

Memo to Medical Staff from Infection Prevention regarding SARS-CoV-2 Testing

Situation:

Sharp, like the rest of the country, is dealing with a SARS-CoV-2 PCR test material shortage. The demand for tests exceeds our supply. Copley Lab is working miracles during this most difficult time. The Medical Staff can help by ordering PCR tests wisely, and only when results will influence clinical decision-making.

Background:

- SARS-CoV-2 PCR detects viral genes in a clinical specimen. Different platforms (Roche, Abbott, Cepheid) target different viral genes and have differing sensitivities.
- Cycle Threshold Value (CTV) is the number of amplification cycles necessary to detect viral RNA present in a clinical specimen, and is inversely correlated with viral copies (viral load).
- **Detection of viral RNA in a clinical specimen does not necessarily mean virus is viable, culturable, or transmissible.** A PCR result gives information at a single point in time. Multiple factors can influence test results and each test must be interpreted within the clinical context of a particular individual.
- A **"presumptive positive" result is considered a true positive** and likely reflects presence of Sars-CoV-2 at very low viral load, that can be seen both early and late in the course of illness.
- An **"indeterminate" test result** means there was some interfering substance that inhibited the test reaction and has **no clinical meaning** <- **What does IP recommend clinicians should do?**

Testing in-hospital patients:

- Individuals suspected of being infected with COVID-19 should have a PCR test as soon as possible. In general, the sensitivity of nares and NP specimens is equivalent.
- **If initial test is positive, no further testing is needed** unless or until:
 - Required by a receiving facility (LTACH, SNF, Rehab) **OR** prior to an in-hospital procedure (when nares specimens are adequate).
- **If initial test is negative in a patient in whom there remains a clinical suspicion for COVID-19:**
 - Obtain second test **at least 24h** after first (ideally from nasopharynx or lower respiratory tract, especially if initial test was a nares specimen).
- **Mechanically ventilated patients:**
 - A lower respiratory tract (LRT) specimen (bronchial wash if available) is preferred
 - It is not necessary to obtain an upper respiratory specimen if a LRT specimen can be collected, but bronchoscopy done *only for SARS-CoV-2 PCR* specimen collection is **not recommended**.

Please coordinate with others on the treatment team so that no more than one test is ordered with a 24h period, and that most appropriate specimen is collected.

As always, please feel free to contact Infection Prevention with questions or to discuss a case.

Thank you,
Peter Binstock, MD
Medical Director, Infection Prevention
Cell: (925) 212-8714
peter.binstock@sharp.com