



## POPULATION HEALTH

# Managing COVID-19 Symptoms and Exposure in Schools

## Introduction

*As we continue to move through these challenging times where increasing cases of COVID-19 impact our ability to plan for a safe return to school, it remains critical to build a thoughtful approach to supporting student, staff and family safety while supporting the long list of rich benefits associated with in-person learning.*

Recently, Children's Hospital Colorado combined in-house expertise and available data-based resources to provide schools with guidance on returning to in-person learning while mitigating the risk of COVID-19 in schools: Risk-Based Approach to Reopening Schools Amid COVID-19. As a continuation of this guidance, we have developed this document to provide our partners with additional information about which functions schools, parents and caregivers, and local public health can serve in the effective management of COVID-19. Further, this document will provide clarity regarding the management of students and staff with symptoms or exposure to people with symptoms.

Our goal is that schools, parents and local public health partners can use this document to support successful plans in developing appropriate levels of in-person learning, while preserving the flexibility of all partners to address their own localized needs.

It is important to remember that schools' ability to safely engage in re-opening for in-person learning is directly tied to the larger safety of the community. Where a community is consistently engaged in safe practices like social distancing and wearing face coverings, it is more likely that community can support a safe return to school.



## Definitions

**Symptoms :** While symptoms of COVID-19 range widely from mild to severe, our pediatric experts have grouped the known symptoms into “high-risk” and “low-risk” categories. Symptoms in the “high-risk” category indicate a higher likelihood of COVID-19 infection. Symptoms in the “low-risk” category are still indicative of possible illness and should be assessed, however their presence alone may be less likely to be caused by COVID-19 infection.

<b>High-risk</b>	Fever, chills, cough, shortness of breath or difficulty breathing, or loss of taste or smell.
<b>Low-risk</b>	Sore throat (pharyngitis), runny nose (rhinorrhea), muscle aches (myalgias), headache, fatigue, abdominal pain, vomiting, or diarrhea.

**Symptomatic vs. Asymptomatic:** When a person is showing symptoms, they are symptomatic. When a person does not show symptoms, they are asymptomatic. A person can be asymptomatic and still be infected with COVID-19.

**Exposure:** Exposure is currently defined as close contact with someone with confirmed (positive test) or suspected (high-risk symptoms consistent with COVID-19, but not tested) COVID-19. Close contact is defined as being within 6 feet of the person for more than 15 minutes.

**Probable case:** Someone who has symptoms consistent with COVID-19, has been in contact with someone with confirmed COVID-19, and has not yet been tested.

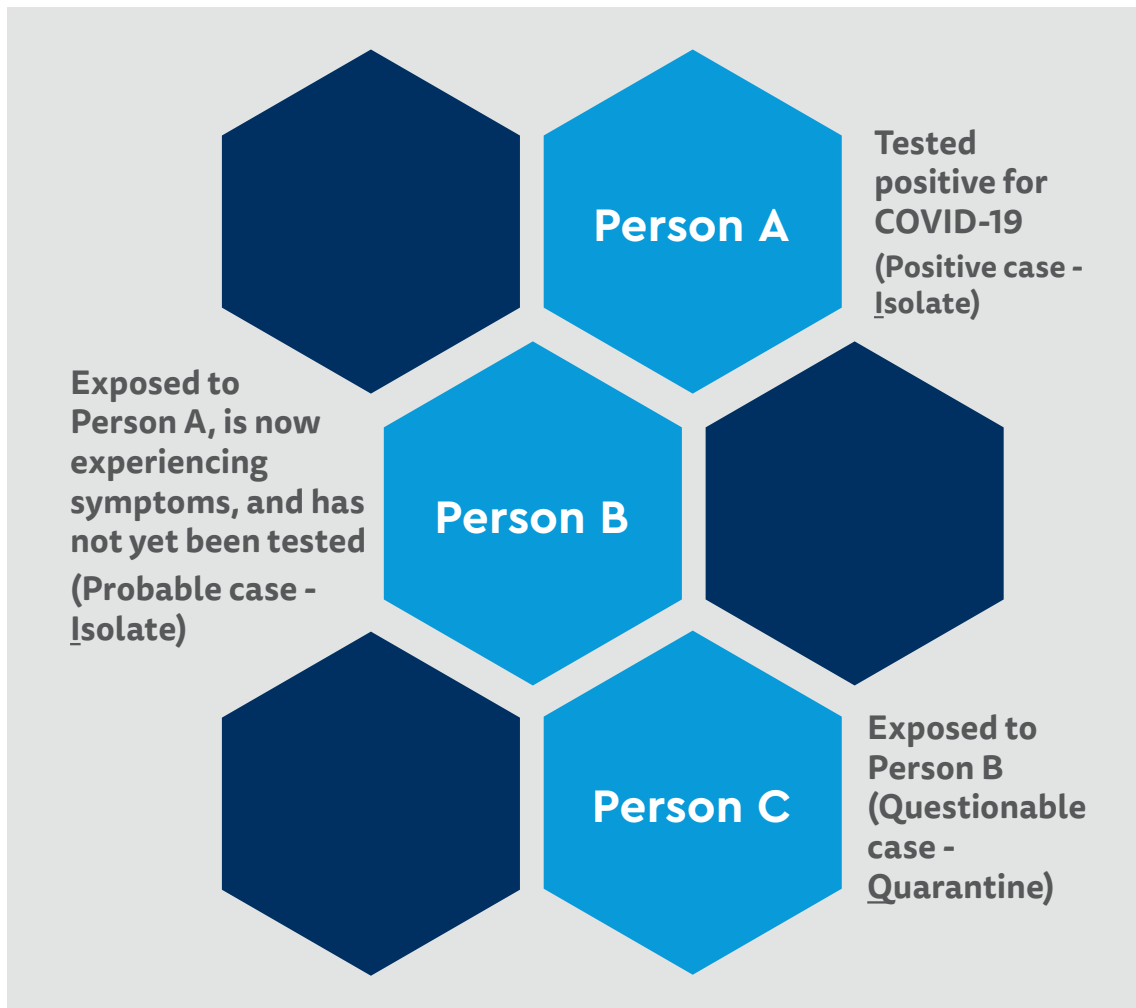
**Testing :** There are many different tests currently available to diagnose COVID-19 infection:

- Polymerase Chain Reaction (PCR) test: This is the most sensitive (best) test to use for diagnosis of COVID-19 infection. Hospital-based tests have better sensitivity and are preferred over point-of-care testing. Because other test types are less sensitive in detecting COVID-19, there is a risk of false negative test results. Therefore, a negative PCR test result is the most reliable to rule out COVID-19 infection.
- Specimen: For PCR-based tests the best specimen to obtain is a nose swab (nasopharyngeal) specimen.
- Antigen test: Currently most antigen-based tests are less sensitive compared to PCR tests, meaning they may not detect infection when someone really has it. A positive test can be used to diagnose COVID-19 infection, but a negative antigen test should not be used for guidance regarding school attendance decisions. Most antigen tests are taken from a nose swab.
- Serology (antibody blood test): Antibody tests should not be used to guide any decisions regarding school exclusion or inclusion.

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**Isolation vs. Quarantine**

- Isolation = Sick: Isolation involves the separation of infected and sick individuals from healthy individuals. Anyone who has COVID-19 needs to self-isolate (stay at home) until:
  - At least 10 days since symptoms first appeared (or from positive test date if asymptomatic) AND
  - At least 24 hours with no fever without fever-reducing medication AND
  - Symptoms have improved
- Quarantine = Question: Quarantine involves the separation of well individuals who have been exposed to someone who is either infected with COVID-19 or a probable case. Anyone who has been exposed needs to self-quarantine (stay at home except for essential functions) for 14 days from their last contact with the infected person.



## Screening: What Are We Trying To Accomplish?

First and foremost, a clearly agreed upon screening process helps ensure that sick students and staff don't come to school. Children's Hospital Colorado recommends that schools create a process where screening happens at home and not when students and staff arrive each day. If staff and parent/caregivers rely on school screening to remove symptomatic people, this elevates the risk of exposure. A school-based screening process gives permission to people with symptoms to show up in a place they should not be coming.

Parents/caregivers and staff need to be given consistent access to a tool and process that support screening in the home before arriving to school every single day. This tool needs to be adopted quickly and communicated widely. Everyone from the custodial staff to a student's older sibling who cares for the student when the parent goes to work needs to understand how to use the tool. Simple is best.

There are smartphone-based apps that allow for individuals to enter their symptoms and report them digitally. Schools who choose this approach will need to make sure the app is available in the relevant languages and doesn't count against data plans for those who have pre-paid phones or limited data. Students, family members or staff with symptoms should then be provided clear instructions, in the moment, with who to contact and what information will need to be provided.

Similarly, for schools who choose the good ole' fashioned approach of paper, symptom paper pads can be provided to each family and staff member to evaluate symptoms every day. And just like the app, the content of the symptom paper pad must be available in the relevant languages with clear instructions on what to do if a student, staff person or family member has symptoms.

It is also possible for schools to implement automated phone and text-based reminder calls each morning. The more schools can layer interventions to ensure students and staff with symptoms (or those who have been exposed to people with symptoms) don't come to school, the more the risk of the spread of COVID-19 is effectively mitigated.

## Managing Symptoms and Exposure: An If/Then Instruction Guide To COVID-19 Management

Here is where the proverbial rubber meets the road. What happens when someone has symptoms, or has been exposed to someone with symptoms? Any person who has COVID-19 symptoms or has been exposed to COVID-19 needs to be supported by a consistent process, and so does the surrounding school community.

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<b>Scenario #1</b> (p. 5)	<b>What happens when a student, staff or family member experiences COVID-19 symptoms?</b>
<b>Scenario #2</b> (p. 7)	<b>What happens when someone doesn't experience symptoms until they are at school?</b>
<b>Scenario #3</b> (p. 8)	<b>What happens when a person is exposed to someone who has tested positive for COVID-19?</b>
<b>Scenario #4</b> (p. 9)	<b>What happens if someone tests positive for COVID-19, but doesn't experience symptoms?</b>
<b>Scenario #5</b> (p. 10)	<b>What happens when a student or staff person is asymptomatic but has been exposed to someone who has symptoms and who hasn't gotten test results?</b>
<b>Scenario #6</b> (p. 10)	<b>What happens when someone is exposed to someone who is exposed to someone who tested positive with COVID-19 (two layers removed)?</b>

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## Scenario #1: What happens when a student, staff or family member experiences COVID-19 symptoms?

- STEP 1** **Stay home and contact the school.** A person experiencing symptoms should not come to school. Schools must be straightforward in communicating a “better safe than sorry” policy when it comes to managing the possible spread of COVID-19.
- STEP 2** **Consult with physician.** The Parent/Caregiver or Staff person should contact their Primary Care Physician (PCP). A PCP will help the person understand how to manage their symptoms, can provide guidance on whether a COVID-19 test is needed and provide instructions on where/how to access a test.
- STEP 3** **Get a test.** Based on the symptoms, a PCP will help advise whether or not COVID-19 testing is needed. First, the value of a test is the ability to ensure that the underlying condition causing the symptoms can be properly treated. Second, the outcome of the test can provide further guidance on whether a person needs to isolate for 10 days or not and whether people around them may have been exposed to COVID-19 and need to quarantine for 14 days.
- STEP 4** **Isolate.** Anyone experiencing COVID-19 symptoms will need to isolate themselves. For those who have low risk symptoms, they may return to school after both consulting with a PCP about whether a test is needed and being cleared by a PCP.
- Those with high-risk symptoms and/or a positive COVID-19 test must remain in isolation for 10 days and may not return to school until going at least 24 hours with no fever without fever-reducing medication. This means a person who has been in isolation for the full 10 days but still experiencing symptoms remains in isolation until they are totally free of a fever for at least 24 hours.
- STEP 5** **Arrange virtual learning.** Schools should have a plan to extend virtual learning to students who must remain at home. When a parent/caregiver or student notifies the school of the absence, the process to engage that student in virtual learning can begin.
- STEP 6** **Plan for safe return to school.** If a person has experienced COVID-19 symptoms, they need clearance from a medical provider to return to school.
- Schools can establish a health liaison role to be point of contact for clearance
  - For someone with a COVID-19 positive test: must isolate for 10 days, be fever free for 24 hours, have improved symptoms, and receive medical assessment with clearance from PCP
  - For someone with a negative PCR test result: must be fever free for 24 hours without fever-reducing medication and receive medical assessment with clearance from PCP
  - For those people who did not receive a test but experienced either high or low-risk symptoms: must isolate until symptoms have resolved for 24 hours and still require provider clearance, even if the symptoms have resolved.
  - Students and staff who have had COVID-19 **do not** need a negative COVID-19 test to return to school. Schools should not require negative testing and should instead follow the time period and symptom resolution criteria described above. If someone with COVID-19 has a repeat test that is negative before 10 days, they cannot return to school sooner, and must still isolate at home for at least 10 days from symptom onset.

# Managing Symptoms and Exposure

Symptomatic Individual

**High-risk:** Fever, chills, cough, shortness of breath or difficulty breathing, or loss of taste or smell

**Low-risk:** Sore throat (pharyngitis), runny nose (rhinorrhea), muscle aches (myalgias), headache, fatigue, abdominal pain, vomiting or diarrhea

High-Risk Symptoms

Low-Risk Symptoms

**Isolation = "Sick":** Involves the separation of infected and sick individuals from healthy individuals. Anyone experiencing symptoms will need to isolate themselves.

Isolation

Isolation

**Exposure:** While there are high-risk and low-risk symptoms for COVID-19, it is also important to understand if the person experiencing symptoms has been exposed to a known COVID-19 positive case. If so, the person experiencing symptoms should be PCR tested for COVID-19, even if they only have low-risk symptoms.

Exposed to known COVID-19 positive case

Not exposed to known COVID-19 positive case

**PCR Testing:** The value of a test is the ability to ensure that the underlying condition causing the symptoms can be properly treated. Second, the outcome of the test can provide further guidance on whether a person needs to isolate for 10 days or not.

PCR Test

PCR Test not prioritized

**Primary Care Physician (PCP):** Anyone experiencing COVID-19 symptoms should contact their PCP for any questions about their symptoms. The PCP can also provide clearance to return to school.

PCP

PCP

## Scenario #2: What happens when someone doesn't experience symptoms until they are at school?

**STEP 1** **Create a process to address symptoms.** As recommended earlier, schools must implement a screening process that takes place at home, not at school. However, someone who begins feeling sick after arriving to school must be supported and encouraged to share this with an appropriate school leader, who can safely address. This leader should be clearly identified, available, and trained to quickly respond to potentially ill students/staff using a trusted and non-attacking approach.

**STEP 2** **Immediately isolate the person with symptoms.** Ensure your school has a clear and consistent process used to identify and then move an ill person to an isolation space until they can go home.

The proper PPE for the person escorting someone (at a 6-foot distance) to a designated isolation space would include a face covering and/or a face shield (if accessible). The staff who escorts the person to the isolation space must wash their hands before and after escorting to the designated isolation space.

**STEP 3** **Provide isolation instructions.** For anyone sent home with symptoms, the staff or student parent/caregiver needs to be given instructions to:

- Keep that person at home
- Call their PCP to for guidance on how to manage symptoms and whether a PCR test is recommended
- Contact the school with an update
- Receive clearance from a PCP to return to school.

If the person who is ill tests positive for COVID-19, they or their caregiver must track their symptoms to ensure that they are in isolation for 10 days, have been free of fever without fever-reducing medication for 24 hours, and have improved symptoms. It is important that they participate in any necessary outreach conducted by local public health, and receive clearance from their PCP to return to school.

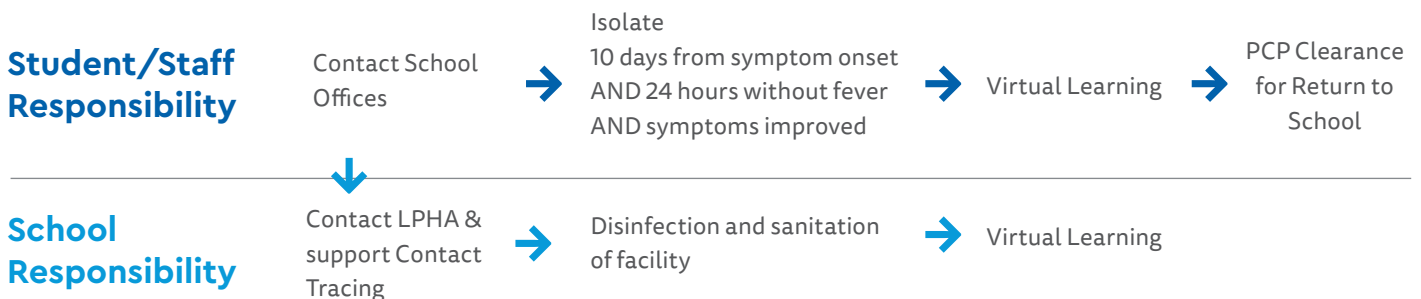
### Role of school

**Step 1:** Ensure information is collected on anyone exposed to person with symptoms. For those who have likely been exposed to the person with symptoms, they do not need to be quarantined immediately. Schools should create a process to gather the information needed to provide the LPHA (local public health agency) with contact tracing assistance. This likely means a standard form that lists people and locations the symptomatic person came in contact with while on a bus or in a school setting.

**Step 2:** Clean areas where symptomatic person has been.

**Step 3:** Contact local public health agency. Schools should designate a central person or small group of people that will be responsible for contacting the school's LPHA with positive COVID-19 case information.

**Step 4:** Work with local public health agency to communicate appropriately. Staff and parents should be alerted to possible exposure, when appropriate. Together with local public health agencies, schools can use a standard letter created by CDPHE informing relevant parties of a positive COVID-19 test. This letter will outline the process that will be used by the local public health agency to contact those who may have been exposed and provide instructions on whether they will need to quarantine.



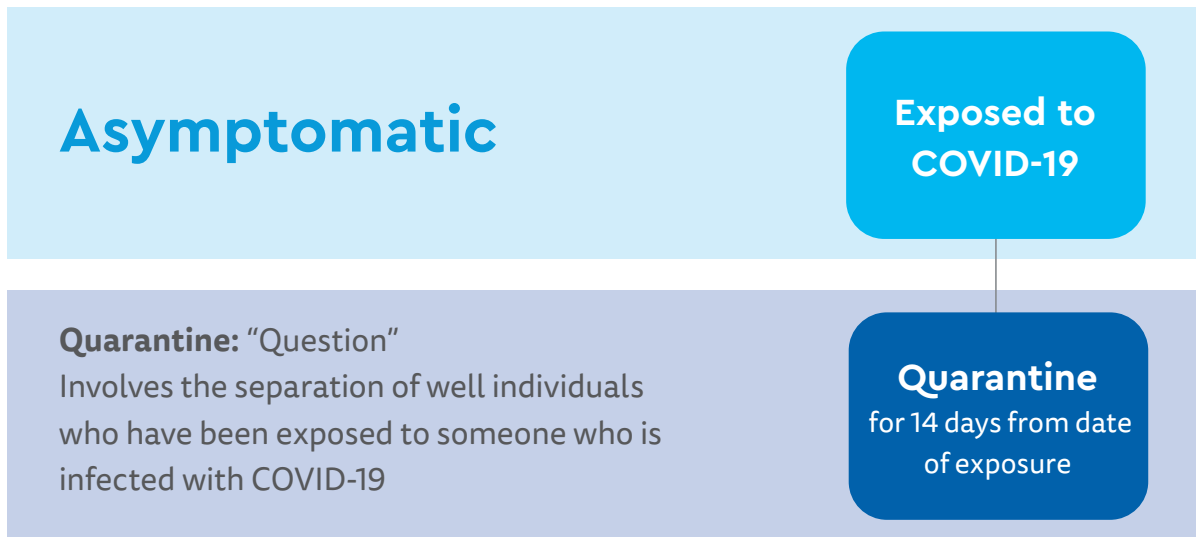
## Scenario #3: What happens when a person is exposed to someone who has tested positive for COVID-19?

*At home, in the community, at school*

**STEP 1** **Quarantine.** All exposed persons (students, teachers, or staff) should self-quarantine (stay at home except for essential functions) for 14 days from the time of their last contact with the known COVID-19 positive individual. The quarantine period **does not** change even if the person who was exposed is asymptomatic or has a negative COVID-19 test.

**STEP 2** **Monitor for symptoms:** Anyone who has been exposed to someone who has tested positive for COVID-19 that develops symptoms consistent with a COVID-19 infection should be tested as there is a much higher risk of the likelihood of having a COVID-19 infection.

In general, asymptomatic children and staff do not/should not be tested. In some circumstances, public health authorities might recommend testing for asymptomatic individuals who had known exposure/close contact with a person with COVID-19. In this situation, testing should usually be done around 7 days after exposure.





## Scenario #4: What happens if someone tests positive for COVID-19, but doesn't experience symptoms?

- STEP 1** **Isolate.** If someone tests positive for COVID-19 and has no symptoms, they still need to isolate (stay home) for 10 days from the date of their positive test. If someone tests positive for COVID-19 and has symptoms, they need to isolate for 10 days from when their symptoms started AND until they are fever-free for 24 hours AND until their symptoms have improved.
- STEP 2** **Separate.** Once isolating at home, people should take steps to avoid spreading COVID-19 to others in their household. Try to have one person designated to help care for the person who has COVID-19, take care to clean shared surfaces frequently, try to maintain 6 feet of distance as much as possible, try to have the person with COVID-19 sleep in a separate room and use a separate bathroom if possible. Many families living in large households may not be able to keep the person with COVID-19 away from other people. Temporary housing resources should be considered as a way to help prevent COVID-19 from spreading through households.
- STEP 3** **Contact the School.** When someone tests positive for COVID-19, they should contact their school official to let them know when they tested positive and when they had started feeling sick. Anyone with COVID-19 should contact their PCP for any questions about their symptoms. And finally, anyone who has tested positive for COVID-19 should take the call that comes from their local public health agency.



## Scenario #5: What happens when a student or staff person is asymptomatic but has been exposed to someone who has symptoms and who hasn't gotten test results?

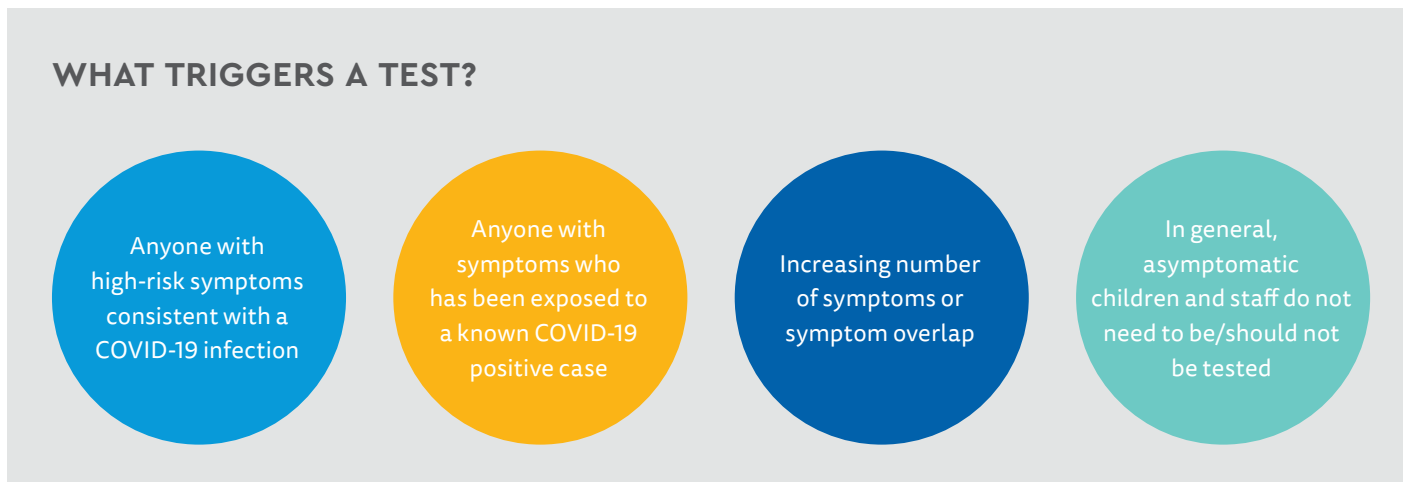
If a student or staff person has been exposed to someone with high-risk symptoms and/or is awaiting results on a COVID-19 test, that student or staff person should remain home quarantined until the test comes back negative for the person who is having symptoms. If the test comes back positive for the person who is having symptoms, the student or staff person exposed must remain in quarantine for 14 days since the most recent exposure to the person who tested positive.

If the test comes back negative, then the student and staff resume daily screening and may return to school so long as they themselves do not develop symptoms.

Any person who is having high-risk symptoms should be tested for COVID-19. If the person who is having symptoms has not been tested, they should be encouraged to get tested.

## Scenario #6: What happens when someone is exposed to someone who tested positive with COVID-19 (two layers removed)?

This is the easiest one – the answer is, business as usual. That person must continue to engage in daily screening, but may attend school.



## Things to remember about COVID-19 management

- Create consistent screening processes that happen daily at home **before** anyone arrives at school in the morning.
- Designate a central contact at school where people can report if they feel ill or have been exposed to someone who feels ill and receive instructions on next steps.
- If someone is sick, stay home and **isolate** (may last 10 days or more).
- If someone has been exposed to a COVID-19 positive case, they must **quarantine** for 14 days from last date of exposure to the person who had COVID-19.
- Seek help and guidance from a PCP once symptoms begin and/or before returning to school.
- Answer the phone or return the call if someone from your local public health agency contacts you.