Implementing an Evaluation Process for your Transfusion Competency Assessment Program
TABLE OF CONTENTS

ACKNOWLEDGEMENTS .................................................................................................................................................. 3
ABBREVIATIONS AND DEFINITIONS .......................................................................................................................... 3
INTRODUCTION ........................................................................................................................................................... 4
PURPOSE AND RATIONALE ........................................................................................................................................... 4
SCOPE ........................................................................................................................................................................... 5
COMPETENCY ASSESSMENT PROGRAMS (CAPs) ...................................................................................................... 5
STRATEGIES FOR EVALUATION .................................................................................................................................. 6
A. Monitor Assessment Scores ......................................................................................................................................... 6
B. Pre/Post Assessments/Tests ......................................................................................................................................... 7
C. Learner/Employee Feedback ....................................................................................................................................... 7
D. Review of Nonconformance and Incident Reports .................................................................................................... 8
E. Customer Feedback ..................................................................................................................................................... 8
F. Review of Critical or Rare Events .................................................................................................................................. 8
G. TM Laboratory Audits .................................................................................................................................................. 9
SUMMARY ...................................................................................................................................................................... 9
REFERENCES ................................................................................................................................................................. 10
APPENDIX 1 - EVALUATION OF TM LABORATORY CAP POLICY ....................................................................................... 11
APPENDIX 2 – PRE/POST TEST EVALUATION FOR TM LABORATORY CAP ........................................................................... 14
APPENDIX 3 – LEARNER/EMPLOYEE TRAINING FEEDBACK FORM .................................................................................. 15
APPENDIX 4 – LEARNER/EMPLOYEE TRAINING FEEDBACK FORM (2-6 MONTHS POST TRAINING) ........................................ 16

DISCLAIMER

The publisher, author(s)/general editor(s) and every person involved in the creation of this publication, whether directly or indirectly, shall not be liable for any loss, injury, claim, liability or damage of any kind resulting from the use of or reliance on any information or material contained in this publication. This publication is intended for information purposes only, without any warranties of any kind. Without limitation, the publication is not intended or designed to constitute or replace medical advice or to be used for diagnosis. If specific information on personal health matters is sought, advice from a physician or other appropriate health professional should be obtained. Any decision involving patient care should be based on the judgement of the attending physician according to the needs and condition of each individual patient. The publisher, author(s)/general editor(s) and every person involved in the creation of this publication disclaim all liability in respect of the results of any actions taken in reliance upon information contained in this publication and for any errors or omissions in the publication. They expressly disclaim liability to any user/reader of the publication.
ACKNOWLEDGEMENTS

Ontario Regional Blood Coordinating Network (ORBCoN) would like to acknowledge Denise Evanovitch who led this project. In addition, we would like to recognize and thank the following individuals and their hospitals for their contribution of providing valuable resources and feedback on this toolkit:

- Jeff Kinney, Coordinator Transfusion Medicine, Pathology and Laboratory Medicine (PaLM), London Health Sciences Centre and St. Joseph’s Health Care London
- Marvin Jones, Charge Technologist Transfusion Medicine Department, Health Sciences North
- Janet Sharun, Coordinator Transfusion Services, Thunder Bay Regional Health Sciences Centre
- Krista Walters, Charge Technologist, Transfusion Medicine/Education, Niagara Health
- Melanie Tokessy, Regional Discipline Manager for Transfusion Medicine, Tissue Typing/DNA and Molecular Diagnostic Laboratory, Eastern Ontario Regional Laboratory Association (EORLA)
- Terri Molloy, Staff Technologist, Accreditation Canada Diagnostics

ORBCoN gratefully acknowledges funding support provided by the Ontario Ministry of Health. The views expressed in this resource are those of the authors and of ORBCoN and do not necessarily reflect those of the Ontario Ministry of Health or the Government of Ontario.

ABBREVIATIONS AND DEFINITIONS

AC Diagnostics  Accreditation Canada Diagnostics
CAP       Competency Assessment Program
CSA       Canadian Standards Association
CSTM      Canadian Society for Transfusion Medicine
LIS       Laboratory Information System
MHP       Massive Hemorrhage Protocol
MLT       Medical Laboratory Technologist
ORBCoN    Ontario Regional Blood Coordinating Network
QMS       Quality Management System
SOP       Standard Operating Procedure
TS        Transfusion Service
TM        Transfusion Medicine
INTRODUCTION

Laboratory accreditation requirements in Ontario state that Transfusion Medicine (TM) laboratories must establish a competency assessment program (CAP) for their staff. Accreditation Canada Diagnostics\(^1\) (AC Diagnostics) requirement \textbf{I.B.10} states:

\textit{There shall be a process in place to evaluate staff skills to perform assigned managerial and/or technical tasks according to established criteria following training. Reassessment shall take place at regular intervals. Retraining shall occur when necessary. Records shall be maintained.}

In 2017, AC Diagnostics introduced a new transfusion requirement, \textbf{TM196}, to \textbf{I.B.10}. \textbf{TM196} expands the quality management responsibility for the organization’s training program:

\textit{The effectiveness of the competency assessment program shall be evaluated periodically as needed, and this evaluation shall be documented.}

\textit{The purpose of the evaluation should be to determine the ability of the program to measure competency levels, highlight areas needing improvement, and improve individual as well as overall competency.}

This requirement was added to align with the CSA Z902:20 Standards for Blood and Blood Components\(^2\) standard \textbf{4.3.3.2}:

\textit{The effectiveness of the competency assessment program shall be evaluated periodically as needed, and this evaluation shall be documented. Note: The purpose of the evaluation should be to determine the ability of the program to measure competency levels, highlight areas needing improvement, and improve individual as well as overall competency.}

This is also addressed in the Canadian Society for Transfusion Medicine (CSTM) Standards for Hospital Transfusion Services\(^3\) (TS) standard \textbf{2.13}:

\textit{The TS shall have policies, processes and procedures to evaluate the effectiveness of the training program which shall include the frequency of the assessment.}

Thus, TM laboratories must establish both a CAP and a process to demonstrate that the program is evaluated periodically for effectiveness. Many TM laboratories already have elements of an evaluation process in place, but they may need assistance in formalizing this process in order to clearly demonstrate that the evaluation is being performed.

This toolkit contains suggestions to assist your TM laboratory in meeting the TM196 requirement. If you already have processes in place that are working, there is no intention for you to replace them with the resources contained within this document.

PURPOSE AND RATIONALE

ORBCoN analyzes the most frequently cited transfusion related nonconformances issued from AC Diagnostics during Ontario laboratory accreditation assessments on an annual basis. ORBCoN resources are cross-referenced to these nonconformances to assess if there are existing resources for laboratories to assist them in meeting the requirements or if there is a need to develop new tools or resources.

After TM196 was released by AC Diagnostics, ORBCoN noted that many laboratories were cited as not being able to meet this requirement. ORBCoN determined that their current library of resources did not address TM196, and the need for this toolkit was identified.
SCOPE

This toolkit provides a guide to support hospital personnel in developing strategies to perform and document evaluation of their CAP and in so doing, enable their hospital transfusion laboratory to comply with accreditation requirement TM196.

This toolkit addresses evaluation of competency assessment for front line TM laboratory staff (MLTs and technicians). This toolkit does not define your CAP, but rather, focuses on the evaluation of its effectiveness and helps identify any areas where it could be improved.

Note: This toolkit does not address the evaluation of competency assessment of laboratory management and administration personnel as their responsibilities are covered under sections I and II of the AC Diagnostics’ requirements. And although training and competency assessment must be provided to clinical staff who administer blood components and products (see AC Diagnostics, I.B.10, TM 111) the responsibility for evaluating that CAP is not currently included in AC Diagnostics.

COMPETENCY ASSESSMENT PROGRAMS (CAPs)

As previously stated, the purpose of this document is not to define your laboratory’s CAP. The intent of the toolkit is to support laboratories with resources to assist them in the evaluation of their CAPs. However, some definitions and key elements of a CAP will be discussed in this section to provide some clarity with terminology used in training and competency assessment.

The Key Elements of a Competency Assessment Program

| What is a CAP? | A system for measuring and documenting personnel competency through the effective application of knowledge, skills and attitudes (or behaviors). These three elements are known as “KSAs”. A CAP defines who needs assessing, how frequently, what is assessed and how the assessments will take place. |
| What is the Purpose of a CAP? | The goal of the CAP is to demonstrate that staff have the required skills to perform their job and also to identify problems or gaps so they may be corrected. Reinforcing competency also helps staff feel confident in performing their job. |
| When is Competency Assessed? | ✓ After initial training, during the orientation process for new hires and more than once in the employee’s first year ✓ After training on the introduction of new procedures, policies or equipment ✓ For employees following return to work from a leave of absence ✓ Ongoing throughout the employee’s tenure. |
| How are Employees Assessed? | Observation, written tests or quizzes, quality control review, record review, proficiency testing, multiple employees blindly retesting samples or proficiency samples, review of test results, computer entry review, audits, case studies, simulations, tracking relevant continuing education. |
| Competency Assessment Documents | Policies to define who will be assessing employees, how frequently, what will be assessed, the defined assessment methodology and how this information is reviewed. Standard forms and checklists. |
What Laboratory Processes are Assessed?

All processes contained from preanalytical to post-analytical phases should be included in your CAP.

What are the Different Types of Training and Competency Assessment?

Initial: this is training (or orientation) provided to new employees or training provided to existing employees for something new (new policy, process, procedure, equipment, information system.

Remedial: additional training provided to a particular employee, whether new or experienced, when they are unable to achieve the CAP requirements.

Back to Work: training provided to an employee who has been absent from the workplace for a defined period of time (e.g., 6 months).

Ongoing: experienced employees are assessed periodically for competency for all critical tasks by various methods.

KEY FACTORS FOR SUCCESS OF EVALUATING A CAP

- A robust CAP – will facilitate the process for its evaluation. The program should incorporate various methods of assessing competency (e.g., not just quizzes) including a variety of activities scheduled over the year. Initial learning and competence and ongoing competence must be demonstrated by your CAP.

- A policy – the requirements for TM196 may be contained in a stand-alone policy or this requirement may be included in your existing laboratory Quality Management System (QMS) policy. The policy should be explicit and state that your TM laboratory has an evaluation process in place for your TM CAP. It should include an indication of the frequency of the evaluation, task and role responsibilities and examples of the indicators that will be measured. See appendix 1 for a model of this type of policy.

- Learner/employee feedback systems – can provide information to demonstrate if employees feel the training they have received has provided the sufficient knowledge and skills to competently perform their tasks.

- High functioning nonconformance and incident reporting systems – can help detect deficiencies in the CAP.

- Customer feedback, debriefing of critical or rare events and TM laboratory audits – can all be used to indicate if competency of personnel is sufficient or if there is a need for improvement.

STRATEGIES FOR EVALUATION

A. Monitor Assessment Scores

Your laboratory CAP should establish minimum assessment or pass scores to assist in determining if a staff member meets your competency requirements, both in initial training and in ongoing competency assessment exercises. For example, some organizations use 80% as a minimum pass grade. In other organizations, the minimum pass score may vary depending on the critical consequence and complexity of the task. In the case of ABO blood group interpretation, a laboratory may select 90 or 100% as a pass grade since the consequences of misinterpreting an ABO blood group can be grave.

The monitoring and analysis of these pass scores can be a key element in the evaluation of your CAP. This data can inform you about:

- Your pass/failure rate and how it may relate to training and your CAP. Do most people pass initially or is more training and assistance required? Is the initial training adequate?
- Is there a pattern of specific topics or areas where staff struggle with meeting the requirements? Is this related to the training and assessment methods?
The results of this monitoring and analysis process should be documented and retained as one component of your CAP evaluation process.

B. Pre/Post Assessments/Tests

A simple way to demonstrate evaluation of your CAP is to implement a pre and post-test program with your learning modules. Before a training session is conducted, have all participants complete a pre-session assessment, whether it is a written test or an observation of skills with a checklist. Reassure the learner(s) that this pre-test exercise will NOT appear in their competency records. It is a tool that can be used by your TM laboratory to evaluate the quality of your training and CAP and highlight areas that may require improvement.

Pre and post assessment instruments can be used for individual learners (new hires or return from leave) or group learner scenarios like introducing a new instrument, policy or procedure to your TM laboratory. They may also be helpful in remedial training scenarios. Pre and post assessments are not usually in place for ongoing competency assessment exercises for experienced staff.

Questions for both the pre and post-test or skill checklists should take no more than 30 minutes to complete. The questions for both assessments should be the same, in order to perform a valid comparison. The questions should be prepared from your Standard Operating Procedures (SOPs) and policies related to the topic(s) and should address the primary learning objectives. One resource that may prove helpful are the question banks contained in ORBCoN’s ‘Bloody Easy Tech Assessments’.

The pre-test/assessment scores are compared to the post-test scores. The reviewer will examine the results to determine if an acceptable post score was achieved, and if learning took place in the training session which is reflected in the improvement in score in the post-test. Post-test scores may also give an indication of weaknesses in the training program when one or more topics or questions consistently have lower scores and should be further investigated. Even in a single learner scenario, if a post-test score is unacceptable, the reason will need to be investigated. It may be a symptom of a deficiency in the CAP. See appendix 2 for an example of a form used for pre/post assessments that you may find helpful.

Information gleaned from preassessments is also valuable in shaping your CAP. If you note a pattern where one or more questions consistently have lower scores, you will know to focus some attention to these topics in the training module to ensure your learners will be able to close the knowledge/skill gap.

The above strategies include training scenarios for new employees and in the introduction of new policies and procedures for existing staff. The data from your ongoing competency assessment are as equally important as the data from assessment of new staff and new procedures in the analysis of the effectiveness of your CAP. The strategies below may provide support in assessing the effectiveness of ongoing competency assessment efforts.

C. Learner/Employee Feedback

Another tool that is useful in assessing your CAP is to ask your learners/employees to evaluate the training they received. A feedback form may be provided to each employee after every training event, and 2-6 months post-training to assist you in establishing the effectiveness of your CAP.

The individuals who actually use your organization’s policies, procedures and training programs have valuable insight as to what techniques and tools maximize their learning. See appendix 3 and appendix 4 for examples of two feedback forms: one to use at the end of initial training (for new staff or new procedures) and one to use 2-6 months post-training.
to test knowledge retention.

You could also develop a simple tool for employees to complete periodically to collect feedback about your ongoing CAP.

D. Review of Nonconformance and Incident Reports

The review of nonconformance and incident reports can also give clues as to the robustness of your CAP. For example, if a reviewer notices several instances of overridden alerts in the laboratory information system (LIS) that should not have been overridden, further investigation (root cause analysis) is required. This analysis should include interviewing the staff members who failed to acknowledge the alert. The analysis may reveal a deficiency in the training program or a deficiency in the process. For example, the LIS system may have too many alerts, creating alert fatigue.

Some, but not all incidents, are related to training. Therefore, incidents should be carefully analyzed for training deficiencies. For example, in a situation where an employee is exposed to possibly biohazardous material from the mishandling of equipment, it may identify a training issue. However, your analysis may indicate that this scenario was not a training issue at all. Perhaps the technologist was interrupted multiple times during a busy shift while managing a post-partum hemorrhage. Such reviews are documented and retained and can serve as evidence of your CAP evaluation.

E. Customer Feedback

Review of customer feedback may also give you evidence of the effectiveness of your CAP. This feedback is elicited through your laboratory’s formal, periodic laboratory feedback processes or through customer commendations or complaints.

Examples of feedback situations that may be incorporated in your CAP evaluation include:

- Praise from the clinical area for effectively handling a post-partum hemorrhage;
- Complaint about receiving the incorrect blood product

The first scenario reflects well on the knowledge and efficiency of the staff members involved and is an indicator that your CAP for this scenario is functioning well. The second scenario involving the complaint, would require an investigation to determine if the error is due to the training program. If it is, you would need to identify corrective actions needed to mitigate its recurrence. Again, documentation of the investigation and resulting corrective action(s) would be evidence showing that your CAP is being evaluated for its effectiveness.

F. Review of Critical or Rare Events

Another method of evaluating your CAP is the review of critical or rare events. An example of a critical event is an activation of your Massive Hemorrhage Protocol (MHP). Examples of rare events are performing the Donath Landsteiner test or providing infrequently requested blood products, such as CMV seronegative red blood cells (depending on your level of service). A loss of essential services (usually identified as “Code Grey”) could also be considered both a rare and critical event.

If we take an MHP as a critical example, an important part of this process is the debrief and multidisciplinary review after its termination to look for improvements in the process. A key element would be to examine the robustness of training and practice drills. What worked well in the training process and are any improvements recommended?
G. TM Laboratory Audits

Training issues may also be identified in routine laboratory audits that are required in a QMS to meet accreditation requirements. TM laboratories are required to conduct regular audits to meet AC Diagnostics’ laboratory accreditation requirements. A few examples of quality indicators you may already be monitoring are:

- Irradiated blood product requirements. Have all patients with an irradiated blood product request have this need noted in your LIS and did they receive irradiated blood products?
- Rh negative mothers. Have babies from Rh negative mothers had the appropriate testing (Rh typing, weak D and Direct Antiglobulin Test where appropriate)? Was a fetal-maternal hemorrhage test performed and the correct dose of Rh immune globulin issued?
- ABO blood group and Rh type interpretation review. Was the interpretation of all test results correct?
- Inappropriate component and blood product orders. The audit will determine if steps were taken by the TM laboratory to verify/question requests falling outside of the hospital transfusion guidelines.10,11
- Proficiency testing review. Was all testing reported as expected? Were any unexpected results investigated? Were any follow up actions completed?
- Review of the record review process. For example, equipment maintenance and antibody investigation. This type of audit will monitor a senior technologist’s role.

NOTE: Example forms are provided for strategies B and C described above (see Appendix 2-4). For strategy F, a good example guide for debriefing after an event like a MHP can be found on ORBCoN’s website.

As a quick reference, the table below describes the training/assessment scenarios where you may find each of the strategies helpful.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Type of Training Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Monitor assessment scores</td>
<td>Initial, remedial, back to work, ongoing</td>
</tr>
<tr>
<td>B. Pre/post tests and assessments</td>
<td>Initial, remedial</td>
</tr>
<tr>
<td>C. Learner/employee feedback</td>
<td>Initial, remedial, back to work, ongoing</td>
</tr>
<tr>
<td>D. Review of Nonconformance and Incident Reports</td>
<td>All, but would primarily capture ongoing</td>
</tr>
<tr>
<td>E. Customer feedback</td>
<td>All, but would primarily capture ongoing</td>
</tr>
<tr>
<td>F. Review of Critical or Rare Events</td>
<td>All, but would primarily capture ongoing</td>
</tr>
<tr>
<td>G. Transfusion Medicine Audits</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

**SUMMARY**

Many Ontario TM laboratories already have policies and processes in place to measure the effectiveness of their CAPs. This toolkit provides some tips and resources for laboratories to formalize this process and facilitate the reporting of their results to the required committees (e.g., Transfusion Committee) and to clearly demonstrate that this process is taking place to accreditation bodies.

Remember that this evaluation will not always demonstrate that your CAP is effective, and this finding is acceptable. Like any quality improvement endeavor, the important thing is to collect, analyze and act on the information obtained and seek continuous quality improvement. Ensuring that TM laboratory employees have the best training to perform their jobs is just one important element in providing our patients with the safest transfusions and testing possible.
REFERENCES

1. IQMH (under the auspices of AC Diagnostics), Medical Laboratory Accreditation Requirements, version 8, December 2019.
3. CSTM, Canadian Society for Transfusion Medicine, Standards for Hospital Transfusion Services, version 4, April 2017 (revised April 2018).
1.0 Definition / Purpose of Policy

The competency assessment program (CAP) for the transfusion medicine (TM) laboratory will be evaluated at regular intervals to ensure it is providing a valuable indicator that staff are performing their duties acceptably. The purpose is to identify any gaps in training or the execution of procedures, so they are remediated to avoid risk to patient care. The frequency of evaluation will be stated, and the evaluation will be documented.

The relevant accreditation requirements and standards are as follows:

From Accreditation Canada (AC) Diagnostics: I.B.10:

*There shall be a process in place to evaluate staff skills to perform assigned managerial and/or technical tasks according to established criteria following training. Reassessment shall take place at regular intervals. Retraining shall occur when necessary. Records shall be maintained.*

**TM196** expands the quality management responsibility for the organization’s training program:

*The effectiveness of the competency assessment program shall be evaluated periodically as needed, and this evaluation shall be documented.*

*The purpose of the evaluation should be to determine the ability of the program to measure competency levels, highlight areas needing improvement, and improve individual as well as overall competency.*

From Canadian Standards Association CSA Z902:20: 4.3.3.2

The effectiveness of the competency assessment program shall be evaluated periodically as needed, and this evaluation shall be documented. Note: The purpose of the evaluation should be to determine the ability of the program to measure competency levels, highlight areas needing improvement, and improve individual as well as overall competency.

From Canadian Society for Transfusion Medicine CSTM: 2.13

The TS shall have policies, processes and procedures to evaluate the effectiveness of the training program which shall include the frequency of the assessment.
2.0 Scope

2.1 This policy applies to the technical functions of frontline medical laboratory technologists (MLTs), assistants/technicians and senior technologists.

2.2 Evaluation of laboratory leadership and administration competencies are addressed in sections I and II of AC Diagnostics’ requirements, and therefore do not fall under this policy.

2.3 Train and perform competency assessment of individuals administering blood components and products are addressed in AC Diagnostics’ requirement, I.B.10, TM111. These individuals do not fall under this policy.

3.0 Policy Statement

3.1 The TM laboratory will establish a process to evaluate its CAP in the laboratory on a regular basis. The CSTM standard 2.14 indicates that this evaluation shall occur at least every 2 years.

3.2 Methodologies incorporated into the evaluation of the CAP may include, but are not limited to:
   - Monitor and analysis of assessment scores (e.g., including pre and post; test/assessment scores);
   - Staff surveys and feedback on training activities;
   - Nonconformance report reviews;
   - Customer feedback;
   - Reviews of critical (e.g., Massive Hemorrhage Protocol scenarios) or rare events (e.g., computer downtimes, power or equipment failures, tests performed infrequently); and,
   - Record review and audits

3.3 Supporting procedures and forms will be developed as required to support this policy.

4.0 Responsibility

4.1 Medical directors and managers are responsible for:
   - Development of a CAP evaluation schedule;
   - Implementation of the quality indicators to be monitored;
   - Review of the evaluation reports and act on recommended improvements; and,
   - Provide CAP evaluation reports to the relevant committees.

4.2 Senior technologists are responsible for:
   - Conducting CAP evaluation activities;
   - Review of results;
   - Generation of evaluation reports and recommending improvements; and,
   - Submission of reports to the manager for review.

4.3 Front line MLTs and technicians are responsible for:
   - Completion of the CAP evaluation activities; and,
   - Participate in Quality Management System activities such as nonconformance reporting and analysis and competency assessment activities.

5.0 Related Policies

5.1 List related policies (e.g., Competency Assessment Program for TM laboratory).

6.0 Related Committees

6.1 Status reports of the TM laboratory CAP evaluation will be provided to the Transfusion Committee at least annually.

6.2 Other Committees will receive reports as required like the laboratory or hospital Quality Committees.
7.0 References

7.1 Institute for Quality Management in Healthcare (under the auspices of AC Diagnostics), Medical Laboratory Accreditation Requirements, version 8, December 2019.

https://community.csagroup.org/community/health-care-safety-and-accessibility/blood-and-transplants-standards-view-access/content?filterID=contentstatus%5Bpublished%5D~objecttype~objecttype%5Bdocument%5D~doctype%5Bpdf%5D&sortKey=contentstatus%5Bpublished%5D~subjectAsc&sortOrder=1 (accessed January 6, 2021).

7.3 Canadian Society for Transfusion Medicine, Standards for Hospital Transfusion Services, version 4, April 2017 (revised April 2018).
## APPENDIX 2 – PRE/POST TEST EVALUATION FOR TM LABORATORY CAP

<table>
<thead>
<tr>
<th>Name of Organization</th>
<th>Type of Document: Form Department: Laboratory</th>
<th>Date: Version:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Number:</td>
<td>Title: Pre/Post Test and Evaluation of the Transfusion Medicine Laboratory Competency Assessment Program</td>
<td>Authorized:</td>
</tr>
</tbody>
</table>

### 1.0 Training Module: ABO group & Rh type testing

<table>
<thead>
<tr>
<th>Training Date(s): YYYY-MM-DD</th>
</tr>
</thead>
</table>

### 2.0 Number of Trainees: 5

### 3.0 Test or Assessment Version (or attach copy): ABO & Rh test #2

### 4.0 Pre and Post Test Score Analysis (Post-test passing score 90%)

<table>
<thead>
<tr>
<th>Learner #</th>
<th>Pre</th>
<th>Post</th>
<th>Difference (+/-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>55%</td>
<td>90%</td>
<td>+35</td>
</tr>
<tr>
<td>2</td>
<td>75%</td>
<td>100%</td>
<td>+25</td>
</tr>
<tr>
<td>3</td>
<td>60%</td>
<td>90%</td>
<td>+30</td>
</tr>
<tr>
<td>4</td>
<td>60%</td>
<td>95%</td>
<td>+35</td>
</tr>
<tr>
<td>5</td>
<td>70%</td>
<td>100%</td>
<td>+30</td>
</tr>
<tr>
<td>Average</td>
<td>64%</td>
<td>92%</td>
<td>+28</td>
</tr>
</tbody>
</table>

**Pre issues**

3/5 learners did not know that MF reactions can occur in weak A or B subgroups

**Post issues**

1 learner in both pre and post-test did not identify R_{1}R_{2} cells as the strongest expression of the D antigen

**Learner feedback issues**

All learners found the training and resources clear and informative. The 3 learners who did not know about weak ABO subgroups and mixed field reactions are brand new MLTs who have not worked in TM. Once their training was complete, they remembered these scenarios. The learner who answered the R_{1}R_{2} question incorrectly in both the pre-test and post-test struggles with the Weiner terminology for Rh, but understands Fisher Race.

**Further action**

The learner and instructor will work on further exercises for Weiner terminology and mixed field followed by a specific written test.

### TM Laboratory CAP Evaluation Conclusions

**Effective: Yes or No (indicate response)**

Evidence: All learners gave positive feedback about the training. All test scores were in passing range and demonstrated a pre to post improvement. Overall average improvement of 28%.

One individual will receive further training on Weiner terminology.

Conclusions: The training and CAP for ABO and Rh is effective

---

### Instructor Date

**Reviewer’s Comments and Conclusions**

Additional learning materials, resources will be added to the training presentation to review the topic of mixed field in ABO/Rh testing.

---

**Reviewed by** Date
APPENDIX 3 – LEARNER/EMPLOYEE TRAINING FEEDBACK FORM

<table>
<thead>
<tr>
<th>Name of Organization</th>
<th>Type of Document: Form</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Department: Laboratory</td>
<td></td>
</tr>
<tr>
<td>Document Number:</td>
<td>Title: Learner/Employee Training Feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Authorized:</td>
<td></td>
</tr>
</tbody>
</table>

1.0 Training Module: **ABO group & Rh type testing**

Training Date(s): YYYY-MM-DD

2.0 Name of Trainee: 

Date:

3.0 Name of Trainer(s):

4.0 Training Feedback

**Please rate your training with a ‘✓’ in the appropriate box. Extra feedback is most welcome.**

<table>
<thead>
<tr>
<th>FEEDBACK CRITERIA</th>
<th>Poor</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel the session was relevant to my job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. My efforts to participate were encouraged</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I was made aware of the competency requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Practice time was sufficient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The session was well organized</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The material was clearly presented and demonstrated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. The competency assessment methods were impartial and reasonable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. The volume of material covered in the session was appropriate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. The models, scenarios or simulations enhanced learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. The supporting materials (SOPs, demonstrations, videos, online learning, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>were effective</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I feel adequately prepared to perform the tasks contained in this training module</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Comments**

What did you like about your training?

What are your suggestions for improvement?

Anything else you would like to add?

**Reviewer’s Comments and Conclusions**

Reviewed by       Date
APPENDIX 4 – LEARNER/EMPLOYEE TRAINING FEEDBACK FORM (2-6 MONTHS POST TRAINING)

1.0 Training Module: ABO group & Rh type testing  
Training Date(s): YYYY-MM-DD

2.0 Name of Trainee:                          Date: 

3.0 Name of Trainer(s):

4.0 Training Feedback: 2-6 months post training

Please rate your training with a ‘√’ in the appropriate box. Extra feedback is most welcome.

<table>
<thead>
<tr>
<th>FEEDBACK CRITERIA</th>
<th>Poor</th>
<th>Good</th>
<th>Excellent</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This training module above has helped me to effectively do my job</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. The training module assessments reflected what I needed to know</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The SOPs and policies are good resources to remind me of what is required</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I felt supported after my training to ask questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Comments

What did you find particularly helpful about your training?

List any recommendations you have for this training module (additions or anything to remove)?

Any other feedback or comments?

Reviewer’s Comments and Conclusions