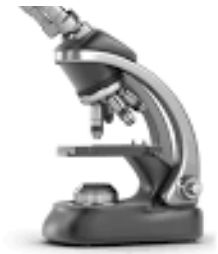
CSMLS SCSLM

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



# WORKFORCE INTEGRATED LEARNING PROJECT FOR INTERNATIONALLY EDUCATED MEDICAL LABORATORY TECHNOLOGISTS (IEMLT)

Summary Report (January 2023)

Prepared by Keith Johnson
Prepared for: The Canadian Society for Medical Laboratory Science (CSMLS)

# Contents

## Overview

The Canadian Society for Medical Laboratory Science (CSMLS) is the national professional association and certifying body for medical laboratory technologists (MLTs) and assistants in Canada. It administers Prior Learning Assessment (PLA), on behalf of eight provincial Canadian MLT regulators, for clients educated outside of Canada to establish their eligibility for the national certification examination. Successful completion of this examination constitutes the entry-to-practice criterion for MLTs in nine provinces and three territories.

Approximately 200 internationally educated MLTs (IEMLTs) apply to CSMLS each year to have their credentials assessed. In most cases (90% of all assessments), IEMLTs do not meet Canadian standards immediately; that is to say "Prior Learning Assessors" typically identify gaps in their education/experience which must be remediated before they become eligible to challenge the certification exam. To this end, each of these applicants receive a customized "learning plan", detailing deficiencies and potential avenues of remediation. These individuals are given a period of time to remediate these gaps and become eligible to challenge the CSMLS certification exam.

Gaps can be remediated in a variety of ways including completion of structured clinical placements. In 2014, the CSMLS (and with ESDC funding) developed an "ideal clinical placement blueprint" for PLA clients looking to remediate identified gaps in a clinical setting. This document helps employers understand what specific tasks IEMLTs should be exposed to while on placement. This work involved input from over 20 subject matter experts and was ultimately validated in a national survey by practicing MLTs.

The purpose of the Workplace Integrated Leaning (WIL) pilot project was to create clinical placement opportunities for IEMLTs by providing financial support to employer sites and learners. The project's objective, methodology, outcomes and lessons learned are summarized herein.

## Project Objectives

The Canadian Society for Medical Laboratory Science (CSMLS) will increase access to supervised clinical placements for Internationally Educated Medical Laboratory Technologists (IEMLTs) to provide relevant work experience and skills development opportunities to Prior Learning Assessment (PLA) clients (with minor gaps relative to entry-to-practice standards), and recently CSMLS-certified, licensed-to-practice IEMLTs (who are either unemployed or underemployed). Specific project objectives were to:

- Increase access to employment and employer connections for IEMLTs via 4-12 week supervised clinical placements;
- Establish clinical placements to address learning needs based on the results of the PLA;
- Create and implement a comprehensive, national, low-risk job candidate assessment and evaluation tool for participating medical laboratories; and
- Increase IELMTs success rate on their certification exam.

- Reduce incidences of under and unemployment by creating permanent job opportunities for IEMLTs.

The project was originally scheduled to run from February 17, 2021, to August 31, 2022. A six-month extension was requested and approved by ESDC to ensure that all placements would be completed within the context of the project. This resulted in a revised end date of February 17, 2023. High-level milestones and associated timing are described in the table below.

| TIMING | ACTIVITY |
|---|---|
| Month 1 | Establish Advisory Committee and Terms of Reference |
| Month 2 | Gather "Expressions of Interest" from potential IEMLTs<br>Develop inventory of placement sites |
| Starting Month 3 (ongoing) | Conduct interviews with short-listed IEMLTs<br>Develop and review contract templates with employers |
| Starting Month 4 (ongoing) | Match selected IEMLTs with placement sites |
| Months 5-20 | Clinical placements occur<br>Participants access subsidized courses if needed |
| Months 8-20 | PLA clients write certification exam<br>Select IEMLTs offered permanent employment |
| Months 21-24 | Program evaluation competed by all participants (i.e., employers and learners)<br>Preparation of final report |

## Governance

Project sponsorship and general oversight was carried out by a small executive team within the CSMLS. This group consisted of senior staff from the finance, certification and PLA departments as well as the CSMLS CEO.

Day-to-day project coordination was carried out by an external project manager. This individual was retained to:

- Provide overall project stewardship and direction
- Develop contract templates for learners and employers
- Coordinate and facilitate Advisory Committee meetings
- Work with CSMLS staff and employers to schedule and monitor clinical placements
- Prepare project updates and reports to relevant stakeholder

A multi-disciplinary Advisory Committee was established at the start of the project. The group met a total of ten times over the course of the project.

Members represented a number of strategic perspectives including: MLT employers, regulators, IEMLTs and CSMLS staff (see Appendix A). Terms of reference were established to guide the work of the group. Specific responsibilities are summarized below.

Working Group members were expected to:

- Determine eligibility requirements of participants (i.e., learners)
- Set the parameters of what constitutes an appropriate placement and supervision
- Establish the responsibilities of CSMLS, employers (i.e., placement providers), learners and preceptors
- Provide ongoing guidance, support and subject matter expertise

Additionally, employers were expected to:

- Interview and select placement applicants
- Hire appropriate clinical preceptors
- Facilitate 1-5 placements during the course of the project with supervision by an appropriate preceptor
- Provide placements between 4 and 12 weeks in length
- Submit documentation to CSMLS for reimbursement

## Structure of Clinical Placements

Participant eligibility was set at the outset of the project to ensure that learners would be able to complete their PLA learning plan within a four-month placement and be able to attempt the CSMLS Certification Exam shortly thereafter:

PLA Clients Eligibility:

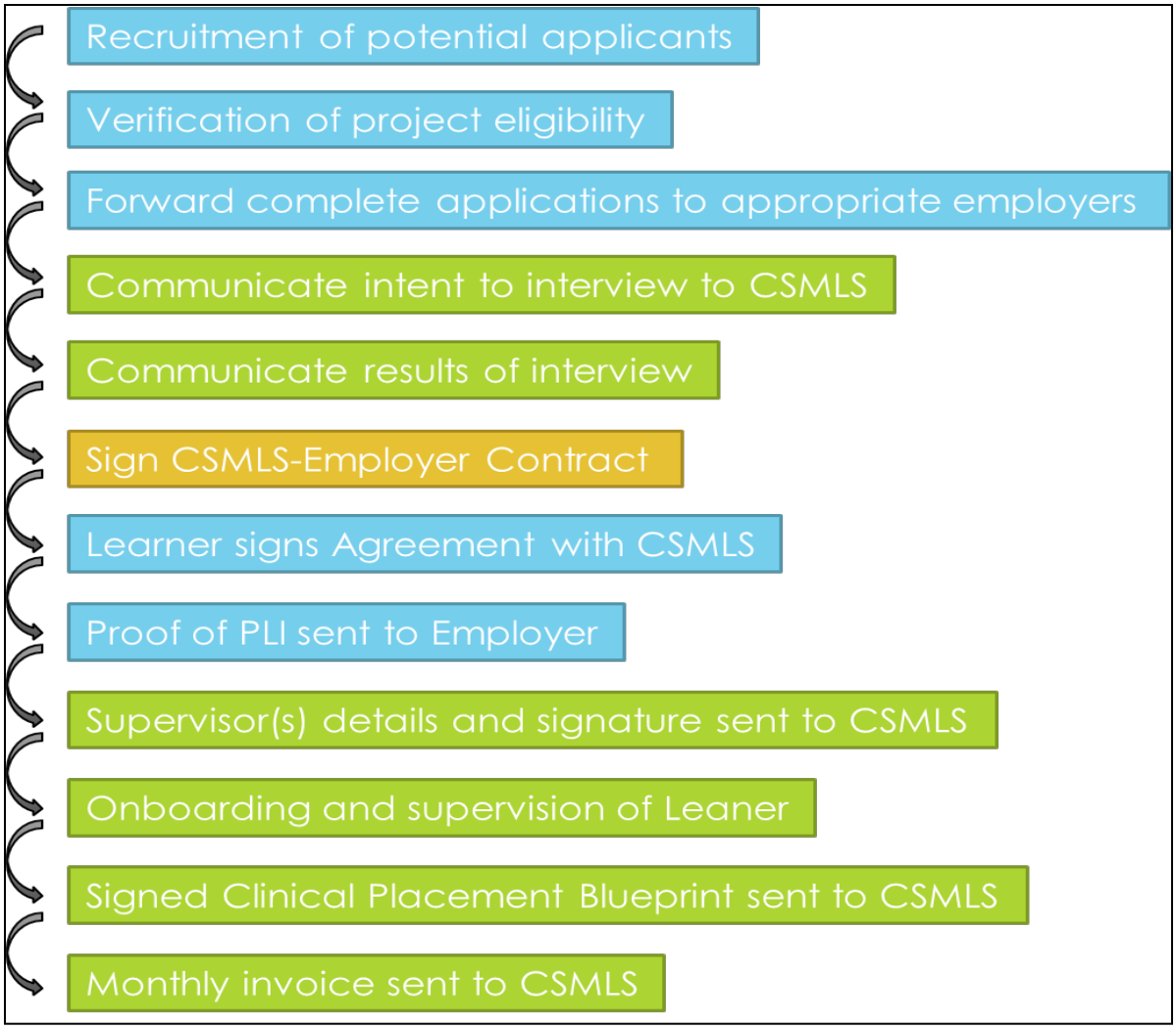
- A current PLA client with no more than 3 refresher courses required to complete a PLA Learning Plan;
- Or a former PLA client who is in the Exam cycle, has failed two Exams, and is in an Exam Learning Plan with no more than 3 refresher courses required;
- Or a former PLA client who is in the Exam cycle, has failed their first Exam attempt, and has 3 or less disciplines that indicate more work is required.

Recently Certified IEMLTs Eligibility:

- Certified within the last 2 years;
- And under or unemployed.

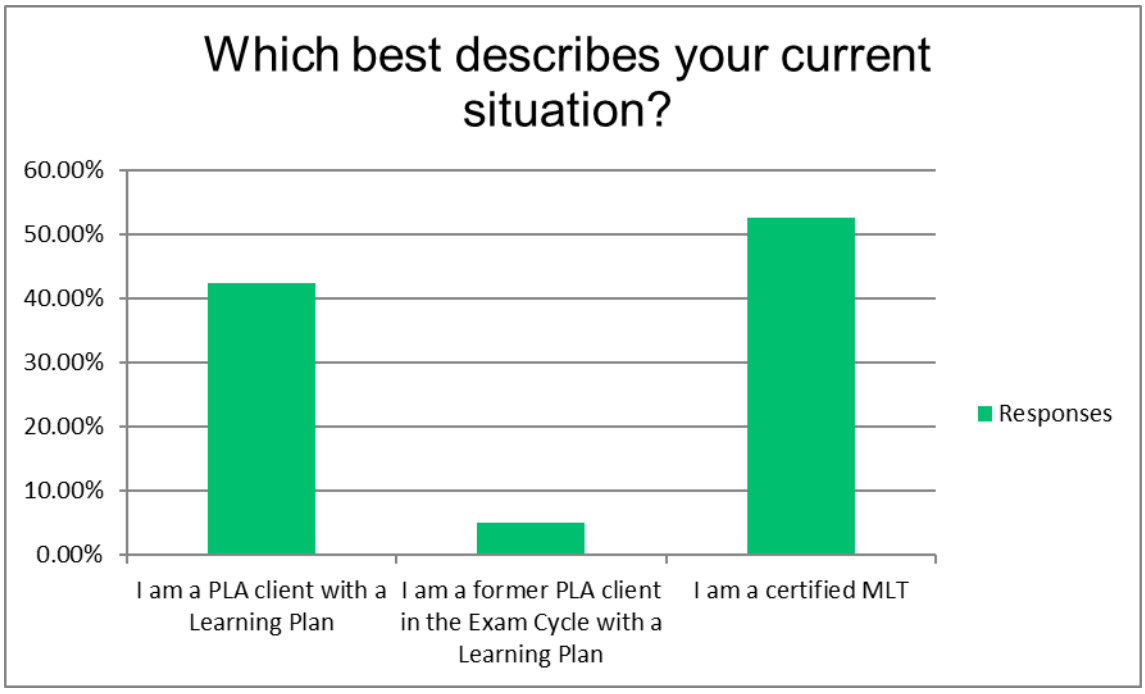
All placements were based on the "Ideal Clinical Placement Blueprint" developed in 2014 by CSMLS in a previously ESDC-funded initiative (see Appendix E). The content of the Blueprint is based on the CSMLS Competency Profile for all five sub-disciplines of the MLT profession. This is the same standard against which applicants are assessed in the CSMLS Certification Exam.

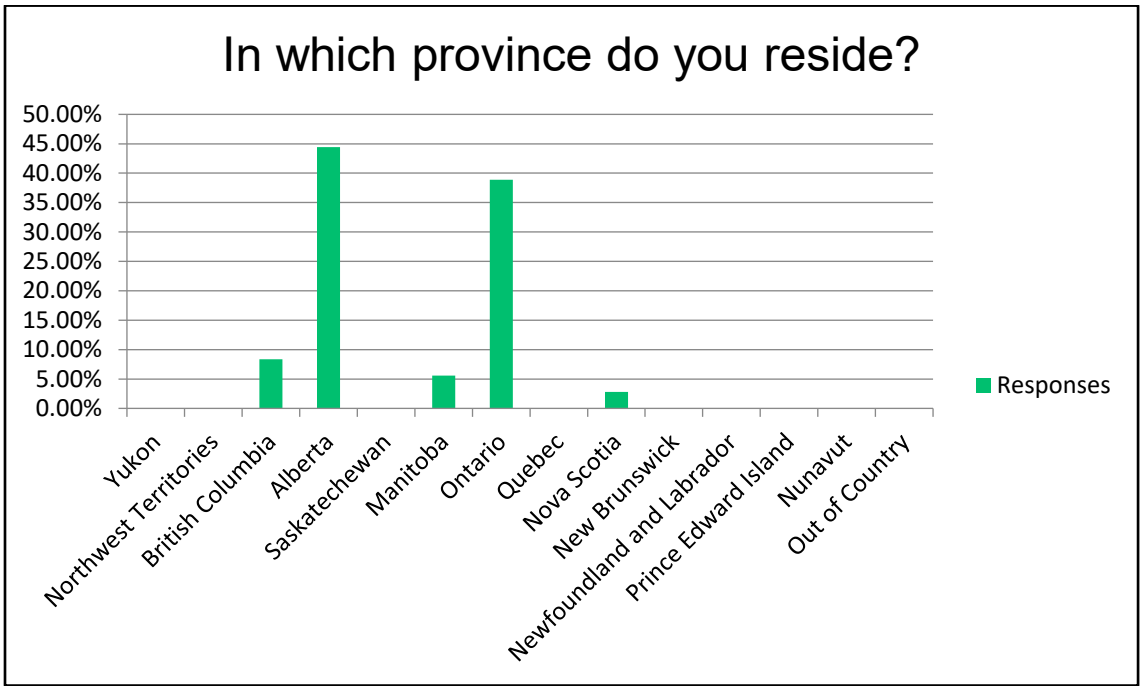
A step-by-step process was established to recruit, interview and initiate placements between learners and employers.

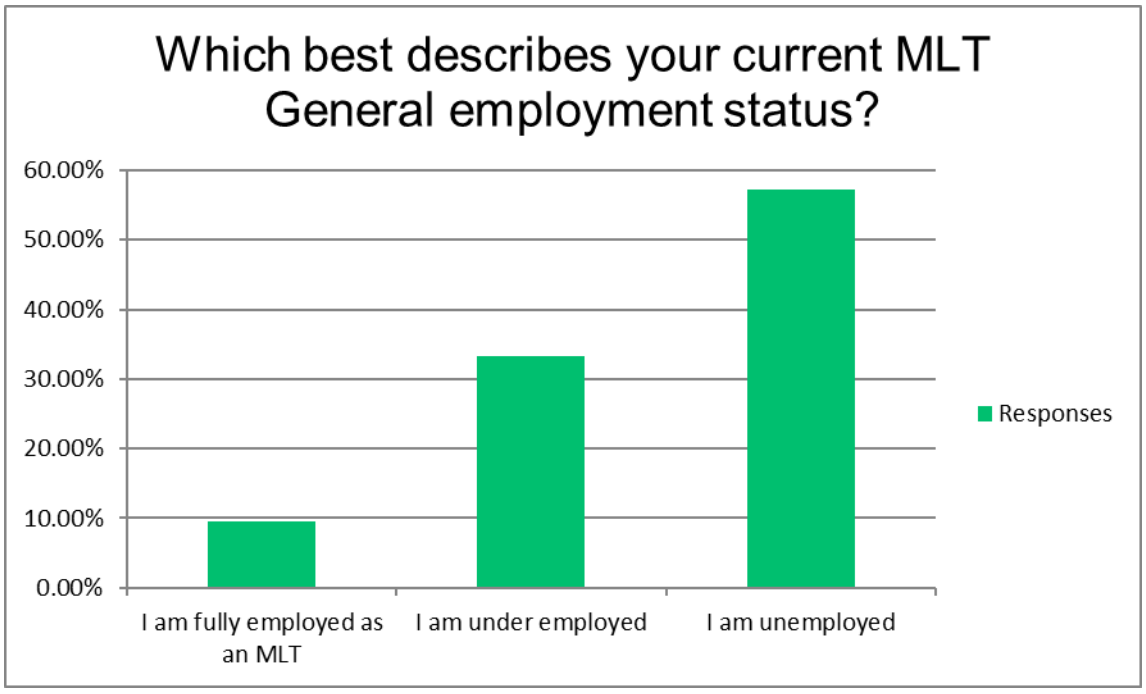



## Recruitment of Learners

At the outset of the project, the CSMLS invited all eligible learners to indicate their interest in participating through a brief online survey. On February 26, 2022, the CSMLS distributed a call for interest to individuals in both these groups: PLA client (n=56); Certified IEMLT (n=183). Data received from the 40 respondents is reproduced in the tables below.


Which best describes your current situation?
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
I am a PLA client with a Learning Plan
I am a former PLA client in the Exam Cycle with a Learning Plan
I am a certified MLT
Responses


In which province do you reside?
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Yukon
Northwest Territories
British Columbia
Alberta
Saskatechewan
Manitoba
Ontario
Quebec
Nova Scotia
New Brunswick
Newfoundland and Labrador
Prince Edward Island
Nunavut
Out of Country
Responses




Ongoing efforts throughout the project were made to refresh the applicant pool, through: new PLA applications, PLA clients who managed to reduce their number of gaps to 3 or less, and those who have failed the Certification Exam and were assigned a learning plan. All applicants were required to submit a formal application and supporting documentation to be considered for a placement (see Appendix B).

## Securing Placement Sites

Similarly, participating employers were sent a survey at the beginning of the project to create an inventory of all the potential placement sites available across the country. Employers were asked to indicate the location of their sites, number of learners that could be accommodated at each and the various MLT disciplines that learners could be exposed to. Based on this exercise, a total of 38 potential placements at 21 sites across three provinces were identified. Results are summarized in the table below.

*Ontario*

| SITES | ORGANIZATION | CAPACITY | DISCIPLINES |
|---|---|---|---|
| Toronto General Hospital | University Health Network | 5 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science, Molecular & Cytogenetics, HLA |
| Toronto Western Hospital | University Health Network | 5 | Clinical Chemistry, Hematology, |

| | | | |
|---|---|---|---|
| | | | Histotechnology, Microbiology and Transfusion Science, Molecular & Cytogenetics, HLA |
| Princess Margaret Hospital | University Health Network | 5 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science, Molecular & Cytogenetics, HLA |
| | Hamilton Regional Laboratory Medicine Program | 2 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science, Molecular & Cytogenetics |
| International Reference Laboratory | LifeLabs | 2 | Clinical Chemistry, Hematology, Histotechnology, Microbiology |
| Kennedy Lab (KL) | LifeLabs | 2 | Clinical Chemistry, Hematology, Microbiology |
| Belleville Laboratory | LifeLabs | 1 | Clinical Chemistry, Hematology, Microbiology |
| Thunder Bay Laboratory | LifeLabs | 1 | Clinical Chemistry, Hematology, Microbiology |
| Sudbury Laboratory | LifeLabs | 1 | Clinical Chemistry, Hematology, Microbiology |

*Nova Scotia and British Columbia*

| SITES(S) | ORGANIZATION | CAPACITY | DISCIPLINES |
|---|---|---|---|
| Nanaimo Regional General Hospital | Island Health | 1 | Chemistry, Hematology, Histotechnology, Transfusion Science |
| North Island Hospital – Comox Valley | Island Health | 1 | Chemistry, Hematology, Histotechnology, Transfusion Science |

| | | | |
|---|---|---|---|
| Cowichan District Hospital | Island Health | 1 | Chemistry, Hematology, Transfusion Science |
| North Island Hospital – Campbell River | Island Health | 1 | Chemistry, Hematology |
| QEII/Halifax Infirmary Hospital | Nova Scotia Health Authority | 2 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science |
| Cape Breton Regional Hospital | Nova Scotia Health Authority | 1 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science |
| Colchester East Hants Health Centre | Nova Scotia Health Authority | 1 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science |
| Valley Regional Hospital | Nova Scotia Health Authority | 1 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science |
| Isaac Walton Killam Hospital (Children's Hospital) | Nova Scotia Health Authority | 1 | Clinical Chemistry, Hematology, Histotechnology, Microbiology and Transfusion Science |
| Victoria Reference Lab | LifeLabs | 1 | Clinical Chemistry, Hematology, Microbiology |
| Burnaby Reference Lab | LifeLabs | 1 | Clinical Chemistry, Hematology |
| Cam Coady Building | LifeLabs | 2 | Microbiology |

## Subsidies

Subsidies were provided to participating employers to increase their capacity for placements. Employers were compensated $1,750 per week, per learner. This figure is based on the average amount required to retain a MLT supervisor able to expose the learner to the various competencies detailed in the ideal clinical placement blueprint.

Supports were also provided to eligible learners. The CSMLS covered the costs of course and language testing to support the placement process (a reimbursement form was developed for this purpose). Liability insurance was also arranged and paid for by the CSMLS for non-

certified individuals, if required. Each learner also received a weekly stipend of $200 for placement.

Payments to both groups were issued on a monthly basis by the CSMLS following receipt of an invoice.

### Completed Placements

A total of seven placements were completed within the project timelines. These were administered at three sites in two provinces (Ontario and British Columbia) by two employers (University Health Network and LifeLabs). Learners and employers were required to sign an agreement with the CSMLS (see Appendices C & D).

| # IEMLTs contacted | # Applications submitted | Placements completed |
|---|---|---|
| 291 | 13 | 7 |

## Project Evaluation

The relative success of the project was assessed through three mechanisms: an exit survey completed by learners, an employer questionnaire, and a facilitated focus group with Advisory Committee members. Findings from each are detailed below.

### Learner Survey

A total of seven individuals completed a placement within the project timelines. All completed a standard exit survey consisting of five rating questions and two allowing for written commentary. Questions were designed to assess the overall appeal, utility and success of the program. Highlights are bulleted below.

- Six out of seven (86%) respondents "strongly agreed" with the statement that "The WIL application process with CSMLS was clear and easy to complete."
- Six out of seven learners either "agreed" or "strongly agreed" that "All of my preceptors were supportive of my learning needs throughout the placement."
- Six out of seven learners felt "Better prepared to work as an MLT in Canada than before the placement."
- Six out of seven learners would "Recommend the CSMLS WIL Program to other internationally educated MLTs."

Suggested changes to the WIL program and general commentary were also solicited from learners. Select responses have been reproduced verbatim.

- *"I would say the CSMLS must need to keep the candidate in loop for the relevant communication."*
- *"I suggest that hopefully CSMLS can have more employers (especially hospitals) to integrate the students, specifically for transfusion medicine. I came from a country that doesn't have a broad practice for transfusion because not many antibodies are encountered compared to Canada that is more diverse."*

- *"It was a great opportunity for me to be exposed to the Canadian setting and have a practical experience in my learning gap that would help me for the certification exam, it also opened an opportunity for me to work in the lab through the WIL program."*

## Employer Questionnaire

A similar system of feedback was developed for participating employers.

- All respondents (100%) agreed that "the CSMLS WIL project introduced me to potential employees I would have not had access to otherwise."
- All employers also indicated that their "organization would participate again [in the WIL project] if more subsidies become available."
- Finally, all respondents "would recommend the CSMLS WIL Project to other employers."
- One respondent noted that, "It would be better if CSMLS were simply designated as an affiliated educator for the purposes of managing unpaid placements under the labour legislation".

## Advisory Committee Focus Group

A 1-hour facilitated focus group of the Advisory Committee (without CSMLS staff participation) was conducted as a final means of project evaluation. Four questions were sent to members in advance of the session to prepare. These, along with associated feedback are summarized below.

Do you feel the WIL project was a success? Why or why not?

- Project success was seen as mixed – very good for learners as they met learning plan goals, became licensed and found permanent positions. More nuanced experience for employers – some individuals took full-time employment elsewhere (i.e., not at the site where they were trained). Lots of effort for little return in some situations.

What changes would you make if the program was implemented in the future?

- Should create a welcome package for learners that describes the steps they need to take before entering the lab (secure professional liability insurance, make sure immunizations are up to date, etc.). This could expedite the onboarding process.
- Need to find a way to categorize learners from an employer perspective (i.e., employee, non-employee, student, observer). There is a legal requirement to compensate individuals if they are not part of a formal educational program. Affiliation agreements with colleges/universities may be another route.
- CSMLS should try and develop sites in all major Canadian centres to accommodate a larger percentage of learners.

If the program was offered again, would you participate? Why or why not?

- Most employers would participate again if two major changes were made – clarifying how learners should be treated from an employment perspective and implementing "return to service" agreements with learners – i.e., requiring learners to take a

permanent position (for a predetermined period) with the site where they completed the clinical placement.

What additional supports or resources for employers and/or learners do you recommend should be introduced in future versions of the program?

- Subsidies were useful in offsetting internal placement costs.
- Need a legal review of labour laws to help classify learners and better understand employer responsibilities.
- Site supervisors would benefit from more direction on what aspects/competencies learners should be exposed to.
- Affiliation agreements with educational institutions should be explored to facilitate placements.
- Should make efforts to recruit a larger pool of employers with more geographically diverse sites.

## Lessons Learned

Ongoing troubleshooting and adjustments were required throughout the project to ensure access to placements. Coupled with the feedback gathered through the evaluation phase, a few key lessons are worth noting.

- Require greater clarity in defining learners from a legal and employment perspective. Some employers faced contractual challenges in allowing IEMLTs into the lab to work under supervision without compensation. Interpretation of labour laws indicated that individuals need to be compensated at a rate no lower than minimum wage. Agreements with local MLT education programs where learners were classified as students was a solution. However, this approach was not available to all employers. Additional legal advice and potential "workarounds" should be solicited and developed should this initiative be introduced in the future.

- The need for learners to hold some type of Professional Liability Insurance - all MLTs working in a lab setting are legally required to hold this type of insurance. Normally, this is only available to individuals with a CSMLS certification (i.e., after passing the certification exam). To overcome this obstacle, the CSMLS negotiated and paid for a separate category of insurance for WIL participants.

- Greater geographic variety in placement sites would have boosted participation numbers further. While the project was fortunate to recruit employers in three provinces, applications were received by interested individuals in other provinces. A truly pan-Canadian WIL program would require sourcing additional sites in other jurisdictions to maximize access.

- Four of the seven who completed a placement report having full-time employment as an MLT. Two have met learning plan requirements and are scheduled to write the CSMLS certification exam. The final individual is still in the process of remediating identified gaps.

| Employed by Supervising Employer | Employed by Another Employer | Completed Learning Plan | Filling Gaps |
|---|---|---|---|
| 0 | 4 | 2 | 1 |

- Future versions of the WIL should include some version of "return-to-service" agreements between employers and learners. While many learners were generally successful in securing full-time employment as part of this project, it was with an employer different than that which administered the clinical placement. Participating employers felt that the significant investment in time and resources to train learners that was lost once they accepted positions elsewhere. Agreement requiring leaners to complete a period of employment, post-certification and, where required, registration with the provincial MLT regulator, at the site where they had their WIL placement would help address this issue.
- The impact of the COVID-19 outbreak is also noteworthy. In the original application to ESDC, it was estimated that 10-15 individuals would participate during the course of the project. As noted above, only seven did so. In the years leading up to the pandemic, there was an indication of under-and-unemployment among the IEMLT cohort. Significant demand for lab testing expertise due to COVID-19 resulted in much higher levels of full employment for laboratory workers than typical. The project would have likely met its participation goals in a more balanced labour market.

# Appendix A: Advisory Committee Members

| Name | Affiliation |
|---|---|
| Ivan Miller | Island Health |
| Christine Bruce | University Health Network |
| Edwin Brindle | Hamilton Health Sciences |
| Josephine Guidolin | LifeLabs |
| Mohamad Zaraket | LifeLabs |
| Elizabeth Boyajian | LifeLabs |
| Josh MacDonald | Nova Scotia Health Authority |
| Stephanie Taylor | New Brunswick Society of Medical Laboratory Technologists (NBSMLT) |
| Christine Nielsen | CSMLS |
| Denise Neutel | CSMLS |
| Sierra Paprocki | CSMLS |
| Emily Kowalczyk | CSMLS |
| Joe Davies | CSMLS |
| Keith Johnson | Project Manager |

# Appendix B: Learner Application Form

APPLICATION FORM
Workplace Integrated Learning Project (2021)

Thank you for you interest in the CSMLS Workplace Integrated Learning project. The goal of this project is to help internationally educated MLTs meet certification requirements and gain full-time employment by creating clinical placement opportunities with employers across Canada. To be eligible you must meet the criteria in the table below.

| | |
|---|---|
| PLA Clients | • A current PLA client with no more than 3 refresher courses required to complete your PLA Learning Plan;<br>• Or a former PLA client who is in the Exam cycle, has failed two Exams, and is in an Exam Learning Plan with no more than 3 refresher courses required;<br>• Or a former PLA client who is in the Exam cycle, has failed their first Exam attempt, and has 3 or less disciplines that indicate more work is required. |
| Certified IEMLTs | • Certified in the within the last 2 years and not working full-time as an MLT |

To apply for the Workplace Integrated Learning Project, please complete the form below and attach the following three items:

- A cover letter indicating your interest in this project as well as your short and long term professional goals;
- Your resume with work history and list of skills;
- And, results from a valid English-language test (i.e. CanTest, MELA, IELTS).

Notes:

- Placements began in May, 2021 and were available until the end of May, 2022. Placements were 4-12 weeks in length depending on learner needs and those of the employer.
- All applicants must have a valid English-language test (i.e. obtained within the past two years) with a result equivalent to or higher than a CLB 8 regardless of language of instruction. If you do not yet have an English-language test the CSMLS may be able to reimburse your costs to obtain one.
- The employer is not required to offer you full-time employment at the end of the placement.
- You are responsible for securing Liability Insurance through the CSMLS before your placement begins.
- Only those selected for interview(s) will be contacted.
- Incomplete applications will not be accepted.
- If selected, you will receive a stipend of $200 per week paid by the CSMLS.

General Information

| | |
|---|---|
| Name: | Phone: |
| Email: | CSMLS Membership #: |
| Mailing Address: | |

Site Information

<table>
<tr><td rowspan="3">Which site(s) are you applying for? (choose 1-3):<br>Ontario<br>• Toronto<br>• Hamilton<br>• Mississauga<br>• Belleville<br>• Thunder Bay<br>• Sudbury<br>British Columbia<br>• Surrey<br>• Burnaby<br>• Comox<br>• Nanaimo<br>• Duncan<br>• Campbell River<br>Nova Scotia:<br>• Sydney<br>• Truro<br>• Halifax<br>• Kentville</td><td>Are you currently working full-time as an MLT (Yes/No)?:</td></tr>
<tr><td>Are you willing to relocate for the duration of the placement (Yes/No)?:</td></tr>
<tr><td>Indicate your availability from May 1, 2021 – May, 2022:</td></tr>
</table>

# Appendix C: Learner Agreement

CONTRACT FOR SERVICES

This Agreement made the xxxx day of xxxx

between

The Canadian Society for Medical Laboratory Science

and

xxxx (herein referred to as the "Learner")

Whereas:

1. The Canadian Society for Medical Laboratory Science (CSMLS) is a corporation incorporated pursuant to Federal Charter.
2. The Learner is an internationally educated Medical Laboratory Technologist (IEMLT).

Definitions

Learner: An internationally educated MLT (IEMLT) enrolled in the CSMLS Workplace Integration program.

Placement: A period of time where the Learner is exposed to practical experience based on the CSMLS General MLT Competency Profile[1].

Site: The location and individuals/organization(s) responsible for the Clinical Placement.

Noting:

1. This agreement is made possible through funding from the Government of Canada, Employment and Social Development Canada (ESDC) in support of the CSMLS Workplace Integrated Learning project.
2. This project is intended to create Placements for IEMLTs. Two groups of IEMLTs are eligible: Internationally educated Prior Learning Assessment (PLA) candidates, who have minor gaps relative to entry-to-practice standards; and recently certified IEMLTs who are licensed to practice, but either unemployed or under-employed.
3. Professional Liability Insurance will be made available through the CSMLS to eligible Learners[2].

Understanding:

1. The nature and duration of placements will be based on the shared needs of the Site and Learner. Placements will be a minimum of 4 weeks and a maximum of 12 weeks in

[1] See: https://go.csmls.org/cert/MLTG_CP.pdf
[2] See: CSMLS - SCSLM / Professional Liability Insurance

length. All placements will conclude no later than April 30, 2022. The Learner and Site are responsible for setting the Placement schedule and timelines.

2. The Learner is responsible for securing Professional Liability insurance prior to the start of the Placement. Professional Liability insurance is available to members of the CSMLS.
3. The Learner may be required to sign a separate agreement with the Site prior to the Placement.
4. The Learner recognizes that the full-time employment is not guaranteed at the end of the Placement.
5. At the end of the Placement, the Learner is expected to complete a brief evaluation survey.

Consideration:

1. The Learner shall receive a stipend of $200.00 per week (based on a 35.0-hour week). This amount will be paid directly to the Learner on a monthly basis, by the CSMLS. The Learner will be issued a T4A receipt by the CSMLS at the end of the Placement and is responsible for remitting all required taxes.
2. The Learner may be eligible for reimbursement(s) of certain costs related to the Placement including, but not limited to: upgrading courses and language proficiency tests. The Learner is responsible for confirming eligible expenses with CSMLS staff and completing a reimbursement form as directed.

Term and Termination:

1. This agreement will be in effect from the date noted at the top until April 30, 2022.
2. This agreement can be terminated at any time by either party as well as the Site, upon providing notice in writing of at least ninety (90) days. Upon termination, the parties agree to work collaboratively to facilitate the conclusion or alternative arrangements for any ongoing or scheduled Placement(s) if necessary.

Signatures:

IN WITNESS WHEREOF the CSMLS has executed this Agreement by its duly authorized officer and the Site has hereunto affixed his/her hand and seal as at the date first above written.

SIGNED, SEALED AND DELIVERED at Hamilton in the presence of:

Xxxxx
Site

Christine Nielsen,
Chief Executive Officer, CSMLS

# Appendix D: Employer Agreement

CONTRACT FOR SERVICES

This Agreement made the xxxx day of xxxx

between

The Canadian Society for Medical Laboratory Science

and

xxxx (herein referred to as the "Site")

Whereas:

1. The Canadian Society for Medical Laboratory Science (CSMLS) is a corporation incorporated pursuant to Federal Charter.
2. The Site is a corporation incorporated pursuant to Federal Charter and may carry out business at more than one location. The Site provides a Clinical Placement.
3. The parties will cooperate and collaborate in the establishment and provision of Learner education at to be carried out at the Site.

Definitions

Clinical Instructor: The individual employed or contracted by the Site to supervise and instruct Learners during the Placement.

Learner: An internationally educated MLT (IEMLT) enrolled in the CSMLS Workplace Integration program.

Placement: A period of time where the Learner is exposed to practical experience based on the CSMLS General MLT Competency Profile[3].

Noting:

1. This agreement is made possible through funding from the Government of Canada, Employment and Social Development Canada (ESDC) in support of the CSMLS Workplace Integrated Learning project (see Project Timelines – Appendix A).
2. This agreement is intended to create clinical placements for IEMLTs. Two target groups are anticipated: Internationally educated Prior Learning Assessment (PLA) candidates, who have minor gaps relative to entry-to-practice standards; and recently certified IEMLTs who are licensed to practice, but either unemployed or under-employed.

[3] See: https://go.csmls.org/cert/MLTG_CP.pdf

3. The CSMLS and Site will cooperate and collaborate in the establishment and provision of Learner education at the Site.
4. Professional Liability Insurance will be made available through the CSMLS to all participating Learners[4]. The CSMLS will work with the Learners to ensure that insurance is in place prior to start date of their Placement.

Requirements:

1. The nature and duration of placements will be based on the shared needs of the Site and Learner. Placements will be a minimum of 4 weeks and a maximum of 12 weeks in length. All placements will conclude no later than April 30, 2022. The structure and content of placements are to be based on the CSMLS "Ideal Clinical Placement Blueprint" (see attached).
2. If the Learner is not yet a certified MLT, it is expected that the Site will expose the Learner to disciplines cited in their CSMLS Learning Plan, at a minimum.
3. The Site will allow Learner(s), for educational purposes, access to its patients/clients and their personal health information, subject to such restrictions as are imposed by the Site staff for clinical or legal (including under privacy law) reasons and/or by the patients themselves, including any exercise of their right to refuse Learner(s) access. The Site will use its reasonable best efforts to provide the necessary mix of patients to meet the educational needs of the Learner(s).
4. The Site will ensure that qualified Clinical Instructor(s) will supervise the activities of the Learner throughout the course of the placement.
5. At the outset of the Placement, the Site is expected to provide the Learner with an orientation of the work environment including all relevant institutional policies and procedures.
6. The Site will provide a safe environment for Learners and will not place Learners in areas that are deemed to be or might reasonably be considered to be unsafe.
7. The Site shall take reasonable steps to ensure that Learner(s) are aware of and understand:
    a. Their responsibilities to Site as a Learner, including but not limited to, their obligation to maintain appropriate and professional behavior during the term of their placement, to preserve patients' privacy and the confidentiality of patients' personal health information and all other related confidential information and matters;
    b. That Learners must comply with the policies, procedures, regulations and directions of the - Site; and
    c. Their obligation to exercise reasonable skill in the performance of assignments during Placements, given their level of training and demonstrated experience.
8. At the end of the Placement(s) the Site and Clinical Instructor are expected to complete a brief evaluation survey.

[4] See: CSMLS - SCSLM / Professional Liability Insurance

9. The Site agrees to indemnify and save harmless the CSMLS and from all loss, cost, expense, judgment or damage on account of injury or damage to persons or property, including death, in any way caused by the negligence or willful act of the Site, its servants, agents, students or employees related to or arising from the programs or other matters to which this Agreement pertains.

Consideration:

1. The Site shall be compensated $1,750.00 CAD per week per Placement (based on a 35.0 hour work week at a rate of $50 per hour).
2. The Site will invoice the CSMLS on a monthly basis for services rendered. Each invoice is to include the name of the Learner; the name of the Site; and the number of weeks (during that billing period/month) the Learner was in a supervised Placement.

Term and Termination:

1. This agreement will be in effect from the date noted at the top until April 30, 2022.
2. This agreement can be terminated at any time by either party upon providing notice in writing of at least ninety (90) days. Upon termination, the parties agree to work collaboratively to facilitate the conclusion or alternative arrangements for any ongoing or scheduled Placement(s).

Confidentiality:

The CSMLS and Site undertake to keep confidential all reports, statements, memoranda, recommendations, documents or information respecting patient care, Learner performance, peer review, research, and all other matters of a personal and confidential nature.

IN WITNESS WHEREOF the CSMLS has executed this Agreement by its duly authorized officer and the Site has hereunto affixed his/her hand and seal as at the date first above written.

SIGNED, SEALED AND DELIVERED at Hamilton in the presence of:

Xxxxx
Site

Christine Nielsen,
Chief Executive Officer, CSMLS

# Appendix E: Ideal Clinical Placement Blueprint

INSTRUCTIONS FOR THE APPLICANT

CSMLS assessors have determined that it will be necessary for you to fill certain identified gaps in your medical laboratory technology education before you can become eligible to write the CSMLS certification exam. Gaps identified in your "Learning Plan" requirements can be filled either by successfully taking specific pre-approved courses or by completing a supervised clinical placement.

The material in this Clinical Placement Blueprint describes the specific activities you will need to complete under supervision for each discipline. All activities for the disciplines identified in your Learning Plan must be completed before you become eligible to write the CSMLS certification exam.

It is your responsibility to find and secure a clinical placement. Potential sites include hospitals and private clinics. It is possible that not all activities can be completed in a single location. Therefore, you may need to secure one or more sites to complete the requirements of your clinical placement. Please complete one Blueprint for each site used as part of your clinical placement. CSMLS is not responsible for securing a placement for you.

Page 3 of this document includes an information form that must be filled out before you submit the Blueprint to CSMLS. This includes your name and contact information, the start and end dates of your placement, the name of the institution where your clinical placement was completed, the contact information for your supervisor at this institution, and the names of all assessors who observed the various activities you completed.

A number of individual activities are listed under each discipline. Your qualified supervisor must observe you completing these satisfactorily and provide their signature next to each. While the duration of each placement will vary based on the individual, the site, and the discipline(s) involved, we expect that it will take you a maximum of 28 weeks to complete all five disciplines.

INSTRUCTIONS FOR THE SUPERVISOR AND ASSESSOR(S)

As you may know, CSMLS works on behalf of Canada's regulatory colleges to assess the knowledge and skills of internationally educated medical laboratory technologists (IEMLTs) prior to their becoming licensed. Many of these individuals have certain identified gaps that must be remediated before sitting the CSMLS certification exam. In many cases, individuals are able to fill these gaps through a focused clinical placement in a specific discipline. This Clinical Placement Blueprint details the specific activities an IEMLT must complete in a given discipline.

The terms of the clinical placement are solely the responsibility for you and the IEMLT to determine; CSMLS does not act as an intermediary in this regard. While the duration of each placement will vary based on the individual, the site, and the discipline(s) involved, we expect that it will take an IEMLT a maximum of 28 weeks to complete all five disciplines.

We ask that you provide the name of a supervisor and associated contact information for an individual at your organization whom we can contact to confirm related information, as well as the name of the individuals (assessors) who observed the IEMLT completing the enumerated tasks.

For each activity listed, we ask that the relevant assessors check a column next to each activity, either: "completed satisfactorily" or "did not assess". We also ask that assessors initial each activity.

INFORMATION SHEET

To be completed by the Applicant

Name: _____

File Number: _____

Start Date of Clinical Placement: _____

End Date of Clinical Placement: _____

To be completed by the Supervisor

Name of Organization: _____

Name of Primary Contact: _____

Address: _____

Phone: _____

Email: _____

Name(s) of Assessors: _____

| CLINICAL CHEMISTRY | | Completed satisfactorily ✓ | Did not assess ✓ | Initials |
|---|---|---|---|---|
| | Instrumentation | | | |
| CC-1 | • Verify specimen suitability according to established protocol for routine chemistry testing | | | |
| CC-2 | • Analyze routine chemistry specimens using established protocols | | | |
| CC-3 | • Perform instrument daily maintenance, start-up, calibration and quality control procedures | | | |
| CC-4 | • Organize, operate and troubleshoot assigned workload on the principle analyzer | | | |
| CC-5 | • Prioritize analyses (e.g., stat, urgent, routine, sample stability) and incorporate into workflow | | | |
| CC-6 | • Perform calculations as required (e.g., clearance, urine results, anion gap) | | | |
| | Immunoassay | | | |
| CC-7 | • Perform immunological techniques as appropriate | | | |
| CC-8 | • Identify error codes and follow-up procedures for immunoassay testing | | | |
| | Toxicology and Therapeutic Drug Monitoring (TDM) | | | |
| CC-9 | • Apply trough, peak, steady-state, collection time and patient history considerations to therapeutic drug monitoring | | | |
| CC-10 | • Classify common types of drugs of abuse | | | |
| CC-11 | • Perform analysis for drug monitoring including: assessing, preparing and processing specimens; instrument maintenance, start-up, calibration and quality control procedures; identifying and reacting to critical values | | | |
| | Electrophoresis | | | |
| CC-12 | • Perform routine electrophoresis including densitometry | | | |
| CC-13 | • Perform established maintenance procedures | | | |
| CC-14 | • Identify sources of error encountered in, and corrective actions for, electrophoresis | | | |
| CC-15 | • Correlate electrophoresis results to various disorders | | | |
| | Osmometry | | | |
| CC-16 | • Operate a freezing point osmometer | | | |
| CC-17 | • Comply with lab protocols with regard to problem solving, responding to stat and abnormal results, instrument maintenance and quality control/assurance practice | | | |

| | | | | |
|---|---|---|---|---|
| CC-18 | • Discuss the limitations of the method and the clinical significance of performing an osmolality and osmolar gap | | | |
| | Point of Care Testing (POCT) | | | |
| CC-19 | • Describe the laboratory's role in point-of-care testing | | | |
| CC-20 | • Perform point-of-care testing techniques | | | |
| | Endocrinology | | | |
| CC-21 | • Explain the importance of following protocol with respect to specimen collection and handling for endocrinology | | | |
| | Blood Gases | | | |
| CC-22 | • Correlate arterial blood gases (ABG) result with common disturbances | | | |
| CC-23 | • Assess sample suitability | | | |
| CC-24 | • Perform established maintenance procedures | | | |
| CC-25 | • Illustrate how specimen type influences the parameters for arterial blood gases, pH and glucose | | | |
| | Specimen Handling | | | |
| CC-26 | • Ensure required information is provided and corresponds with requisition and sample labeling | | | |
| CC-27 | • Prioritize specimens by test request, urgency, and specimen type | | | |
| CC-28 | • Comply with existing guidelines for specimen retention, storage, and disposal | | | |
| CC-29 | • Ensure protocols are followed for specimens with legal implications (e.g., blood alcohol) | | | |
| | Urinalysis | | | |
| CC-30 | • Verify specimen suitability according to established protocol for urinalysis | | | |
| CC-31 | • Analyze urine specimens using established protocol | | | |
| CC-32 | • Perform miscellaneous urine testing | | | |
| CC-33 | • Prepare and perform physical and chemical analyses on urines | | | |
| CC-34 | • Identify cellular and non-cellular components in microscopic urine sediment, differentiating between clinically significant and non-significant findings | | | |
| CC-35 | • Perform calculations related to timed urines (e.g., clearance, estimated Glomerular Filtration Rate (e-GFR)) | | | |
| CC-36 | • Recognize instrument problems and participate in troubleshooting | | | |
| CC-37 | • Recognize the implications of laboratory findings and identify further testing (e.g., dilutions, reflex) | | | |

| | Documentation, Interpretation & Reporting / Quality Management | | | |
|---|---|---|---|---|
| CC-38 | • Follow established protocols and procedures, including those for continuous quality control/assurance/improvement, risk management and point-of-care testing | | | |
| CC-39 | • Operate and maintain fridges, centrifuges and other laboratory equipment according to laboratory protocol | | | |
| CC-40 | • Recognize and resolve common sample problems | | | |
| CC-41 | • Recognize and address equipment/instrument malfunction (e.g., seek assistance and participate in troubleshooting) | | | |
| CC-42 | • Follow established preventative maintenance programs and maintain instrument logs as directed | | | |
| CC-43 | • Recognize the limitations and interference points of the techniques and reagents used | | | |
| CC-44 | • Recognize the relationship between analyses, clinical information/condition, implausible results and diagnoses including the significance of reference ranges, critical values, method limitations, sources of interference and delta checks | | | |
| CC-45 | • Recognize and investigate when results of patient analyses are unexpected (e.g., critical values, implausible results) | | | |
| CC-46 | • Participate in maintaining appropriate documentation, (e.g., document laboratory errors and corrective measures taken as necessary) | | | |
| CC-47 | • Recognize the implications of laboratory findings and identify further testing | | | |
| CC-48 | • Verify that all ordered analyses have been completed | | | |
| CC-49 | • Validate results before reporting | | | |
| CC-50 | • Release, communicate, and document communications of results of laboratory analyses to clients and stakeholders (e.g., nurses, physicians, Public Health, Infection Control) in an appropriate and timely manner | | | |
| CC-51 | • Use the computer adequately to record, store and retrieve data | | | |
| CC-52 | • Retain laboratory results in accordance with existing legislation | | | |
| CC-53 | • Comply with existing regulations for specimen retention, storage and disposal | | | |
| CC-54 | • Demonstrate the principles of quality management | | | |
| CC-55 | • Utilize responsible practices that contribute to the cost-effective use of health care resources | | | |

| | Safety | | | |
|---|---|---|---|---|
| CC-56 | • Apply appropriate laboratory hygiene and infection control practices to minimize possible dangers from biological specimens, laboratory supplies and equipment | | | |
| CC-57 | • Select and utilize appropriate methods for disinfection/sterilization of items while minimizing potential hazards | | | |
| CC-58 | • Apply the principles of standard precautions, including the use of personal protective equipment (PPE) (i.e., gloves, mask, goggles, lab coat, gown, face shield, and respirator) | | | |
| CC-59 | • Apply or demonstrate knowledge of spill containment and clean up procedures for infectious material and dangerous chemicals | | | |
| CC-60 | • Label, date, handle, store and dispose of chemicals, dyes, reagents, solutions and sharps, biological waste, toxic material, biological material according to the Workplace Hazardous Materials Information System (WHMIS), existing legislation and institutional policy | | | |
| CC-61 | • Apply or demonstrate knowledge of first aid measures in response to incidents, including the reporting procedures related to safety and personal injury (e.g., needle stick, physical or chemical injury) | | | |
| CC-62 | • Utilize laboratory safety devices in a correct manner (e.g., biological safety cabinets, fume hoods, laminar flow cabinets, safety pipetting devices, safety containers and carriers, safety showers, eye washes) | | | |
| CC-63 | • Apply or demonstrate knowledge in response to fire emergencies and evacuation procedures | | | |
| CC-64 | • Identify the location and use of all fire and protective equipment and select appropriate disinfectants | | | |
| CC-65 | • Handle and dispose of sharps according to institutional policy | | | |
| CC-66 | • Comply with safety regulations as they pertain to the medical laboratory department | | | |

The recommended length for a clinical placement in clinical chemistry for internationally-educated clients is 6 weeks.

| | HEMATOLOGY | Completed satisfactorily ✓ | Did not assess ✓ | Initials |
|---|---|---|---|---|
| | Coagulation | | | |
| HE-1 | • Perform routine coagulation testing | | | |
| | Manual Cell Procedures | | | |
| HE-2 | • Safely and correctly perform, and accurately report, the following tests: manual leukocyte count, manual platelet count | | | |
| | Peripheral Blood Film Examinations | | | |
| HE-3 | • Prepare peripheral blood and bone marrow smears; identify and differentiate normal, immature and abnormal white blood cells, red cells (including parasites) and platelets; recognize normal and abnormal morphology for red cells, white cells and platelets | | | |
| | Erythrocyte Sedimentation Rates (ESRs) | | | |
| HE-4 | • Correctly perform and accurately report ESRs following standard operating procedures and safety precautions | | | |
| | Automation | | | |
| HE-5 | • Verify specimen suitability according to established protocols | | | |
| HE-6 | • Process patient specimens and control materials through an automated multiparameter cell counter | | | |
| HE-7 | • Perform instrument maintenance, start-up and quality control procedures | | | |
| HE-8 | • Perform hemoglobin electrophoresis including densitometry | | | |
| HE-9 | • Correctly interpret analyzer flags/alerts | | | |
| | Body Fluids | | | |
| HE-10 | • Prepare, analyze and evaluate body fluids and cytospin smears | | | |
| | Specimen Handling | | | |
| HE-11 | • Ensure required information is provided and corresponds with requisition and sample labeling | | | |
| HE-12 | • Prioritize specimens by test request, urgency, and specimen type | | | |
| HE-13 | • Comply with existing guidelines for specimen retention, storage, and disposal | | | |

| | Documentation, Interpretation & Reporting / Quality Management | | | |
|---|---|---|---|---|
| HE-14 | • Follow established protocols and procedures, including those for continuous quality control/assurance/improvement, risk management and point-of-care testing | | | |
| HE-15 | • Operate and maintain fridges, centrifuges and other laboratory equipment according to laboratory protocol | | | |
| HE-16 | • Recognize and resolve common sample problems, such as lipemia, cold agglutinins, hemolysis, clots, EDT antibodies | | | |
| HE-17 | • Recognize and address equipment/instrument malfunction (e.g., seek assistance and participate in troubleshooting) | | | |
| HE-18 | • Follow established preventative maintenance programs and maintain instrument logs as directed | | | |
| HE-19 | • Recognize the limitations and interference points of the techniques and reagents used | | | |
| HE-20 | • Recognize the relationship between analyses, clinical information/condition, implausible results and diagnoses including the significance of reference ranges, critical values, method limitations, sources of interference and delta checks | | | |
| HE-21 | • Recognize and investigate when results of patient analyses are unexpected (e.g., critical values, implausible results) | | | |
| HE-22 | • Participate in maintaining appropriate documentation, (e.g., document laboratory errors and corrective measures taken as necessary) | | | |
| HE-23 | • Recognize the implications of laboratory findings and identify further testing | | | |
| HE-24 | • Verify that all ordered analyses have been completed | | | |
| HE-25 | • Validate results before reporting | | | |
| HE-26 | • Release, communicate, and document communications of results of laboratory analyses to clients and stakeholders (e.g., nurses, physicians, Infection Control) in an appropriate and timely manner | | | |
| HE-27 | • Use the computer adequately to record, store and retrieve data | | | |
| HE-28 | • Retain laboratory results in accordance with existing legislation | | | |
| HE-29 | • Comply with existing regulations for specimen retention, storage and disposal | | | |
| HE-30 | • Demonstrate the principles of quality management | | | |
| HE-31 | • Utilize responsible practices that contribute to the cost-effective use of health care resources | | | |

| | | | | |
|---|---|---|---|---|
| | Safety | | | |
| HE-32 | • Apply appropriate laboratory hygiene and infection control practices to minimize possible dangers from biological specimens, laboratory supplies and equipment | | | |
| HE-33 | • Select and utilize appropriate methods for disinfection/sterilization of items while minimizing potential hazards | | | |
| HE-34 | • Apply the principles of standard precautions, including the use of personal protective equipment (PPE) (i.e., gloves, mask, goggles, lab coat, gown, face shield, and respirator) | | | |
| HE-35 | • Apply or demonstrate knowledge of spill containment and clean up procedures for infectious material and dangerous chemicals | | | |
| HE-36 | • Label, date, handle, store and dispose of chemicals, dyes, reagents, solutions and sharps, biological waste, toxic material, biological material according to the Workplace Hazardous Materials Information System (WHMIS), existing legislation and institutional policy | | | |
| HE-37 | • Apply or demonstrate knowledge of first aid measures in response to incidents, including the reporting procedures related to safety and personal injury (e.g., needle stick, physical or chemical injury) | | | |
| HE-38 | • Utilize laboratory safety devices in a correct manner (e.g., biological safety cabinets, fume hoods, laminar flow cabinets, safety pipetting devices, safety containers and carriers, safety showers, eye washes) | | | |
| HE-39 | • Apply or demonstrate knowledge in response to fire emergencies and evacuation procedures | | | |
| HE-40 | • Identify the location and use of all fire and protective equipment and select appropriate disinfectants | | | |
| HE-41 | • Handle and dispose of sharps according to institutional policy | | | |
| HE-42 | • Comply with safety regulations as they pertain to the medical laboratory department | | | |

The recommended length for a clinical placement in hematology for internationally-educated clients is 4 weeks.

| TRANSFUSION SCIENCE | | Completed satisfactorily ✓ | Did not assess ✓ | Initials |
|---|---|---|---|---|
| | Pretransfusion Testing | | | |
| TS-1 | • Ensure that appropriate ABO/Rh and antibody screening specimens are procured according to protocol | | | |
| TS-2 | • Verify specimen suitability | | | |
| TS-3 | • Verify identification of specimen and requisition. Check patient transfusion history and establish sample expiry date | | | |
| TS-4 | • Perform ABO and Rh system typing, to include weak D testing and resolution of ABO grouping discrepancies | | | |
| TS-5 | • Demonstrate grading and interpretation of ABO/Rh and antibody screening tests | | | |
| TS-6 | • Perform and interpret antibody screen as required | | | |
| TS-7 | • Select the suitable method for crossmatching donor units (i.e., electronic, immediate spin, full anti-human globulin (AHG) crossmatch or emergency uncrossmatched) and perform crossmatching | | | |
| TS-8 | • Perform and evaluate a direct antiglobulin test (DAT), including follow-up testing if required (monospecific reagents, elution) | | | |
| TS-9 | • Where available, operate a semi-automated (MTS) /automated transfusion analyzer including loading and unloading, maintenance, troubleshooting error codes and recognizing flagged results | | | |
| TS-10 | • Apply the principles of microscopy to laboratory analysis where needed (inverted microscope) | | | |
| TS-11 | • Document all aspects of pretransfusion testing accurately and legibly | | | |
| | Transfusion Reactions | | | |
| TS-12 | • Check all relevant paperwork and verify patient identity | | | |
| TS-13 | • Perform an investigation on a reported transfusion reaction | | | |
| TS-14 | • Perform testing on pre- and post-transfusion reaction samples according to the laboratory standard operating procedure (SOP) | | | |

| | | | | |
|---|---|---|---|---|
| TS-15 | • Initiate appropriate follow-up for errors in documentation, positive DAT, hemolysis or icterus detected according to laboratory SOPs | | | |
| TS-16 | • Perform initial and appropriate follow up tests on suspected transfusion reactions | | | |
| TS-17 | • Perform additional follow-up test where required | | | |
| | Blood Components | | | |
| TS-18 | • Operate, maintain and monitor all equipment (refrigerator, freezer, cell washers, centrifuges, platelet agitators, plasma washers, incubators) | | | |
| TS-19 | • Identify and maintain optimal storage requirements for components and products | | | |
| TS-20 | • Maintain sorted inventory and documentation of all blood components/products | | | |
| TS-21 | • Respond to requests within appropriate time lines | | | |
| TS-22 | • Select the most appropriate blood component and product | | | |
| TS-23 | • Perform procedures required to make components/products transfusion ready | | | |
| TS-24 | • Determine suitability of product before issuing | | | |
| TS-25 | • Prepare blood and other related products for issue | | | |
| TS-26 | • Document all steps in the procedure in order to trace the final disposition of all donor products | | | |
| TS-27 | • Transport blood products according to institutional policy | | | |
| TS-28 | • Track transfused units (i.e., lookback, traceback) | | | |
| | Pre/Post Natal Testing | | | |
| TS-29 | • Perform prenatal tests and investigations | | | |
| TS-30 | • Perform testing on postnatal and cord specimens | | | |
| TS-31 | • Perform feto-maternal testing follow-up when required | | | |
| TS-32 | • Determine which mothers are eligible to receive Rh immune globulin and calculate dose | | | |
| TS-33 | • Issue Rh immune globulin | | | |
| TS-34 | • Perform pretransfusion testing for neonatal transfusions | | | |
| | Antibody Investigation | | | |
| TS-35 | • Perform irregular antibody investigations, including documentation of all results | | | |
| TS-36 | • Perform an antibody investigation and exclude antibodies using the established laboratory protocol | | | |
| TS-37 | • Differentiate between clinically significant and insignificant antibodies | | | |
| TS-38 | • Perform the RBC phenotype for patient and donor units | | | |
| TS-39 | • Select and issue the most appropriate blood for transfusion to patient with an unexpected antibody (autoantibody or alloantibody) | | | |

| | Documentation, Interpretation and Reporting/ Quality Management | | | |
|---|---|---|---|---|
| TS-40 | • Follow established protocols and procedures, including those for continuous quality control/assurance/improvement, risk management and point-of-care testing | | | |
| TS-41 | • Operate and maintain fridges, centrifuges and other laboratory equipment according to laboratory protocol | | | |
| TS-42 | • Recognize and resolve common sample problems | | | |
| TS-43 | • Perform quality control checks on blood components, reagents and equipment. | | | |
| TS-44 | • Recognize and address equipment/instrument malfunction (e.g., seek assistance and participate in troubleshooting) | | | |
| TS-45 | • Follow established preventative maintenance programs and maintain instrument logs as directed | | | |
| TS-46 | • Recognize the limitations and interference points of the techniques and reagents used | | | |
| TS-47 | • Recognize the relationship between analyses, clinical information/condition, implausible results and diagnoses including the significance of critical values, sources of interference and method limitations | | | |
| TS-48 | • Recognize and investigate when results of patient analyses are unexpected (e.g., critical values, implausible results). | | | |
| TS-49 | • Participate in maintaining appropriate documentation (e.g., document laboratory errors and corrective measures taken as necessary) | | | |
| TS-50 | • Recognize the implications of laboratory findings and identify further testing | | | |
| TS-51 | • Verify that all ordered analyses have been completed | | | |
| TS-52 | • Validate results before reporting | | | |
| TS-53 | • Release and communicate results of laboratory analyses to clients and stakeholders (e.g., nurses, physicians, Canadian Blood Services, Infection Control) in an appropriate manner | | | |
| TS-54 | • Use the computer adequately to record, store and retrieve data | | | |
| TS-55 | • Retain laboratory results in accordance with existing legislation | | | |
| TS-56 | • Comply with existing regulations for specimen retention, storage and disposal | | | |
| TS-57 | • Demonstrate principles of quality management regarding transfusion medicine reagents, equipment and records | | | |
| TS-58 | • Utilize responsible practices that contribute to the cost-effective use of health care resources | | | |

| | Safety | | | |
|---|---|---|---|---|
| TS-59 | • Apply appropriate laboratory hygiene and infection control practices to minimize possible dangers from biological specimens, laboratory supplies and equipment | | | |
| TS-60 | • Select and utilize appropriate methods for disinfection/sterilization of items while minimizing potential hazards | | | |
| TS-61 | • Apply the principles of standard precautions, including the use of personal protective equipment (PPE) (i.e., gloves, mask, goggles, lab coat, gown, face shield, and respirator) | | | |
| TS-62 | • Apply or demonstrate knowledge of spill containment and clean up procedures for infectious material and dangerous chemicals | | | |
| TS-63 | • Label, date, handle, store and dispose of chemicals, dyes, reagents, solutions and sharps, biological waste, toxic material, biological material according to the Workplace Hazardous Materials Information System (WHMIS), existing legislation and institutional policy | | | |
| TS-64 | • Apply or demonstrate knowledge of first aid measures in response to incidents, including the reporting procedures related to safety and personal injury (e.g., needle stick, physical or chemical injury) | | | |
| TS-65 | • Utilize laboratory safety devices in a correct manner (e.g., biological safety cabinets, fume hoods, laminar flow cabinets, safety pipetting devices, safety containers and carriers, safety showers, eye washes) | | | |
| TS-66 | • Apply or demonstrate knowledge in response to fire emergencies and evacuation procedures | | | |
| TS-67 | • Identify the location and use of all fire and protective equipment and select appropriate disinfectants | | | |
| TS-68 | • Handle and dispose of sharps according to institutional policy | | | |
| TS-69 | • Comply with safety regulations as they pertain to the medical laboratory department | | | |

The recommended length for a clinical placement in transfusion science for internationally-educated clients is 6 weeks.

| | MICROBIOLOGY | Completed satisfactorily ✓ | Did not assess ✓ | Initials |
|---|---|---|---|---|
| | Specimen Processing | | | |
| MI-1 | • Ensure that appropriate specimens are procured according to protocol | | | |
| MI-2 | • Ensure specimens have been correctly accessioned | | | |
| MI-3 | • Assess specimen suitability, specimen priority and apply rejection criteria, screening criteria, and reporting comments | | | |
| MI-4 | • Prepare specimens for planting and microscopic examination | | | |
| MI-5 | • Carry out planting all types of specimens for culture | | | |
| MI-6 | • Incubate plates in the proper atmospheric conditions and temperatures | | | |
| MI-7 | • Comply with existing guidelines for specimen retention, storage and disposal | | | |
| | Microscopy and Gram Stain | | | |
| MI-8 | • Set up compound light microscope for Koehler illumination and demonstrate proficient use and care of the microscope | | | |
| MI-9 | • Evaluate the quality of staining and take appropriate action to correct deficiencies | | | |
| MI-10 | • Perform and interpret Gram stained direct smears from clinical specimens | | | |
| MI-11 | • Identify and quantitate cells, bacteria and fungi in routine smears | | | |
| MI-12 | • Microscopically assess the quality of lower respiratory tract specimens | | | |
| MI-13 | • Assess vaginal smears for bacterial vaginosis and/or yeast | | | |
| MI-14 | • Interpret wet preparations for Trichomonas and/or yeast | | | |
| | Colonial Morphology and Identification | | | |
| MI-15 | • Characterize the colonial and microscopic morphology of organisms | | | |
| MI-16 | • Recognize colonial morphologies of normal flora and potential pathogens on each | | | |
| MI-17 | • Complete Gram stains from cultures | | | |
| MI-18 | • Correlate culture results with the direct smear | | | |
| MI-19 | • Perform analyses to screen and/or identify pathogens and rule out normal flora using appropriate tests, including immunological methods, test kits and automated instrumentation | | | |
| MI-20 | • Subculture organisms to ensure pure culture and isolated colonies appropriately | | | |

| | | | | |
|---|---|---|---|---|
| MI-21 | • Correlate results with patient data such as age, symptoms and multiple collection results to determine possible pathogen identification | | | |
| MI-22 | • Recognize the relationship between analyses, clinical information and diagnoses | | | |
| MI-23 | • Rule out non-clinically significant organisms | | | |
| MI-24 | • Apply molecular diagnostic techniques in pathogen detection | | | |
| MI-25 | • Refer isolates to the reference lab for testing as required | | | |
| MI-26 | • Recognize and investigate when results of patient analyses are unexpected (e.g., critical values, implausible results) | | | |
| MI-27 | • Suggest appropriate follow-up testing for aberrant results | | | |
| | Urines | | | |
| MI-28 | • Perform colony counts | | | |
| MI-29 | • Calculate and compare colony counts with clinical information and work up | | | |
| MI-30 | • Differentiate clinically significant and insignificant results including contamination | | | |
| MI-31 | • Recognize normal flora, pathogenic bacteria and/or yeast from the urinary tract and be able to confirm the identity of each pathogen or potential pathogen | | | |
| MI-32 | • Report urine cultures according to clinical site procedures | | | |
| | Gastro-intestinal (GI) Tract/Enteric | | | |
| MI-33 | • Perform analyses for clinically significant organisms from the gastrointestinal tract | | | |
| MI-34 | • Identify bacteria from gastrointestinal cultures | | | |
| MI-35 | • Report enteric cultures according to clinical site procedures | | | |
| | Genital | | | |
| MI-36 | • Recognize normal flora, pathogenic bacteria and/or yeast from the genital tract and be able to confirm the identity of each pathogen or potential pathogen | | | |
| MI-37 | • Recognize colonial morphologies of normal flora and potential pathogens on each media used | | | |
| MI-38 | • Perform rapid testing methods to isolate Group B Streptococcus in expectant mothers at risk | | | |
| MI-39 | • Report genital cultures according to clinical site procedures | | | |
| | Respiratory | | | |
| MI-40 | • Recognize colonial morphology of normal flora and potential pathogens on routine media | | | |
| MI-41 | • Perform analyses to identify routine pathogens using appropriate tests including immunological methods, test kids and/or automated instrumentation | | | |
| MI-42 | • Report respiratory cultures according to clinical site procedures | | | |

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| | Wound, Tissue and Fluid Specimens | | | |
| MI-43 | • Recognize normal flora and potential pathogens, both aerobic and anaerobic, based on colonial morphologies on routine media | | | |
| MI-44 | • Perform analyses to identify routine pathogens using appropriate tests including immunological methods, test kits and/or automated instrumentation | | | |
| MI-45 | • Report wound and sterile fluid cultures according to clinical site procedures | | | |
| | Blood Cultures | | | |
| MI-46 | • Operate an automated blood culture system including loading and unloading, maintenance, troubleshooting error codes and recognizing flagged results | | | |
| MI-47 | • Prepare and interpret Gram stained smears | | | |
| MI-48 | • Differentiate possible contaminants from probable pathogens | | | |
| MI-49 | • Correlate results of blood cultures with other body sites | | | |
| MI-50 | • Report preliminary, positive and final negative blood cultures | | | |
| MI-51 | • Suggest appropriate follow-up testing for aberrant results for blood cultures | | | |
| MI-52 | • Operate and maintain an automated blood culture instrument | | | |
| | Susceptibility Testing | | | |
| MI-53 | • Perform and interpret antimicrobial susceptibility testing on routine pathogens according to the Clinical and Laboratory Standards Institute (CLSI) Guidelines, including appropriate methods such as automated instrumentation, Kirby-Bauer, Double disk diffusion (D) test, Epsilometer (E) test | | | |
| MI-54 | • Perform analyses to screen and/or identify common antibiotic resistance in organisms | | | |
| MI-55 | • Categorize methicillin resistant staphylococcus aureus (MRSA), extended spectrum beta lactamase (ESBL), vancomycin resistant enterococcus (VRE), and beta lactamase producers | | | |
| MI-56 | • Report any antibiotic resistant organism (ARO) isolate susceptibility testing as determined by established protocols | | | |
| MI-57 | • Suggest appropriate follow-up testing for aberrant results for quality control and susceptibility testing | | | |
| MI-58 | • Report antimicrobial susceptibility testing results according to clinical site procedures and specimen source | | | |

| | Documentation, Interpretation and Reporting/ Quality Management | | | |
|---|---|---|---|---|
| MI-59 | • Follow established protocols and procedures, including those for continuous quality control/assurance/improvement, risk management and point-of-care testing | | | |
| MI-60 | • Operate and maintain incubators, fridges, automated stainers, centrifuges and biohazard hoods according to lab protocol | | | |
| MI-61 | • Recognize and resolve common sample problems | | | |
| MI-62 | • Recognize and address equipment/instrument malfunction (e.g., seek assistance and participate in troubleshooting) | | | |
| MI-63 | • Follow established preventative maintenance programs and maintain instrument logs as directed | | | |
| MI-64 | • Recognize the limitations and interference points of the techniques and reagents used | | | |
| MI-65 | • Recognize the relationship between analyses, clinical information/condition, implausible results and diagnoses including the significance of critical values, sources of interference and method limitations | | | |
| MI-66 | • Recognize and investigate when results of patient analyses are unexpected (e.g., critical values, implausible results) | | | |
| MI-67 | • Participate in maintaining appropriate documentation (e.g., document laboratory errors and corrective measures taken as necessary) | | | |
| MI-68 | • Complete susceptibility testing and related quality control practices | | | |
| MI-69 | • Recognize the implications of laboratory findings and identify further testing | | | |
| MI-70 | • Verify that all ordered analyses have been completed | | | |
| MI-71 | • Validate results before reporting | | | |
| MI-72 | • Release and communicate results of laboratory analyses to clients and stakeholders (e.g., nurses, physicians, Public Health, Infection Control) in an appropriate manner | | | |
| MI-73 | • Use the computer adequately to record, store and retrieve data | | | |
| MI-74 | • Retain laboratory results in accordance with existing legislation | | | |
| MI-75 | • Comply with existing regulations for specimen retention, storage and disposal | | | |
| MI-76 | • Demonstrate the principles of quality management | | | |
| MI-77 | • Utilize responsible practices that contribute to the cost-effective use of health care resources | | | |

| | Safety | | | |
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| MI-78 | • Apply appropriate laboratory hygiene and infection control practices to minimize possible dangers from biological specimens, laboratory supplies and equipment | | | |
| MI-79 | • Select and utilize appropriate methods for disinfection/sterilization of items while minimizing potential hazards | | | |
| MI-80 | • Apply the principles of standard precautions, including the use of personal protective equipment (PPE) (i.e., gloves, mask, goggles, lab coat, gown, face shield, and respirator) | | | |
| MI-81 | • Apply or demonstrate knowledge of spill containment and clean up procedures for infectious material and dangerous chemicals | | | |
| MI-82 | • Label, date, handle, store and dispose of chemicals, dyes, reagents, solutions and sharps, biological waste, toxic material, biological material according to the Workplace Hazardous Materials Information System (WHMIS), existing legislation and institutional policy | | | |
| MI-83 | • Apply or demonstrate knowledge of first aid measures in response to incidents, including the reporting procedures related to safety and personal injury (e.g., needle stick, physical or chemical injury) | | | |
| MI-84 | • Utilize laboratory safety devices in a correct manner (e.g., biological safety cabinets, fume hoods, laminar flow cabinets, safety pipetting devices, safety containers and carriers, safety showers, eye washes) | | | |
| MI-85 | • Apply or demonstrate knowledge in response to fire emergencies and evacuation procedures | | | |
| MI-86 | • Identify the location and use of all fire and protective equipment and select appropriate disinfectants | | | |
| MI-87 | • Apply appropriate laboratory hygiene and infection control practices to minimize possible dangers from biological specimens, laboratory supplies and equipment | | | |
| MI-88 | • Handle and dispose of sharps according to institutional policy | | | |
| MI-89 | • Comply with safety regulations as they pertain to the medical laboratory department | | | |

The recommended length for a clinical placement in clinical microbiology for internationally-educated clients is 8 weeks.

| | HISTOTECHNOLOGY | Completed satisfactorily ✓ | Did not assess ✓ | Initials |
|---|---|---|---|---|
| | Specimen Preparation | | | |
| HI-1 | • Prioritize specimens by test request, urgency and specimen type | | | |
| HI-2 | • Assess specimen suitability | | | |
| HI-3 | • Ensure required information is provided and corresponds with requisition and sample | | | |
| HI-4 | • Take corrective actions to address deficiencies | | | |
| HI-5 | • Register specimens into Laboratory Information System | | | |
| HI-6 | • Prepare and maintain gross dissection area | | | |
| HI-7 | • Assist the pathologist in the gross room | | | |
| | Fixation | | | |
| HI-8 | • Prepare appropriate reagents for fixation and decalcification if required | | | |
| HI-9 | • Safely perform fixation, decalcification and secondary fixation as required and according to established protocols | | | |
| HI-10 | • Prepare frozen sections | | | |
| HI-11 | • Troubleshoot as necessary (e.g., fixation artifacts and pigments) | | | |
| | Processing | | | |
| HI-12 | • Select appropriate reagents for paraffin processing | | | |
| HI-13 | • Operate an automated tissue processor | | | |
| HI-14 | • Perform maintenance of a tissue processor | | | |
| HI-15 | • Perform basic troubleshooting procedures for processing | | | |
| | Embedding | | | |
| HI-16 | • Correctly orientate and embed a variety of types of tissue specimens in paraffin blocks | | | |
| HI-17 | • Operate and maintain an embedding center, cold plate, and accessories | | | |
| HI-18 | • Perform troubleshooting procedures for embedding (incorrect orientation, unevenness) | | | |

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| | Microtomy | | | |
| HI-19 | • Cut artifact-free paraffin sections on a microtome and transfer to correctly-labeled slides | | | |
| HI-20 | • Operate and maintain the microtome, water bath, slide dryer, and related accessories | | | |
| HI-21 | • Recognize and troubleshoot slide preparation errors: chattering, compression, air bubbles, tears, folds, wrinkles, etc. | | | |
| | Frozen Sections | | | |
| HI-22 | • Perform cryotomy on fresh tissue following established protocols | | | |
| HI-23 | • Operate and maintain the cryostat and accessories | | | |
| HI-24 | • Demonstrate knowledge of a cryostat decontamination procedure | | | |
| HI-25 | • Perform a rapid Hematoxylin and Eosin (H & E) stain on a frozen section | | | |
| | Staining | | | |
| HI-26 | • Perform stains of acceptable quality for the diagnosis on tissue sections, peripheral blood and bone marrow films and microbiological smears, including the selection of control slides where appropriate | | | |
| HI-27 | • Perform and troubleshoot stained tissues: H & E, connective tissue, microorganisms, carbohydrates, lipids, pigments, immunochemistry (advanced technique) | | | |
| HI-28 | • Correlate relationship between staining technique and target tissue component | | | |
| HI-29 | • Apply the principles of microscopy to evaluate stained slides | | | |
| HI-30 | • Simultaneously perform multiple special stains | | | |
| HI-31 | • Prepare, store and dispose of reagents used in routine and special staining | | | |
| HI-32 | • Safely and correctly perform manual and automatic cover-slipping and labeling of stained slides | | | |
| HI-33 | • Operate and maintain an automated stainer and coverslipper (where available) | | | |
| | Microanatomy | | | |
| HI-34 | • Identify and describe epithelial tissues, support tissues, muscle, cartilage, bone, nerve and vascular tissue using a correctly set-up microscope | | | |
| HI-35 | • Identify and describe the following microanatomical tissues: lungs, esophagus, stomach, pancreas, small intestine, large intestine, appendix, liver, gall bladder, spleen, kidney, testis, skin, uterus, cervix, ovary, prostate, lymph node, breast, adrenal, thyroid, heart, cerebrum, cerebellum, bone | | | |
| HI-36 | • Describe the relevance of microanatomical study to the histotechnologist, including its use in quality control/assurance practices | | | |
| HI-37 | • Apply the principles of microscopy to viewing the microscope set in Kohler | | | |

| | Documentation, Interpretation and Reporting/ Quality Management | | | |
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| HI-38 | • Follow established protocols and procedures, including those for continuous quality control/assurance/improvement, and risk management | | | |
| HI-39 | • Operate and maintain fridges, centrifuges and other laboratory equipment according to laboratory protocol | | | |
| HI-40 | • Recognize and resolve common sample problems | | | |
| HI-41 | • Recognize and address equipment/instrument malfunction (e.g., seek assistance and participate in troubleshooting) | | | |
| HI-42 | • Follow established preventative maintenance programs and maintain instrument logs as directed | | | |
| HI-43 | • Recognize the limitations and interference points of the techniques and reagents used | | | |
| HI-44 | • Recognize the relationship between analyses, clinical information/condition, implausible results and diagnoses including the significance of critical values, sources of interference and method limitations | | | |
| HI-45 | • Recognize and investigate when results of patient analyses are unexpected (e.g., critical values, implausible results) | | | |
| HI-46 | • Participate in maintaining appropriate documentation (e.g., document laboratory errors and corrective measures taken as necessary) | | | |
| HI-47 | • Recognize the implications of laboratory findings and identify further testing | | | |
| HI-48 | • Verify that all ordered analyses have been completed | | | |
| HI-49 | • Validate results before reporting | | | |
| HI-50 | • Release, communicate, and document communications of results of laboratory analyses to clients and stakeholders (e.g., nurses, physicians, Infection Control) in an appropriate and timely manner | | | |
| HI-51 | • Retain laboratory results in accordance with existing legislation | | | |
| HI-52 | • Use the computer adequately to record, store and retrieve data | | | |
| HI-53 | • Comply with existing regulations for specimen retention, storage and disposal | | | |
| HI-54 | • Conform to lab protocols regarding storage of blocks and slides | | | |
| HI-55 | • Demonstrate the principles of quality management | | | |
| HI-56 | • Utilize responsible practices that contribute to the cost-effective use of health care resources | | | |

| | Safety | | | |
|---|---|---|---|---|
| HI-57 | • Apply appropriate laboratory hygiene and infection control practices to minimize possible dangers from biological specimens, laboratory supplies and equipment | | | |
| HI-58 | • Select and utilize appropriate methods for disinfection/sterilization of items while minimizing potential hazards | | | |
| HI-59 | • Apply the principles of standard precautions, including the use of personal protective equipment (PPE) (i.e., gloves, mask, goggles, lab coat, gown, face shield, and respirator) | | | |
| HI-60 | • Apply or demonstrate knowledge of spill containment and clean up procedures for infectious material and dangerous chemicals | | | |
| HI-61 | • Label, date, handle, store and dispose of chemicals, dyes, reagents, solutions and sharps, biological waste, toxic material, biological material according to the Workplace Hazardous Materials Information System (WHMIS), existing legislation and institutional policy | | | |
| HI-62 | • Apply or demonstrate knowledge of first aid measures in response to incidents, including the reporting procedures related to safety and personal injury (e.g., needle stick, physical or chemical injury) | | | |
| HI-63 | • Utilize laboratory safety devices in a correct manner (e.g., biological safety cabinets, fume hoods, laminar flow cabinets, safety pipetting devices, safety containers and carriers, safety showers, eye washes) | | | |
| HI-64 | • Apply or demonstrate knowledge in response to fire emergencies and evacuation procedures | | | |
| HI-65 | • Identify the location and use of all fire and protective equipment and select appropriate disinfectants | | | |
| HI-66 | • Handle and dispose of sharps according to institutional policy | | | |
| HI-67 | • Comply with safety regulations as they pertain to the medical laboratory department | | | |

The recommended length for a clinical placement in histotechnology for internationally-educated clients is 4 weeks.