

The COVID Clinical Response Committee (CCRC) has been asked to consolidate guidance on repeat testing for COVID-19 when the initial test is not known or is negative.

1. According to both provincial and national infection control guidance, only patients with confirmed COVID-19 infection can be cohorted in usual optimal practice.
2. Whenever possible, patients under investigation (PUIs, NPS pending) should be cared for in a private room. This includes those individuals who have one swab sent and a second swab is planned or pending.
3. Only patients who meet the criteria outlined for screening should receive a nasopharyngeal swab (NPS) for COVID-19. However, we acknowledge that even these criteria are reasonably non-specific.
4. In circumstances where private rooms are fully occupied and the emergency department is at risk of not being able to deliver care to other individuals, risks must be balanced. We suggest the risk of a hallway patient with many exposures to others outweighs the risk of cohorting low-risk PUIs based on expert assessment of pretest probability, known NPS results, and the use of low-dose CT chest for risk stratification.
5. These strategies and recommendations do not apply to:
 - a. Critical care patients in a critical care unit or emergency department
 - b. Patients with a clinical and radiographic diagnosis of pneumonia
 - c. Patients with multifocal airspace disease
 - d. Patients with symptoms less than 48 hours
 - e. Residents from long term care and retirement homes
6. A number of strategies can be employed to reduce risk of cohorting persons under investigation when private room resources are overwhelmed:
 - a. Only low-risk patients should be cohorted with other low-risk patients.
 - b. Contact-droplet precautions must be maintained.
 - c. Don and doff gloves and gown with excellent hand hygiene for each patient.
 - d. Maintain eye protection and mask between cohorting patients.
 - e. All patients should wear a procedure mask.
 - f. Patients who are cohorted in this fashion should not share a washroom. Where possible, a commode must be provided along with an increase in available handwashing facilities and personal hygiene products.
 - g. A safety officer is recommended on wards with cohorts of this nature.
 - h. Door signage specific to the cohort must be placed visibly on the door.
 - i. Patients will only be cohorted in a quad-room (not in a semi-private).
7. We recommend against the use of CT for diagnosis or primary screening in normal practice.
8. We recommend the use of CT to assess the likelihood of COVID-19 infection in select patients in special circumstances guided by expert advice. When cohorting becomes unavoidable, we recommend low-dose CT chest aid decision making in:
 - a. Patients with a first NPS pending with EITHER a low OR intermediate pretest probability.
 - b. Patients with a negative NPS with EITHER an intermediate OR high pretest probability.
9. We recommend a second NPS be obtained 48 hours after the first negative swab if the pretest probability is high for COVID-19.

10. Cohorting should be accomplished in collaboration with IPAC based on the table that follows:

| Risk | Characteristics | First swab pending | First swab resulted negative |
|---------------------------|---|--|--|
| Low (PTP 5%*) | ALL OF THE FOLLOWING: <ul style="list-style-type: none"> No indication for NPS No epi link Not from congregate living Not healthcare worker No clinical features Normal CXR Clearly identifiable alternate diagnosis | Do low dose CT Chest unless result swab imminent. If CT is negative or atypical, may mask + cohort + maintain precautions (post-test prob = 1%*) If CT is indeterminate or positive, do not cohort (post-test prob = 41%*) | If CT was indeterminate or positive, consult IPAC to consider discontinuing precautions. If CT is negative or atypical OR CT was not performed, in consultation with IPAC, discontinue isolation if no other reason to continue. |
| Intermediate (PTP 5-20%*) | ANY ONE OF THE FOLLOWING: <ul style="list-style-type: none"> Indication for NPS Only one clinical feature is present (not GI symptoms or anosmia) Healthcare worker or first responder Abnormal CXR (not multifocal airspace disease or lobar pneumonia) Not confident in alternate diagnosis | Do low dose CT Chest. If CT negative or atypical, may mask + cohort + maintain precautions (post-test prob = 1-5%*). If CT indeterminate or positive, do not cohort (post-test prob = 81%*). | Do low dose CT Chest if need continued admission in hospital. If CT is negative or atypical and no GI symptoms, consult IPAC to consider discontinue isolation. If CT indeterminate or positive or GI symptoms, do not cohort & get repeat NPS 48h. |
| High (PTP HIGH*) | ANY ONE OF THE FOLLOWING: <ul style="list-style-type: none"> Epi link present More than 1 clinical feature is present or anosmia alone No clear alternate diagnosis | Do not cohort. Do not do CT. | Do low dose CT chest and repeat NPS 48h. If CT indeterminate or positive, consult IPAC and ID (post-test prob = 66%*). If CT negative or atypical, & cohort absolutely required, per Access & Flow, consult with IPAC/ID for guidance (post-test prob = 13%*). |

***Pre- and post-test probabilities are estimates with very wide confidence intervals.**

11. Infection control practices must remain in place until reassessed in collaboration with a IPAC team member.

12. The RNSA guidance suggests terminology as Negative, Atypical, Indeterminate, and Typical findings on CT. We recommend the use of the term positive to replace typical findings for clarity of local communication.

13. We recommend the use of a worksheet to determine the pretest probability and the utility of a CT scan, acknowledging this is rapidly evolving and associated with a low degree of certainty.

This decision will be revisited **regularly** as evidence and experience evolve.

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Rationale

1. Single rooms for patients under investigation are a very limited resource that is being maximized. Strategies to optimize this should continue.
2. Cohorting is patients without definitive negative COVID results will be necessary given the limitation of single rooms and is superior to hallway patients risking at ED outbreak.
3. Of the inpatients who receive an NPS, less than 10% are positive. This percentage is decreasing.
4. The number of patients who convert from negative to positive on the second NPS in the literature is on the order of 2-4%. This is consistent with our current experience at Osler.

References

1. Simpson S, Kay FU, Abbara S, *et al.* Radiological Society of North America Expert Consensus Statement on Reporting Chest CT Findings Related to COVID-19. Endorsed by the Society of Thoracic Radiology, the American College of Radiology, and RSNA. *Rad: Cardiothoracic Imaging* 2(2). Accessed online April 27, 2020: <https://doi.org/10.1148/ryct.2020200152>.