Virtual Physician Forum - COVID-19 Decision Tree for People in Schools, Youth and Childcare Programs

Hosts: Minnesota Chapter of the American Academy of Pediatrics (MNAAP), Minnesota Department of Health (MDH), and Minnesota Medical Association (MMA)

Date: September 16, 2020

False negatives and viral load (Information provided by MDH staff, in consultation with two clinical experts)

- The sensitivity of the PCR is better than what they're describing, and is the test recommended in the guidance. There will be some variation based on the type of test (e.g. NP vs throat) and swab technique. Some reports out of China very early on where PCR tests were compared with Chest X-Ray were not very favorable. I think we understand this disease and testing much better than we did at the beginning (though we have a lot farther to go). There is a link to a NEJM paper that offers a perspective that takes into account pre-test probability that someone is positive. Take home message is that we don’t really know, there are a lot of factors, and we need more data. https://www.nejm.org/doi/full/10.1056/NEJMp2015897

- As for when to test, studies are showing that viral loads are the highest upon symptom onset. See attached paper. I would not delay testing. Further, it does seem that once someone is positive, they are likely to test positive at least 10 days after symptom onset, if not much longer. It’s actually more important to not test too soon after exposure, as that can give a “false negative” result. The link below is a paper showing is not beneficial to test within the first 5 days of exposure. So, when trying to determine if a lab test result could possibly be a false negative, it’s important to keep possible dates of exposure in mind (if known) as well as symptom onset since symptoms can be fairly ubiquitous and difficult to differentiate from allergies or other upper respiratory infections. https://www.acc.org/latest-in-cardiology/journal-scans/2020/05/18/13/42/variation-in-false-negative-rate-of-reverse