, but allow the use of similar skills and knowledge.
- Problems/challenges are often repetitive and well defined, but at other times are more complex such as when investigating Quality Control issues and troubleshooting analyzer problems. Duties are wide ranging but are generally repetitive and well defined with obvious solutions. Periodically tasks are different and unrelated for which there are a limited number of guidelines or procedures that exist.
- The most typical Diagnostic Imaging problems are resolving equipment breakdowns, and positioning difficult or resistant patients. In the Laboratory, the most typical problems encountered involve the collection of samples which may be difficult because of patients’ condition (i.e. newborns, medically compromised), requirements for testing (i.e. specimens may be perishable), and decisions related to the handling of specimens or requisitions without the proper information, or where equipment fails, urgent tests are not able to be performed, and trying to solve these situations which result in minor or major problem solving (i.e. sending specimens to outside laboratories or setting up new equipment). Other challenges involve situations around the handling and control of biohazards (i.e. animal pathogens).
- Problems/challenges tend to be addressed by consulting with technologists or the manager, reviewing and following manuals, policies, procedures, internet, guidelines, and advice from physicians, coworkers, and technical advisors. At times solutions may require the consulting of experts at other health centers.

## RESPONSIBILITY

<b>Accountability and Decision-Making</b>
<ul style="list-style-type: none"> <li>— Work tasks and activities are highly monitored and controlled, as there is some level of supervision in most of the daily tasks. Procedures are generally well defined; therefore, interpreting directions and applying guidelines to make decisions is limited</li> <li>— Without formal approval, ordering basic supplies needed for the day-to-day operations, general testing and procedural decisions including verifying results and whether tests need to be repeated, checked, and/or recollected, adequacy of specimens, equipment calibrations and maintenance can be performed. Independent communication with applicable diagnostic facilities or providing advice to outside agencies related to laboratory tests/procedures and determining the quality of images and whether to repeat procedures is also permitted.</li> <li>— Formal approval is required to make changes to policies and procedures, request maintenance repairs, arrange flights for urgent samples, make large purchases, attend conferences and workshops, communicate with media, and organization commitments. Results of tests that are abnormal would be discussed with the lead technologist before releasing findings to physicians.</li> <li>— There is some discretion permitted to interpret directions and apply guidelines with daily routine testing, to ship samples, perform non-urgent tests during weekends when there may be limited staff, when determining the order of patients testing depending on their conditions and urgency, and in some cases which diagnostic tests to perform. Situations where there is some discretion to exercise within predetermined limits and procedures is related to contacting a physician if the incorrect test was ordered on a patient or correct information is not given, when to call a physician with an abnormal report, and to discuss confidential information on patients with coworkers. A high degree of independent discretion and judgment are used during weekends, evenings, or when on-call and there are limited staff available and during trauma cases where obtaining images may require the need to improvise procedures.</li> </ul>
<b>Impact</b>
<ul style="list-style-type: none"> <li>— Impact of work activities generally affect the immediate work area, department, in and outside the organization, and patients.</li> <li>— Activities can either negatively or positively affect the diagnosing, treatment of diseases, and care of patients.</li> <li>— Work activities impact equipment (i.e. its functioning and accuracy in reporting), processes and systems, information (i.e. validity of tests), finances (i.e. supplies used, and human resources needed), health and safety, and corporate image.</li> <li>— Typical errors can have a moderate to extreme consequences depending on the error. For example, errors such as entering incorrect data into the computer, but fixing immediately can result in little impact. However, selecting the wrong patient, not properly identifying patients for x-rays, or taking incorrect samples of patients would result in incorrect results and improper treatment. Other errors are incorrect labelling of samples which could produce the same results. This class also performs routine and some complex tests/procedures and any misinterpretation of results or mistakes in procedures could have an impact. Another error that could result is the maintenance and calibration of equipment/machines which if not done correctly could result in errors.</li> </ul>

- Work is performed in a highly monitored and controlled environment. While errors can be extreme the impact is mitigated by the existence of quality control procedures. Most errors are detected and corrected within hours of awareness.

#### **Development and Leadership of Others**

- Does not provide bargaining level supervision to staff.
- May provide other development and leadership activities such as orientation, and on the job advice/guidance and training to new staff.
- Does not provide team or project lead activities.

## **WORKING CONDITIONS**

### **Environmental Working Conditions**

- Required to wear a laboratory coat and follow universal safety precautions when handling specimens (i.e. proper hand washing techniques, fume hoods, and eyewash stations). When collecting specimens there is a requirement to wear gowns, gloves, masks, goggles, face shield, and respirators (if required). When performing x-rays this class is constantly required to wear radiation badges to detect radiation, thyroid shield and lead apron.
- This class has limited likelihood of minor cuts, bruises, abrasions or minor illnesses and a limited likelihood of fractures or other injuries and disability.
- Work is conducted in an open environment and is constantly exposed to distracting noise, bodily fluids, waste, infectious diseases, hazardous chemicals, sharp objects, and lack of privacy. Regularly exposure to odours and fumes. Occasionally exposed to toxic or poisonous substances, limited ventilation, limited lightening, unusual and distracting noise from equipment, glare from monitors, physical dangers and threats from unruly or disoriented patients, wet or slippery floors, dirt/dust, and electrical shocks. When performing x-rays there is constant exposure to radiation.