I. **Purpose:**
The purpose of this policy is to establish criteria to follow when sending specimens to the MUHC laboratories for analysis. It describes the requirements for the identification of the specimens and the requisitions accompanying them. These pre-analytical conditions are essential in order to ensure the quality of the results, since almost 60% of laboratory incidents or accidents are linked to these pre-analytical non-conformities.

II. **Persons/Areas Affected:**
Prescribers and their teams (physicians, nurses, unit coordinators, clerical staff) and laboratory personnel (Medical technologists, clerical personnel, professionals, physicians, managers). This policy applies to all clinical, non-clinical and environmental specimens, as well as requests submitted for testing to laboratories independently on where the testing will be done in the institution.

III. **References**
ISO15189:12; Medical Laboratories-Requirements for quality and competence; 2012 11 05; Geneva, Switzerland; ICS: 11.100.01; 03.120.10 (Standard 5.4)

COLLEGE DES MÉDECINS DU QUÉBEC. Site of the Collège des médecins (CMQ):
http://www.cmq.org/

ORDRE PROFESSIONNEL DES TECHNOLOGISTES MÉDICAUX DU QUEBEC. La qualité dans les laboratoires de biologie médicale. Règles de pratique. Montréal (Québec) 4e trimestre 2009.
IV. Policy:
The MUHC has established standard procedures for collection and the identification of samples and the requisitions that must accompany them. The MUHC has also established a process to follow for samples and requisitions that do not conform to the criteria. It reserves the right to refuse any requests that do not meet the standards described below.

The laboratory will only accept clinical samples for analysis if the sample container is properly identified, if the paper requisition contains the minimal required information or if there is a barcode label generated by the computer system of laboratories (LIS). Patient demographic information on the container must match the information on the requisition and/or LIS barcode label.

A witness attestation form must be duly completed and must accompany all specimens sent to the blood bank with Trace Line label.

Prescribers and laboratory staff must know and respect the requirements as explained in the Incident and errors policy (Laboratory Quality Manual POL-01-MUHC-OR-00001).

V. Procedures:

1. Medical Prescription/requisition: Required information
   • Last name (if female-maiden name) and first name, RAMQ or MUHC medical record number (MRN). For users without a RAMQ number, indicate their date of birth and sex
   • Last and first name of the physician (printed or in block letters), signature and license number of the collège des médecins (CMQ). An electronic signature is acceptable
   • For collective orders, the last and first name of the nurse and their signature
   • When residents prescribe tests, the last and first name and license number of the responsible (attending) physician must be indicated
   • Name and complete address of the location where results are to be sent.
   • A telephone and fax number, if applicable. A contact number for calling urgent results outside of office hours.
   • The name of the analysis/test required
   • The date of the prescription
   • The date and time of sample collection
   • The sample type and the anatomical site, if applicable
   • For the blood bank, the full name and signature of the person who collected the sample

Examples of what is acceptable and unacceptable:
For internal clinics:
Not acceptable: Dr. Smith or Dr. Jean J. Smith, Nephrology Clinic
Acceptable: Dr. John Smith, license # 12345, RVH Nephrology Clinic, room number

For outpatient clinics: (with no on-call service)
Not acceptable: Dr Jane Doe, Metro Clinic
Acceptable: Dr Jane Doe, license # 23456, Metro Clinic, room number and phone number for critical reporting
2. Computerized Requests (e req)

- Patient's last and first name.
- Patient's RAMQ or MUHC MRN number. For patients with no RAMQ, their date of birth
- Prescriber’s name, address and Quebec College of Physicians license number
- Type of sample and, if applicable, the anatomical site of origin
- Name of the analysis/test required
- Clinical information when needed
- Date and time of collection
- Phlebotomist’s or technologist’s code

The MUHC laboratory personnel assigned to specimen reception must verify each clinical sample received.

3. Identification of the specimen: Required information

Information must be complete, legible and identical: requisition versus specimen.

- Patient's last and first name
- Patient’s RAMQ number and / or the MUHC MRN number
- For Transfusion Medicine (Blood Bank), the initials of the person who collected the sample

4. Tube / Container

- Appropriate, not expired and leak-proof collection tubes or transport media.

5. Transport and storage of the specimen

- Must respect the regulations for the transport of hazardous materials
- Must respect the time delay requirements and transport conditions
- Must have the correct preservative (if applicable)

6. Quality and integrity of the specimen

- Must respect the collection requirements and conditions
- Must have proper labeling
- Must not be haemolysed (if applicable)
- Must have an adequate volume required to perform the analysis

Urine 24 hours
- Date and time of the beginning of the collection
- Date and time of the end of the collection
- Total hours of collection
- The duration of the collection time must be respected
- Name of the preservative
7. Rejection of a specimen (except non-renewable or irreplaceable specimens ***)

- Inform the ward or the sender by telephone and document the call (full name of person contacted) in the LIS
- Document the reception of the sample in the LIS
- Document the appropriate non-conformity code in the LIS
- Finalize the report in the LIS with an appropriate message
- Complete an accident/incident report (AH-223) and send it to the responsible lab quality officer

*** A specimen is considered non-renewable and irreplaceable when obtained by invasive techniques, or when it cannot be collected under the same optimal conditions. The list of non-renewable or irreplaceable biomedical specimens is documented in the attached annex. All efforts will be made by the laboratories, following their defined policies, to contact the prescribers to ensure that these specimens are safely analysed.

8. Conditional Acceptance of a specimen

- Inform the ward or sender and ask that a clinical representative come to the laboratory specimen reception area to correct the error
- Ask the representative, who is making the correction, to sign the requisition
- Accept the sample and write the non-conformity code in the LIS
- Record in the LIS the full name of the person making the correction

VI. Relevant Forms

- Accident/incident report (AH-223)
- Table of LIS non conformity order comments

VI. Special Considerations

For non-renewable or irreplaceable specimens see Annex 1

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<thead>
<tr>
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<th>Signature</th>
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<tr>
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<td>K. Desai/ Dr. David Blank</td>
<td>2007-05-20</td>
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<tr>
<td>Revised by:</td>
<td>Dr Anne-Marie Bourgault</td>
<td></td>
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<td></td>
<td>Mme Carmen Pavan</td>
<td>2015-10-25</td>
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<tr>
<td>Approved by:</td>
<td>Laboratory Directors committee</td>
<td>2015-10-30</td>
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<td>Approved by:</td>
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<td>CPDP-Central executive committee</td>
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<td>Dr Ewa Sidorowicz</td>
<td>2015-11-04</td>
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<td></td>
<td>Dr Olivier Court</td>
<td>2015-12-07</td>
</tr>
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</table>
Annex 1:

**EXCEPTIONS - IRRETRIEVABLE / IRREPLACEABLE SPECIMENS**

In case of non-compliance, all efforts will be made to avoid rejecting a specimen taken invasively or in a critical context. In these cases, you will be contacted to complete the missing information. Ultimately, the specimen could be refused and an Accident/incident report (AH-223) will be filled out.

<table>
<thead>
<tr>
<th>BIOCHEMISTRY</th>
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<tbody>
<tr>
<td>Blood gas</td>
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<td>Stone samples</td>
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<td>Body fluids:</td>
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<td>- CSF</td>
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<td>- Pleural fluid</td>
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<td>- Peritoneal fluid (ascites)</td>
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<tr>
<td>- Pericardial fluid</td>
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<tr>
<td>- Synovial fluid</td>
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<th>HEMATOLOGY</th>
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<td>Cord blood</td>
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<td>Bone marrow</td>
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<tr>
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<td>- Synovial fluid</td>
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<tr>
<td>Flow Cytometry</td>
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<tr>
<td>- Pretreatment peripheral blood</td>
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<tbody>
<tr>
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<tr>
<td>- Specimens received for a transfusion reaction workup</td>
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<tr>
<td>HLA</td>
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<tr>
<td>- Final crossmatch specimens</td>
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<tr>
<td>- Post Transplant peripheral blood</td>
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<tr>
<td>- Pre Transplant peripheral blood</td>
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<td>- Deceased donor peripheral blood</td>
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<tr>
<td>- Peripheral blood on recipient or donors &lt; 3 years old</td>
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<tr>
<td>- Peripheral blood on international donors</td>
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<tr>
<td>- Peripheral blood from National and International Registries</td>
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Note: This is a controlled document. Any documents appearing in paper form that are not on yellow paper and initialed are not controlled and must be checked against the current document on the server prior to use.
**MICROBIOLOGY**

Body fluids:
- CSF
- Pleural fluid
- Peritoneal fluid (ascites)
- Pericardial fluid
- Synovial fluid
- Intraocular fluids

Blood cultures (aerobic and anaerobic)
Blood cultures for mycobacteria
Blood cultures for mycology
Bone marrow
Specimens obtained by endoscopy (cystoscopy, bronchial washing, Bronchoalveolar lavage, gastroscopy, colonoscopy)
Urine collected by invasive techniques (catheterism, cystoscopy, supra-pubic aspirate)
Tissue biopsy
Specimens obtained in the operating room
Deep abscess aspiration or drainage
Sinus tap
Tympanocentesis
Eye: corneal scrapings
Intravascular catheters (ex. Picc Line, Perm-Cath, arterial canula, Port-o-cath)
Prosthetic material (prosthesis, vascular grafts, ventriculoperitoneal shunts, ventriculogulular shunts)

**PATHOLOGY**

Cytology specimens that are non-gynecological
Biopsy, surgical and anatomical tissues
Specimens taken by endoscopy (cystoscopy, bronchoscopy, BAL, gastroscopy, colonoscopy)
Amniotic fluid

**OTHERS**

Post-partum samples