NOTE DE SERVICE
MEMORANDUM

date:	**2022-03-21**
à :	**Tous les médecins et infirmières du CUSM**
to:	**All physicians and nurses of the MUHC**
de:	**Dr. Gerasimos J. Zaharatos**
from:	Chef médicale de microbiologie, OPTILAB Montréal-CUSM/Chief of Medical Microbiology, OPTILAB - Montréal MUHC
objet :	**Flux de travail et indications pour les tests d'amplification de l'acide nucléique (TAAN) pour le SRAS-CoV-2 et d'autres virus respiratoires**
subject:	**Workflow and Indications for Nucleic Acid Amplification Tests (NAAT) for SARS-CoV-2 and other respiratory viruses**

Chers collègues,

Nous allons modifier le flux de travail des analyses moléculaires dans les laboratoires de microbiologie du site Glen du CUSM et du site de l'HGJ. Cela comprendra quelques changements à notre triage actuel en fonction des indications pour les dépistages moléculaires du SRAS-CoV-2 et des virus respiratoires. Un résumé de l'approche de triage est présenté ci-dessous, les principaux changements étant surlignés en jaune. Des copies de la nouvelle requête sont disponibles via Printsys en choisissant **DM-6311** (CUSM et HGM), **DM-6329** (HME) ou **DM-6333** (Lachine). Des tableaux décrivant les plateformes de dépistage utilisées et leur délai d'exécution cible correspondant sont fournis dans les documents joints à cette note de service.

Ces changements, qui concernent les échantillons provenant du milieu hospitalier, seront mis en œuvre d'ici **le 28 mars 2022 au site Glen du CUSM et au site de l'HGJ seulement**. La nouvelle requête interne en papier, reflétant les modifications, sera mise à votre disposition et devra accompagner tous les échantillons.

Patient symptomatique (COVID-19 suspecté) en milieu de soins aigus, quel que soit le plan d'admission :

- La plupart des patients seront systématiquement dépistés pour le **SRAS-CoV-2 et l'influenza A/B** sur la plateforme **Roche Cobas 6800/8800**. Bien que nous ne voyions que des cas sporadiques de grippe, nous nous attendons à ce que le nombre de cas pourrait augmenter avec l'assouplissement des mesures de santé publique.
- Les dépistages urgents continueront également à être effectués sur la plateforme **Diasorin Simplexa**, mais veuillez noter que seuls les dépistages du SRAS-CoV-2 seront offerts sur cette plateforme.
- Les patients atteints d'une maladie critique, d'une maladie respiratoire avec hypoxie ou qui sont enceintes, seront testés pour le **SRAS-CoV-2, l'influenza A/B et le VRS** sur la plateforme **GeneXpert**.
- Les hôtes immunodéprimés, ou les nourrissons fébriles âgés de 60 jours ou moins, seront testés pour le **SRAS-CoV-2 dans le cadre d'un TAAN multiplex pour pathogènes respiratoires** sur la plateforme **BioFire FilmArray**.
- Pour les patients ayant de la fièvre et une maladie respiratoire qui sont négatifs lors du dépistage initial du SRAS-CoV-2, un nouvel échantillon peut être envoyé pour un autre dépistage du **SRAS-CoV-2** et, s'il est négatif, d'un **TAAN multiplex pour virus respiratoires** (test développé en laboratoire (effectué au site Glen du CUSM).

Patient asymptomatique dont l'admission dans un établissement de soins de courte durée est en cours ou prévue, y compris un dépistage préalable à une intervention ou un dépistage en en cours d'une éclosion :

- La plupart des patients seront systématiquement dépistés pour le **SRAS-CoV-2** sur la plateforme **Roche Cobas 6800/8800**.
- Les patients admis pour un accouchement, une intervention chirurgicale urgente ou une intervention médicale générant des aérosols, seront dépistés pour le **SRAS-CoV-2** sur la plateforme **DiaSorin Simplexa**.
- Les patients devant être admis pour une greffe (receveur ou donneur) seront dépistés pour le **SRAS-CoV-2** sur la plateforme **DiaSorin Simplexa**.

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Dear colleagues,

We will be modifying the molecular testing workflow at the MUHC Glen site and the JGH site microbiology laboratories. This will include some changes to our current indications-based triage for SARS-CoV-2 and respiratory virus molecular testing. A summary of the triage approach is delineated below with major changes highlighted in yellow. The new requisition is available through Printsys using **DM-6311** (MUHC including MGH), **DM-6329** (MCH), or **DM-6333** (Lachine). Tables describing the testing platforms used and their corresponding target turn-around-time is provided in documents attached to this memo.

These changes, pertaining to samples originating from the hospital setting, will be implemented by **March 28, 2022 at the MUHC Glen site and JGH sites only**. The new paper requisition for internal use, reflecting these modifications, will be made available and must accompany all samples.

Symptomatic patient (COVID-19 suspected) in the acute care setting irrespective of plan for admission:

- Most patients will routinely be tested for **SARS-CoV-2 and Influenza A/B** on the **Roche Cobas 6800/8800** platform. Although we are only seeing sporadic cases of influenza, we expect that case numbers may go up as public health measures are relaxed.
- Urgent testing will also continue to be offered on the **Diasorin Simplexa** platform, however please note that only SARS-CoV-2 testing will be offered on this platform.
- Patients that have either a critical illness (see requisition for criteria), a respiratory illness with hypoxia, or who are pregnant, will be tested for **SARS-CoV-2, Influenza A/B and RSV** on the **GeneXpert** platform.
- Immunocompromised hosts (see requisition for criteria), or febrile infants that are 60 days old or younger, will be tested for **SARS-CoV-2 as part of a multiplex respiratory pathogen NAAT** on the **BioFire FilmArray** platform.
- For patients with fever and respiratory illness that are negative on initial SARS-CoV-2 testing, a new sample can be sent for repeat testing for **SARS-CoV-2** and if negative, for a **multiplex respiratory virus NAAT** (done at MUHC Glen site).

Asymptomatic patient with current or planned admission to acute care setting, including pre-procedure or outbreak investigations :

- Most patients will routinely be tested for **SARS-CoV-2** on the **Roche Cobas 6800/8800** platform.
- Patients admitted for childbirth, urgent surgery, or imminently undergoing an aerosol-generating medical procedure, will be tested for **SARS-CoV-2** on the **DiaSorin Simplexa** platform.
- Patient to be admitted for transplant (receiving or donating) will be tested for **SARS-CoV-2** on the **DiaSorin Simplexa** platform.

Microbiology Lab COVID-19 Molecular Test Triage and Internal Requisition Modification*

* See attached memo of <u>March 21, 2022</u>

Pertains to samples sent to the <u>MUHC Glen Site Micro Lab & JGH Micro Lab ONLY</u>

SYMPTOMATIC PATIENT - COVID-19 suspected		
☐	**Symptomatic - Patient in acute care setting [M1]**	
	☐	**Inpatient** (hospitalized or in hemodialysis; includes repeat testing of symptomatic patient)
	☐	**Emergency Department** (select unless other category below is more appropriate)
	☐	**Urgent Admission or Transfer** (for important bed management issue only; option should be used sparingly)
	☐	**Pregnant** (symptomatic; admitted for monitoring)
	☐	**Respiratory Emergency** (acute hypoxia or respiratory distress)
	☐	**Critical Care** (respiratory failure/serious cardiovascular event or arrest/diabetic ketoacidosis/shock/sepsis)
	☐	**Immunocompromised Host** (select one condition below) ☐ transplant ☐ HIV ☐ primary immunodeficiency ☐ hematologic malignancy ☐ solid tumor on active therapy ☐ immunosuppressive therapy
	☐	**Febrile Infant** (60 days old or less)
	☐	**Fever and/or respiratory symptoms of undetermined etiology** (SARS-CoV-2 NOT DETECTED on initial test)

includes patients going to Cath Lab from the ED

ASYMPTOMATIC PATIENT - PRE-ADMISSION/PROCEDURE or POST-ADMISSION SCREENING TEST FOR COVID-19		
☐	**Asymptomatic - Current or planned admission to acute care setting [M8]**	
For M8 select one sub-option on the right	☐	**Inpatient** (hospitalized or in hemodialysis; includes repeat testing of asymptomatic patient)
	☐	**Scheduled Pre-admission** (medical/surgical including non-urgent pre-operative screening)
	☐	**Emergency Department** (select unless other category below is more appropriate)
	☐	**Urgent Admission or Transfer** (for important bed management issue only; option to be used sparingly)
	☐	**Pregnant** (admission for childbirth)
	☐	**Aerosol-generating medical procedure** (procedure imminent or anticipated in < 8 hours)
	☐	**Urgent Surgery** (category 1 or 2) **or Trauma team activation** (procedure imminent or anticipated in < 8 hours)
☐	**Transplant imminent, patient or donor [M4]**	
☐	**Admitted patient in outbreak / prevalence study [M6]**	
☐	**Pre-chemotherapy/radiotherapy [M10]** (must be requested at least 24 hours prior to scheduled treatment)	
☐	**Pre-intubation [M11]** (must be requested at least 24 hours prior to scheduled procedure)	
☐	**Pre-bronchoscopy [M12]** (must be requested at least 24 hours prior to scheduled procedure)	

includes patients going to OR from the ED

Microbiology In-Lab Test Triage & Target TAT

SYMPTOMATIC PATIENT - COVID-19 suspected		Target TAT (hrs) from time in lab	Preferred Test Platform
☐ Symptomatic - Patient in acute care setting [M1]			
	☐ **Inpatient** (hospitalized or in hemodialysis; includes repeat testing of symptomatic patient)	8	**Roche cobas 6800/8800 (SARS-CoV-2/Flu A+B)**
	☐ **Emergency Department** (select unless other category below is more appropriate)	8	**Roche cobas 6800/8800 (SARS-CoV-2/Flu A+B)**
	☐ **Urgent Admission or Transfer** (for important bed management issue only; option should be used sparingly)	6	**DiaSorin (SARS-CoV-2)**
	☐ **Pregnant** (symptomatic; admitted for monitoring)	6	**Cepheid GeneXpert (SARS-CoV-2/Flu A+B/RSV)**
	☐ **Respiratory Emergency** (acute hypoxia or respiratory distress)	6	**Cepheid GeneXpert (SARS-CoV-2/Flu A+B/RSV)**
	☐ **Critical Care** (respiratory failure/serious cardiovascular event or arrest/diabetic ketoacidosis/shock/sepsis)	6	**Cepheid GeneXpert (SARS-CoV-2/Flu A+B/RSV)**
	☐ **Immunocompromised Host** (select one condition below) ☐ transplant ☐ HIV ☐ primary immunodeficiency ☐ hematologic malignancy ☐ solid tumor on active therapy ☐ immunosuppressive therapy	6	**bioFire (21 plex plus SARS-CoV-2)**
	☐ **Febrile Infant** (60 days old or less)	6	**bioFire (21 plex plus SARS-CoV-2)**
	☐ **Fever and/or respiratory symptoms of undetermined etiology** (SARS-CoV-2 NOT DETECTED on initial test)	SARS-CoV-2: 8 hrs; multiplex: 24 to 72 (run on weekdays only)	**Roche cobas 6800/8800 (SARS-CoV-2/Flu A+B), if negative then directed to LDT Respiratory virus multiplex panel + SARS-CoV-2 (Glen assay)**
ASYMPTOMATIC PATIENT - PRE-ADMISSION/PROCEDURE or POST-ADMISSION SCREENING TEST FOR COVID-19		**Target TAT (hrs) from time in lab**	**Test Platform**
☐ Asymptomatic - Current or planned admission to acute care setting [M8]			
For M8 select one sub-option on the right	☐ **Inpatient** (hospitalized or in hemodialysis; includes repeat testing of asymptomatic patient)	12	**Roche cobas 6800/8800 (SARS-CoV-2)**
	☐ **Scheduled Pre-admission** (medical/surgical including non-urgent pre-operative screening)	12	**Roche cobas 6800/8800 (SARS-CoV-2)**
	☐ **Emergency Department** (select unless other category below is more appropriate)	12	**Roche cobas 6800/8800 (SARS-CoV-2)**
	☐ **Urgent Admission or Transfer** (for important bed management issue only; option to be used sparingly)	6	**DiaSorin (SARS-CoV-2)**
	☐ **Pregnant** (admission for childbirth)	6	**DiaSorin (SARS-CoV-2)**
	☐ **Aerosol-generating medical procedure** (procedure imminent or anticipated in < 8 hours)	6	**DiaSorin (SARS-CoV-2)**
	☐ **Urgent Surgery** (category 1 or 2) **or Trauma team activation** (procedure imminent or anticipated in < 8 hours)	6	**DiaSorin (SARS-CoV-2)**
☐ **Transplant imminent, patient or donor [M4]**		6	**DiaSorin (SARS-CoV-2)**
☐ **Admitted patient in outbreak / prevalence study [M6]**		12	**Roche cobas 6800/8800 (SARS-CoV-2)**
☐ **Pre-chemotherapy/radiotherapy [M10]** (must be requested at least 24 hours prior to scheduled treatment)		24	**Roche cobas 6800/8800 (SARS-CoV-2)**
☐ **Pre-intubation [M11]** (must be requested at least 24 hours prior to scheduled procedure)		24	**Roche cobas 6800/8800 (SARS-CoV-2)**
☐ **Pre-bronchoscopy [M12]** (must be requested at least 24 hours prior to scheduled procedure)		24	**Roche cobas 6800/8800 (SARS-CoV-2)**

SYMPTOMATIC PATIENTS

M1
- Emergency Department
- Inpatient
- Hemodialysis

COBAS
SARS-CoV-2
(+/- Flu A+B if expected flu activity)
TARGET TAT = 8 hrs
MAX CAPACITY = 94 tests /run

M1
- Urgent Admission or Transfer

DIASORN SIMPLEXA
SARS-CoV-2
TARGET TAT = 6 hrs
MAX CAPACITY = 8 tests/run

M1
- Pregnant
- Respiratory emergency
- Critical care

GENEXPERT
SARS-CoV-2 + FLU A/B + RSV
TARGET TAT = 6 hrs
MAX CAPACITY = 4 tests /run

M1
- Immunocompromised host
- Febrile infant

BIOFIRE
SARS-CoV-2 + multiplex
TARGET TAT = 6 hrs
MAX CAPACITY = 2 tests/run

RAPID

ONLY CHOOSE IF PRIOR SARS-CoV-2 TEST NEGATIVE

M1
- Fever or respiratory symptoms of undetermined etiology
➤ Glen multiplex will only be done if prior test and current test for SARS-CoV-2 is negative

COBAS
SARS-CoV-2
(+/- Flu A+B if expected flu activity)
TARGET TAT = 8 hrs
then if negative
Glen multiplex
TAT = 24-72 hrs
(run on weekdays only)

ASYMPTOMATIC PATIENTS

M8
- Emergency Department
- Inpatient
- Hemodialysis
- Scheduled Pre-admission

COBAS
SARS-CoV-2 only
TARGET TAT = 12 hrs
MAX CAPACITY = 94 tests /run

M8
- Pregnant (admission for childbirth)
- Aerosol-generating medical procedure
- Urgent surgery
- Trauma team activation

Other
- Transplant imminent, patient or donor [M4]

DIASORN SIMPLEXA
SARS-CoV-2
TARGET TAT = 6 hrs
MAX CAPACITY = 8 tests/run

RAPID

Other
- Outbreak / prevalence study [M6]
- Pre-chemotherapy/radiotherapy [M10]
- Pre-intubation [M11]
- Pre-bronchoscopy [M12]

COBAS
SARS-CoV-2 only
TARGET TAT = 12-24 hrs
MAX CAPACITY = 94 tests /run

Acceptable Media Tube Based on Test Indication

		Acceptable Media Tube		
SYMPTOMATIC PATIENT - COVID-19 suspected		cobas tube (clear fluid, yellow top)	UTM or VTM (pink fluid, red top)	saline 0.9% (clear fluid, blue or white top)
☐ Symptomatic - Patient in acute care setting [M1]				
	☐ **Inpatient** (hospitalized or in hemodialysis; includes repeat testing of symptomatic patient)	✓	✓	✓
	☐ **Emergency Department** (select unless other category below is more appropriate)	✓	✓	✓
	☐ **Urgent Admission or Transfer** (for important bed management issue only; option should be used sparingly)	NOT COMPATIBLE	✓	✓
	☐ **Pregnant** (symptomatic; admitted for monitoring)		✓	✓
	☐ **Respiratory Emergency** (acute hypoxia or respiratory distress)		✓	✓
	☐ **Critical Care** (respiratory failure/serious cardiovascular event or arrest/diabetic ketoacidosis/shock/sepsis)		✓	✓
	☐ **Immunocompromised Host** (select one condition below) ☐ transplant ☐ HIV ☐ primary immunodeficiency ☐ hematologic malignancy ☐ solid tumor on active therapy ☐ immunosuppressive therapy		✓	✓
	☐ **Febrile Infant** (60 days old or less)		✓	✓
	☐ Fever and/or respiratory symptoms of undetermined etiology (SARS-CoV-2 NOT DETECTED on initial test)	✓	✓	✓
ASYMPTOMATIC PATIENT - PRE-ADMISSION/PROCEDURE or POST-ADMISSION SCREENING TEST FOR COVID-19		cobas tube (clear fluid, yellow top)	UTM or VTM (pink fluid, red top)	saline 0.9% (clear fluid, blue or white top)
☐ Asymptomatic - Current or planned admission to acute care setting [M8]				
For M8 select one sub-option on the right	☐ **Inpatient** (hospitalized or in hemodialysis; includes repeat testing of asymptomatic patient)	✓	✓	✓
	☐ **Scheduled Pre-admission** (medical/surgical including non-urgent pre-operative screening)	✓	✓	✓
	☐ **Emergency Department** (select unless other category below is more appropriate)	✓	✓	✓
	☐ **Urgent Admission or Transfer** (for important bed management issue only; option to be used sparingly)	NOT COMPATIBLE	✓	✓
	☐ **Pregnant** (admission for childbirth)		✓	✓
	☐ **Aerosol-generating medical procedure** (procedure imminent or anticipated in < 8 hours)		✓	✓
	☐ **Urgent Surgery** (category 1 or 2) **or Trauma team activation** (procedure imminent or anticipated in < 8 hours)		✓	✓
☐ **Transplant imminent, patient or donor [M4]**			✓	✓
☐ **Admitted patient in outbreak / prevalence study [M6]**		✓	✓	✓
☐ **Pre-chemotherapy/radiotherapy [M10]** (must be requested at least 24 hours prior to scheduled treatment)		✓	✓	✓
☐ **Pre-intubation [M11]** (must be requested at least 24 hours prior to scheduled procedure)		✓	✓	✓
☐ **Pre-bronchoscopy [M12]** (must be requested at least 24 hours prior to scheduled procedure)		✓	✓	✓

NOT compatible with DiaSorin Simplexa, GeneXpert or bioFire

compatible with all COVID-19 molecular tests

cobas PCR media

Universal or Viral Transport Media (UTM or VTM)

0.9 % sterile saline

Flocked swab breakpoint:
~**100-105 mm** breakpoint → best for nasopharyngeal sampling but only fits taller tubes

~**80-90mm** breakpoint → fair for nasopharyngeal sampling and fits most tubes