



Canadian Society for Medical Laboratory Science
Société canadienne de science de laboratoire médical

COMPETENCY PROFILE

Diagnostic Cytology

Competencies Expected of an Entry-Level Cytotechnologist

FEBRUARY 2008

~ Effective with the June 2010 examination ~

Code of Professional Conduct

- Medical laboratory professionals are dedicated to serving the health care needs of the public. The welfare of the patient and respect for the dignity of the individual shall be paramount at all times.
- Medical laboratory professionals work with other health care professionals, to provide effective patient care.
- Medical laboratory professionals shall promote the image and status of their profession by maintaining high standards in their professional practice and through active support of their professional bodies.
- Medical laboratory professionals shall protect the confidentiality of all patient information.
- Medical laboratory professionals shall take responsibility for their professional acts.
- Medical laboratory professionals shall practise within the scope of their professional competence.
- Medical laboratory professionals shall endeavour to maintain and improve their skills and knowledge and keep current with scientific advances. They will uphold academic integrity in all matters of professional certification and continuing education.
- Medical laboratory professionals shall share their knowledge with colleagues and promote learning.
- Medical laboratory professionals shall be aware of the laws and regulations governing medical laboratory technology and shall apply them in the practice of their profession.
- Medical laboratory professionals shall practise safe work procedures at all times to ensure the safety of patients and co-workers and the protection of the environment.

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SUMMARY - EXAMINATION BLUEPRINT

~ CSMLS diagnostic cytology exams are based on this plan ~

CATEGORY		MARK %
1. Safe Work Practices		2-4%
2. Data Collection and Specimen Procurement/Receipt		2-4%
3. Specimen Preparation and Pre-analytical Processing		5-10%
4. Equipment, Instruments and Reagents		2-4%
5. Specimen Assessment and Interpretation	5.01, 5.04, 5.07	45-55%
	5.02, 5.03, 5.05	8-10%
	5.06, 5.08	7-10%
6. Recording and Reporting		7-10%
7. Quality Management		4-8%
8. Professional Responsibilities		3-5%

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Assumptions About the Cytotechnologist and the Practice of Diagnostic Cytology

The Cytotechnologist
Upon completion of an accredited program and national certification examinations, has developed a broad knowledge base and practical skills that enable the cytotechnologist to prepare specimens for diagnostic interpretation, perform microscopic interpretation of those specimens, and issue reports according to institutional policies and professional standards.
Applies critical thinking and problem solving strategies to ensure best practices.
Practises and promotes the principles of continuous quality improvement including developing a personal program of continuous professional education.
Practises to ensure the safety of patients, colleagues, self, and the environment.
Contributes to the health care of the public, educates the public, promotes the welfare of the patient, respects the patient's dignity, and protects patient confidentiality.
Is an integral member of the health care team who shares knowledge that is essential to the diagnosis and treatment of disease, promotes learning, and collaborates with other professionals in providing effective patient care.
Is responsible and accountable for professional acts and practices according to standards of practice as well as laws and regulations governing the profession.
The Client/Patient
The client is any individual who interacts with the cytotechnologist (e.g., patient, patient representatives and other health care professionals).
The patient is any individual requiring diagnostic cytology services.
The cytotechnologist works with clients to procure, prepare and interpret cytologic specimens.
The cytotechnologist maintains effective verbal and written communication skills to optimize interactions with clients/patients in the provision of a high quality professional service.
The Environment
The cytotechnologist is prepared to work in a variety of clinical settings.
The cytotechnologist works in a safe environment that is dynamic and evolving, and uses all available resources to provide diagnoses in a timely, accurate, and cost-effective manner.

Competency Categories

1. Safe Work Practices	The cytotechnologist conducts professional practice according to established protocols, safety guidelines and existing legislation.
2. Data Collection and Specimen Procurement/Receipt	The cytotechnologist verifies that specimens are procured according to established protocols and verifies relevant data.
3. Specimen Preparation and Pre-analytical Processing	The cytotechnologist understands and performs cytopreparatory techniques on specimens that originate from a variety of sources according to established protocols.
4. Equipment, Instruments and Reagents	The cytotechnologist uses laboratory equipment and prepares reagents according to established protocols.
5. Specimen Assessment and Interpretation	The cytotechnologist uses scientific knowledge and skills to critically evaluate specimens and to provide an accurate diagnosis according to established protocols.
6. Recording and Reporting	The cytotechnologist uses appropriate terminology, documents and reports laboratory results according to established protocols.
7. Quality Management	The cytotechnologist practises and promotes the principles of quality management.
8. Professional Responsibilities	The cytotechnologist meets the legal ethical requirements of practice and protects the patient's right to a reasonable standard of care.

Category 1

Safe Work Practices

The cytotechnologist conducts professional practice according to established protocols, safety guidelines and existing legislation.

NUMBER	COMPETENCY
1.01	Applies the principles of standard precautions
1.02	Uses personal protective equipment, e.g., gloves, gowns, masks, face shields and aprons
1.03	Applies appropriate laboratory hygiene and infection control practices
1.04	Minimizes possible dangers from biological specimens, laboratory supplies, and equipment
1.05	Utilizes laboratory safety devices in a correct manner, e.g., biological safety cabinets, fume hoods, safety pipetting devices, safety containers and carriers, safety showers, eye washes
1.06	Labels, dates, handles, stores, and disposes of chemicals, dyes, reagents, and solutions according to WHMIS and existing legislation
1.07	Handles and disposes of "sharps" appropriately
1.08	Stores, handles, transports and disposes of biological and other hazardous material according to existing legislation
1.09	Selects and utilizes the appropriate method for items to be disinfected/sterilized
1.10	Minimizes the potential hazards related to disinfection/sterilization methods
1.11	Applies first-aid measures in response to accidents e.g., chemical injury, traumatic injury, electrical shock, burns
1.12	Applies spill containment and clean up procedures for biological materials and chemicals appropriately
1.13	Responds to all emergencies appropriately
1.14	Reports and documents all incidents related to safety and personal injury, in a timely manner
1.15	Applies proper ergonomic principles to prevent injury

Category 2

Data Collection and Specimen Procurement/Receipt

The cytotechnologist verifies that specimens are procured according to established protocols and verifies relevant data.

NUMBER	COMPETENCY
2.01	Verifies that client demographic data on the requisition corresponds with the specimen
2.02	Provides information to the client on specimen procurement, collection, transportation and storage
2.03	Verifies that the required clinical information (e.g., specimen source) is on the requisition
2.04	Delivers specimens in a safe and timely manner, taking into account priority and specimen stability for interdepartmental testing
2.05	Verifies specimen suitability, including adequate amount/volume and integrity, for cytologic evaluation
2.06	Accessions specimens into the laboratory information system, e.g., logbook, computer
2.07	Identifies discrepancies in specimen procurement and/or documentation and initiates corrective action as required
2.08	Complies with existing guidelines for specimen retention, storage, transportation and disposal

Category 3

Specimen Preparation and Pre-analytical Processing

The cytotechnologist understands and performs cytopreparatory techniques on specimens that originate from a variety of sources according to established protocols.

NUMBER	COMPETENCY
3.01	Prioritizes specimen preparation, e.g., stat, urgent, routine <ul style="list-style-type: none">▪ Maximizes efficient use of resources, e.g., time, equipment▪ Organizes workflow, as required, to accommodate changes in priority
3.02	Verifies that specimen identification is traceable throughout sample preparation
3.03	Prepares specimens for cytologic analyses using liquid base and conventional techniques. <ul style="list-style-type: none">▪ Correlates the clinical information and adjusts cytopreparatory techniques accordingly
3.04	Applies the physical and chemical principles of fixation to cytologic specimens
3.05	Applies the physical and chemical principles of staining to cytologic specimens
3.06	Applies the physical and chemical principles of coverslipping
3.07	Assesses the quality of specimen preparation and initiates corrective action as required
3.08	Assesses the quality of stained slides and initiates corrective action as required
3.09	Complies with existing guidelines for slide retention, storage, transportation and disposal

Category 4

Equipment, Instruments and Reagents

The cytotechnologist uses laboratory equipment and prepares reagents according to established protocols.

NUMBER	COMPETENCY
4.01	Applies the principles of light microscopy to specimen analyses
4.02	Uses and maintains the compound light microscope according to manufacturers instructions
4.03	Operates and maintains standard laboratory equipment
4.04	Recognizes malfunctions in the microscope and other laboratory equipment and initiates corrective action
4.05	Understands the principles of automated screening techniques
4.06	Prepares reagents
4.07	Uses a computer for data entry, storage and retrieval

Category 5

Specimen Assessment and Interpretation

The cytotechnologist uses scientific knowledge and skills to critically evaluate specimens and to provide an accurate diagnosis according to established protocols.

NUMBER	COMPETENCY
5.01	Demonstrates an understanding of the relationship between clinical information, laboratory analyses, diagnoses, review of previous patient material and various modes of treatment and their impact on patient care
5.02	Performs microscopic assessment of specimens for adequacy
5.03	Recognizes altered cellular morphology as a result of procurement and preparation techniques, e.g., poor fixation, over-staining, smearing errors
5.04	Identifies and evaluates the cytomorphology of the cellular and noncellular entities of cytologic specimens <ul style="list-style-type: none">▪ Differentiates between clinically significant and insignificant findings▪ Detects, selects and appropriately marks, with a high level of accuracy, the significant cellular and noncellular entities most representative of the pathologic process present
5.05	Evaluates the effects of the Papanicolaou stain
5.06	Demonstrates an understanding of special and ancillary stains and techniques e.g., flow cytometry, FISH, PCR and EM
5.07	Develops differential diagnoses based on: <ul style="list-style-type: none">▪ clinical information▪ cytomorphology▪ knowledge of pathology▪ knowledge of ancillary techniques
5.08	Demonstrates an understanding of Human Papilloma Virus (HPV) testing

Category 6

Recording and Reporting

The cytotechnologist uses appropriate terminology, documents and reports laboratory results according to established protocols.

NUMBER	COMPETENCY
6.01	Issues a final report for gynecological specimens that are diagnosed as Negative for Intraepithelial Lesion or Malignancy. <ul style="list-style-type: none">▪ Utilizes The Bethesda Reporting System, current version
6.02	Refers gynecological and nongynecological specimens, to the designated individual with an initial diagnosis
6.03	Communicates information regarding cytologic diagnoses to clients in an appropriate manner
6.04	Ensures accurate documentation of cytologic diagnoses
6.05	Utilizes current and appropriate medical terminology and nomenclature

Category 7

Quality Management

The cytotechnologist practises and promotes the principles of quality management.

NUMBER	COMPETENCY
7.01	Provides accurate and timely results to the client
7.02	Follows established protocols as defined in policy and procedure manuals, e.g., Occupational Health and Safety regulations, WHMIS regulations
7.03	Maintains established standards for quality control in specimen collection, transportation, storage, preparation, analysis and reporting
7.04	Understands the purpose of quality assurance programs (internal and external)
7.05	Documents data according to quality assurance procedures
7.06	Identifies and reports deficiencies in the workplace that may affect the quality of testing
7.07	Maintains logs for laboratory equipment/instruments
7.08	Performs and documents quality control on reagents
7.09	Initiates reordering of reagents and supplies as required
7.10	Assesses the quality of new reagents and stains
7.11	Applies continuous quality improvement techniques and risk management processes to ensure quality clinical laboratory services

Category 8

Professional Responsibilities

The cytotechnologist meets the legal ethical requirements of practice and protects the patient's right to a reasonable standard of care.

NUMBER	COMPETENCY
8.01	Takes responsibility, is accountable for professional behaviour and is aware that breaches of standards of practice may lead to disciplinary and/or legal action <ul style="list-style-type: none"> ▪ Demonstrates an understanding of vicarious liability
8.02	Promotes the image and status of cytotechnologists as members of the health care team by maintaining high standards of practice
8.03	Clarifies the roles and responsibilities of the cytotechnologist to other health professionals where necessary
8.04	Promotes an awareness and understanding of the contribution that the cytotechnologist provides to the consumer and the public
8.05	Participates in continuing professional education and training
8.06	Keeps the welfare and confidentiality of the patient paramount at all times and respects the dignity, values and beliefs of the individual
8.07	Complies with legislation governing medical technology
8.08	Recognizes moral and ethical issues in health care
8.09	Recognizes when asked to perform beyond scope of practice or competence and seeks appropriate guidance
8.10	Recognizes the cytotechnologist's right to refuse to participate in potentially dangerous situations
8.11	Practises in a manner that contributes to the efficient use of health care resources (e.g. human resources, time management, reagents, supplies) <ul style="list-style-type: none"> ▪ Prioritize workflow to optimize patient outcomes
8.12	Demonstrates evidence informed decision-making skills e.g., current literature review, collect and analyze data, research methodologies

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