



NFL Infectious Disease News – April 2020
Duke Infection Control Outreach Network (DICON)
Volume 11, Number 3

Update #3 - Guidance for Testing for COVID-19 Infection in Asymptomatic Individuals and for Allowing a Return to Regular Activities After COVID-19 Infection or Potential Exposure

This update will focus on current guidelines and controversies related to testing for the presence of COVID-19 infection in asymptomatic individuals and current guidelines for removing quarantine restrictions of persons who have COVID-19 infection or who have had direct exposure to a case of COVID-19. These topics were chosen based on recent discussions with team physicians and athletic trainers. As mentioned on prior newsletters, the content of this newsletter represents a summary of current information as of April 1, 2020, and is subject to change.

Current testing is PCR-based. The discussion in this newsletter is based on the belief that PCR-based testing will remain the predominant method for COVID-19 testing for the foreseeable future. Point-of-care (POC) and antibody testing are being evaluated, but are not currently available for widespread use.

At present there is a lack of consensus about the need to test asymptomatic persons or symptomatic individuals who are deemed low risk for complications and who are treated symptomatically at home.

Should Asymptomatic Individuals Be Tested for COVID-19 Infection? The current answer to this question is “no” for the following reasons:

- The sensitivity, specificity, and predictive value of a negative test is currently unknown. Transmission through asymptomatic individuals has occurred; for example, recent reports suggest that 6-12% of cases in Singapore and China were likely caused by transmission from asymptomatic or pre-symptomatic individuals [1, 2]. However, the actual risk of transmission by asymptomatic individuals is unknown. A negative test does not ensure the person will not develop the infection if testing occurs during the incubation period.
- We do not know how to interpret a positive test in an asymptomatic individual. PCR-based tests detect strands of RNA. The presence of COVID-19 RNA does not distinguish between transient nasal carriage (which may confer risk of transmissibility), active viable viral shedding (which would confer risk of transmissibility), or attenuated or dead viral shedding (which would likely not confer risk of transmissibility).
- The logistics of testing large numbers of asymptomatic individuals is currently impractical in most areas of the United States. Additionally, the supplies needed for commercial testing are in short supply worldwide; so, testing of asymptomatic individuals may prevent appropriate testing of a symptomatic individual.
- Decisions about home quarantine for contacts have to be made on a case-by-case basis (after determining the type, duration, and circumstances of actual contact). These decisions do not

require actual testing of asymptomatic individuals because a negative test does not rule out an incubating or early infection.

- Testing before onset of symptoms can lead to a false sense of security in patients who test negative. This issue should be made clear if testing is pursued despite the above considerations.

However, guidelines in the US will likely change in the future if and when “point of care” tests **with proven high sensitivity and specificity** are able produce results in minutes or hours rather than days, when resources and systems are in place to facilitate mass screening, and when a positive results can produce “actionable” public health responses (such as contact tracing).

What Should I Recommend to Asymptomatic Individuals Who Are Either Primary or Secondary* Contacts of Persons with COVID-19?

- Players, staff, or team personnel who have primary (direct) close contact with a known case of COVID-19 should be placed in home quarantine for 14 days. Close contact occurs in 1) household members of a known case, b) persons with direct, prolonged exposure (typically defined as >3-5 minutes at less than 6 feet distance). Occupying the same physical space does not constitute a primary exposure. Recently published data from Singapore suggest that “close contact” can occur during 1-2 days prior to onset of symptoms of the known case [1].
- Secondary contacts (see definition below) do not need to be placed in home quarantine.
- All primary and secondary contacts of known cases should be instructed (again) in the principles of social distancing and basic hygiene.
- As above, testing of asymptomatic primary and secondary contacts is not currently recommended. If testing occurs nonetheless:
 - Negative result – no impact on recommendations. Continue home isolation as described above.
 - Positive result – Individual now becomes labeled as a COVID-19 infection. Alter the contact tracing designation of secondary contacts to primary contact if secondary contact occurred through the newly positive individual. Work with the newly identified positive individual to identify additional primary and secondary contacts.
- Finally, all asymptomatic primary or secondary contacts of known or suspected cases should be re-educated as to what symptoms to report and who to contact if they become ill. In general, such individuals should be tested if they later become symptomatic, assuming that there are resources and systems in place in their community for such tests.

In areas where “shelter-in-place” orders exist and when compliance levels with current social distancing and personal hygiene guidelines are high, the risk to primary and secondary contacts of known cases should be substantially reduced.

**Secondary contacts are asymptomatic individuals who were contacts of currently asymptomatic persons who were in direct contact with a person with proven or suspected COVID-19 (See our prior newsletter for additional information).*

What Criteria Should Be Used to Allow Return to Full Activities* If a Player, Athletic Trainer, Team Physician, or Other Personnel has a Positive Test for COVID-19? At present, individuals with confirmed COVID-19 can return to work 3 days after resolution of all signs and symptoms (without the use of anti-pyretic medications) AND after a minimum of 7 days have passed since the onset of symptoms has passed. Individuals who test positive but remain entirely asymptomatic can return to work activities 7 days after the day of the positive test (i.e., the day the test was obtained).

What Criteria Should Be Used to Allow Return to Full Activities* If a Player, Athletic Trainer, Team Physician, or Other Personnel Are Placed on Home Quarantine for A Known Exposure to COVID-19?

Individuals who have been placed in home quarantine because of a direct (primary) exposure to an individual with COVID-19 may return to regular activities after 14 days. As noted above, a negative test result in a primary contact does not change this recommendation.

**“Full activities” is assumed to vary between teams at present and is likely to change when current social distancing restrictions are lifted and/or further evidence of widespread serologic immunity is established.*

Unanswered Questions and Possible Future Changes in Management

- The actual risk of an asymptomatic infected individuals transmitting COVID-19 if social distancing is followed remains unknown and controversial.
- Management of exposures and the work status of any given individual will radically change when and if accurate and sensitive serologic tests are developed that can assess whether an individual is immune or susceptible to COVID-19.
- If rapid, sensitive and specific “point-of-care” tests for COVID-19 are developed, widespread testing of the general population in areas with known community spread may become feasible, particularly if current treatments under evaluation are shown to be both safe and effective.
- Diagnostic (PCR) testing of individuals who have become asymptomatic or of asymptomatic primary contacts after the average incubation period of COVID-19 (5-7 days) has passed may be useful in the future if the specificity and sensitivity of current or future tests can be accurately assessed.
- “Test of cure” may be of benefit in resource-rich settings to ensure that the individual is no longer actively shedding and thus confirm they no longer pose a threat to the general public. Current testing modalities do not distinguish between live viral and attenuated or dead viral shedding, so this may delay return to work or require risk mitigation strategies such as wearing a surgical mask if the individual must return to work before their “test of cure” is negative.

Summary Points

1. We currently do not recommend testing of asymptomatic individuals as proof of the presence or absence of actual infection in contacts of known cases.
2. We endorse the above CDC recommendations for releasing individuals from home quarantine if they are known or suspected of having COVID-19 or if they have been placed on home quarantine because they were a primary contact of a known case.
3. **Until rapid testing is available nationwide, social distancing and personal hygiene remain the most important ways to prevent ongoing transmission of this pandemic virus.**

References

1. Wei WE, Li Z, Chiew CJ, Yong SE, Toh MP, Lee VJ. Presymptomatic Transmission of SARS-CoV-2 — Singapore, January 23–March 16, 2020. MMWR Morb Mortal Wkly Rep. ePub: 1 April 2020. DOI: <http://dx.doi.org/10.15585/mmwr.mm6914e1>
2. Du Z, Xu X, Wu Y, Wang L, Cowling BJ, Meyers LA. Serial interval of COVID-19 among publicly reported confirmed cases. Emerg Infect Dis 2020. Epub March 19, 2020.