
COVID-19 - Diagnosed or Suspected

Office Hours Telehealth Triage Protocols | Pediatric | 2021

DEFINITION

Child has symptoms of COVID-19 (cough, fever, shortness of breath or others) AND:

- **Positive lab test confirms the diagnosis** OR
- **HCP** (doctor, NP or PA) **makes a clinical diagnosis** (suspected diagnosis) OR
- **Parent or patient makes suspected diagnosis** based on symptoms consistent with COVID-19 AND possible close contact with COVID-19 patient within last 2 weeks OR
- **Triage Nurse makes suspected diagnosis** based on symptoms consistent with COVID-19 and nurse judgment. Perspective: triage nurses are more qualified to suspect a clinical diagnosis of this infection than parents.
- Confirmation of Diagnosis: COVID-19 testing is now widely available. It should be performed on all the above suspected cases.
- Also Included: Suspected Influenza calls when flu is also widespread in the community.
- **Updated: August 30, 2021**

COVID-19 Main Symptoms (CDC)

COVID-19 should be suspected in people who have 1 or more of the following symptoms (CDC) and have not been vaccinated against COVID-19:

- Cough
- Shortness of breath (difficulty breathing)
- Fever or chills
- Loss of smell or taste
- Muscle or body aches
- Headache
- Sore throat
- Runny nose (not from allergies)
- Fatigue
- The CDC also includes the following less common symptoms: nausea, vomiting and diarrhea. In isolation, these symptoms are not very helpful for recognizing COVID-19. Unless there is associated close contact with a COVID-19 patient, these symptoms can usually be triaged and managed in those specific protocols. So can an isolated headache. For reasons of safety, all respiratory symptoms (such as runny nose and sore throat) are considered COVID-19 until disproven by testing.

COVID-19 Fully Vaccinated Patients who Develop COVID-19 Compatible Symptoms

- COVID-19 vaccines approved by the FDA are highly effective. Research data has confirmed that protective antibody levels are still high at 9 months in most people after completing the vaccine series.
- However, some may develop a mild breakthrough infection.
- This guideline continues to SMAP *fully vaccinated* patients with COVID-19 compatible symptoms **and no known or possible exposure** to other symptom-based protocols. This is a practical decision.
- Each medical director or office will need to consider this decision based on changes in variants and vaccines.
- Note: A **fully vaccinated** patient means 2 weeks have passed since the final dose. A **partially vaccinated** patient means incomplete vaccine series or less than 2 weeks have passed since final dose.
- **Fully vaccinated symptomatic** people with known or possible exposure should be tested at the

time they start showing symptoms.

- **Fully vaccinated asymptomatic** people who have close contact with COVID-19 should be tested 3-5 days after exposure and wear a mask in public indoor settings for 14 days or until they receive a negative test result. No home quarantine is needed. (CDC recommendations)

Influenza Calls: Preventing the Need to Use 2 Protocols

Here are the reasons why this protocol can be used simultaneously for calls about patients with suspected COVID-19 and also for those with suspected Influenza:

- **Symptoms** are nearly identical. Cannot differentiate based on symptoms. Only exception: loss of taste or smell is highly specific for COVID.
- **Triage for serious symptoms** or complications is the same. The nurse can triage both at same time.
- **Viral Testing** is the only way to reach an accurate diagnosis. Tests for both are available.
- **Care Advice** is the same. Treat symptoms and stay well hydrated.
- **Oral Antivirals** are only available for patients with influenza who also are High-Risk for complications.
- **High-Risk patients for Complications:** The long-established list for influenza is similar to the evolving list for patients with COVID-19. It can be used for both.
- **Isolation:** Home isolation is required for 10 days or longer for COVID-19. Isolation for flu is only recommended until the fever is gone for 24 hours or longer. Reason: COVID-19 is far more dangerous than flu.
- **Why COVID-19 Protocol was Chosen to Cover Both:** Influenza is seasonal. COVID-19 is not seasonal. It will not go away in 6 months like influenza.

TRIAGE ASSESSMENT QUESTIONS

Call EMS 911 Now

Severe difficulty breathing (struggling for each breath, unable to speak or cry, making grunting noises with each breath, severe retractions) (Triage tip: Listen to the child's breathing.)

Slow, shallow, weak breathing

R/O: respiratory depression with impending apnea

Bluish (or gray) lips or face now

R/O: cyanosis and need for oxygen

Difficult to awaken or not alert when awake

R/O: encephalitis

Very weak (doesn't move or make eye contact)

R/O: sepsis or shock

Sounds like a life-threatening emergency to the triager

See More Appropriate Protocol

Runny nose from nasal allergies

Go to Protocol: Nasal Allergies (Hay Fever) (Pediatric)

[1] COVID-19 compatible respiratory symptoms BUT [2] no possible COVID-19 close contact within last 2 weeks (e.g. only child kept at home with vaccinated caregivers)

Go to the specific symptom-based protocol. Reason: COVID-19 unlikely.

[1] Headache is isolated symptom (no fever) AND [2] no known COVID-19 close contact

Go to Protocol: Headache (Pediatric)

[1] Vomiting is isolated symptom (no fever) AND [2] no known COVID-19 close contact

Go to Protocol: Vomiting without Diarrhea (Pediatric)

[1] Diarrhea is isolated symptom (no fever) AND [2] no known COVID-19 close contact

Go to Protocol: Diarrhea (Pediatric)

[1] COVID-19 exposure AND [2] NO symptoms

Go to Protocol: COVID-19 - Exposure (Pediatric)

[1] COVID-19 vaccine series completed (fully vaccinated) AND [2] new-onset of possible COVID-19 symptoms BUT [3] no possible exposure

Go to the specific symptom-based protocol. Reason: COVID-19 unlikely in fully vaccinated person with no possible new exposure to COVID-19.

[1] Had lab test confirmed COVID-19 infection within last 3 months AND [2] new-onset of possible COVID-19 symptoms BUT [3] no possible exposure

Go to the specific symptom-based protocol. Reason: COVID-19 unlikely in previously infected person with no possible new exposure to COVID-19.

COVID-19 vaccine reactions or questions

Go to Protocol: Immunization Reactions (Pediatric)

[1] Diagnosed with influenza within the last 2 weeks by a HCP AND [2] follow-up call

Go to Protocol: Influenza (Flu) Follow-up Call (Pediatric)

[1] Household exposure to known influenza (flu test positive) AND [2] child with influenza-like symptoms

Go to Protocol: Influenza (Flu) - Seasonal (Pediatric)

Go to ED Now

Difficulty breathing confirmed by triager BUT not severe (includes tight breathing and hard breathing)

R/O: pneumonia

Ribs are pulling in with each breath (retractions)

R/O: pneumonia

Age < 12 weeks with fever 100.4 F (38.0 C) or higher rectally

R/O: sepsis

SEVERE chest pain (excruciating)

R/O: pneumonia, pleurisy, pulmonary emboli

Muscle or body pains AND complication suspected (can't stand, can't walk, can barely walk, can't move arm or hand normally or other serious symptom)

Headache AND complication suspected (stiff neck, incapacitated by pain, worst headache ever, confused, weakness or other serious symptom)

Go to ED/UCC Now (or to Office with PCP Approval)

Stridor (harsh sound with breathing in) is present now OR has occurred 2 or more times

Rapid breathing (Breaths/min > 60 if < 2 mo; > 50 if 2-12 mo; > 40 if 1-5 years; > 30 if 6-11 years; > 20 if > 12 years)

R/O: respiratory distress. (Caution: Do not attribute abnormal RR to fever)

MODERATE chest pain that keeps from taking a deep breath

R/O: pneumonia, pleurisy

Lips or face have turned bluish BUT only during coughing fits

R/O: need for oxygen

Sore throat AND complication suspected (refuses to drink, can't swallow fluids, new-onset drooling, can't move neck normally or other serious symptom)

Multisystem Inflammatory Syndrome (MIS-C) suspected (Fever AND 2 or more of the following: widespread red rash, red eyes, red lips, red palms/soles, swollen hands/feet, abdominal pain, vomiting, diarrhea)

Note: very rare complication

Child sounds very sick or weak to the triager

Reason: severe acute illness or serious complication suspected

Go to Office Now

Wheezing confirmed by triager BUT no trouble breathing (Exception: known asthmatic)

Note to Triager: Asthmatic children will also need triaging with the Asthma protocol.

Fever > 105 F (40.6 C)

R/O: serious bacterial infection

Shaking chills (shivering) present > 30 minutes

Dehydration suspected (signs: no urine > 8 hours AND very dry mouth, no tears, ill-appearing, etc.)

Age < 3 months with lots of coughing

R/O: pneumonia

Crying that cannot be comforted lasts > 2 hours

R/O: severe otitis

Discuss With PCP and Callback by Nurse within 1 Hour

Age less than 12 weeks AND suspected COVID-19 with mild symptoms BUT no fever

Reason: PCP will decide on needed follow-up care

SEVERE-RISK patient (e.g., immuno-compromised, serious lung disease, on oxygen, heart disease, bedridden, etc) AND suspected COVID-19 with mild symptoms

Reason: special chronic diseases at risk for severe pneumonia or sepsis. PCP will decide on needed follow-up care.

See in Office Today

Stridor occurred but not present now

Continuous coughing keeps from playing or sleeping AND no improvement using cough treatment per protocol

Fever returns after gone for over 24 hours AND symptoms worse or not improved

R/O: otitis media or sinusitis

Fever present > 3 days (72 hours)

R/O: bacterial superinfection - usually otitis media

Strep throat infection suspected by triager

Reason: may need Strep test

Earache or ear discharge also present

R/O: otitis media

Age > 5 years with sinus pain around cheekbone or eye (not just congestion) and fever

R/O: sinusitis

Discuss With PCP and Callback by Nurse Today

[1] Influenza also widespread in the community AND [2] mild flu-like symptoms WITH FEVER AND [3] HIGH-RISK patient for complications with Flu (See that CDC List)

Reason: may need testing for influenza and COVID-19. If positive for flu, PCP will decide if antiviral meds would be helpful for this patient.

[1] COVID-19 infection suspected by caller or triager AND [2] mild symptoms (cough, fever and others) AND [3] no complications or SOB

Reason: arrange COVID-19 testing. Triager will provide advice for treating symptoms.

COVID-19 rapid test result was negative and mild symptoms (cough, fever, or others) continue

Reason: PCP will decide if PCR test is indicated.

See in Office Within 3 Days

Triager thinks child needs to be seen for non-urgent acute problem

Caller wants child seen for non-urgent problem

Home Care

[1] COVID-19 infection (or flu) diagnosed or suspected by HCP AND [2] mild symptoms (cough, fever, chills, sore throat, muscle pains, headache, loss of smell) AND [3] needs symptom care advice

COVID-19 Home Isolation, questions about

COVID-19 Prevention, questions about

COVID-19 Testing, questions about

COVID-19 Disease, questions about

HOME CARE ADVICE

COVID-19 Infection with Mild Symptoms (also applies to Influenza) - Treatment

1. **Reassurance and Education - COVID-19 with Mild Symptoms:**
 - Your child has been diagnosed as having COVID-19 by a positive lab test OR
 - You or your doctor suspect COVID-19 because it is widespread in your community and your child has developed symptoms that match (cough and/or fever).
 - Getting a COVID-19 lab test is the only way to know for sure.
 - Most infections are mild, especially in children.
 - What to Expect: Mild symptoms usually last less than 2 weeks. Complications are rare in children.
 - Here's some care advice to help your child and to help prevent others from getting sick.
2. **Treatment of Symptoms:**
 - The treatment is the same whether you have COVID-19, influenza or some other respiratory virus.
 - The only difference for COVID-19 is you need to stay on home isolation until you recover (a minimum of 10 days). Reason: You want to protect other people from getting it.
 - Treat the symptoms that are bothering you the most.
 - **Note to Triager:** Care Advice is available for Cough, Fever, Chills and Shivering, Runny nose, Sore throat, Muscle pains, Headache and Loss of smell. Only discuss treatment for the caller's main symptoms.
 - There is no anti-viral medication for treating COVID-19 at home. New antiviral treatments have been developed for patients who need to be hospitalized.
 - Antibiotics are not helpful for viral infections.
 - You don't need to see your doctor unless you develop trouble breathing or become worse in any other way.
3. **Home Isolation Is Needed:**
 - Isolation means separating sick people with a contagious disease from people who are not sick. (CDC) That means stay at home if you are sick or you test positive without symptoms.
 - Follow local, state or provincial Department of Health directives.
 - Students should follow their school's COVID-19 policy.
 - See the Home Isolation section for details.
4. **Fever Treatment:**
 - For fever above 102 F (39 C), you may use acetaminophen or ibuprofen if the patient is uncomfortable. (See Dosage table). Avoid aspirin.
 - For fevers 100-102 F (37.8 to 39 C), fever medicines are not needed. Reason: Fever turns on your body's immune system. Fever helps fight the infection.
 - Exception: if the patient also has pain, treat it.
 - Fluids: Offer cool fluids in unlimited amounts. Reason: prevent dehydration. Staying well hydrated helps the body sweat and give off heat.
 - Note to triager about ibuprofen concerns: Discuss only if caller brings up concerns about ibuprofen. Response: The CDC, WHO, AAP and other experts support the use of ibuprofen (if needed) for patients with COVID-19. They found no scientific evidence to support the claim that ibuprofen made this disease worse.
5. **Chills, Shivering and Rigors - Treatment:**
 - Shivering occurs when the body needs to raise its core temperature quickly. Shivering generates body heat until the level of fever that the brain needs to fight the infection is reached.
 - Whether or not you take a fever-reducing medicine, here are some ways to stop the shivering:
 - **Blanket.** Wrap the patient in a warm blanket.
 - **Warm bath.** For severe shivering (rigors), the quickest way to get the fever level up is to take a warm bath. Once the fever peaks, the shivering or rigors will stop.
 - **Fluids.** Drink extra fluids to improve hydration and circulation.

6. **Homemade Cough Medicine:**
 - **Age:** 3 Months to 1 year:
 - Give warm clear fluids (e.g., apple juice or lemonade) to thin the mucus and relax the airway. Dosage: 1-3 teaspoons (5-15 ml) four times per day.
 - Note to Triager: Option to be discussed only if caller complains that nothing else helps: Give a small amount of corn syrup. Dosage: 1/4 teaspoon (1 ml). Can give up to 4 times a day when coughing. Caution: Avoid honey until 1 year old (Reason: risk for botulism).
 - **Age 1 year and older:** Use **Honey** 1/2 to 1 tsp (2 to 5 ml) as needed as a homemade cough medicine. It can thin the secretions and loosen the cough. (If not available, can use corn syrup.) OTC cough syrups containing honey are also available. They are not more effective than plain honey and cost much more per dose.
 - **Age 6 years and older:** Use **Cough Drops** (throat drops) to decrease the tickle in the throat. If not available, can use hard candy. Avoid cough drops before 6 years. Reason: risk of choking.
 - OTC cough medicines are not recommended. (Reason: no proven benefit for children.) Honey has been shown to work better.
 - Don't use OTC cough medicines under 6 years of age. Reason: Cough is a protective reflex.
7. **Coughing Fits or Spells - Warm Mist and Fluids:**
 - Breathe warm mist (such as with shower running in a closed bathroom).
 - If the air is dry, use a humidifier in the bedroom (Reason: dry air makes coughs worse).
 - Give warm clear fluids to drink. Examples are apple juice and lemonade. Don't use warm fluids before 3 months of age.
 - Amount. If 3 - 12 months of age, give 1 ounce (30 ml) each time. Limit to 4 times per day. If over 1 year of age, give as much as needed.
 - Reason: Help relax the airway and loosen up any phlegm.
 - What to Expect: The coughing fit should stop. But, your child will still have a cough.
8. **Runny Nose - Blow or Suction the Nose:**
 - The nasal mucus and discharge is washing viruses and bacteria out of the nose and sinuses.
 - Having your child blow the nose is all that is needed. Teach your child how to blow the nose at age 2 or 3.
 - For younger children, gently suction the nose with a suction bulb. Use saline (salt water) nose drops or spray to loosen up the dried mucus as needed.
9. **Sore Throat Pain Relief:**
 - Here are some tips on treating a sore throat:
 - Age over 1 year: Can sip warm fluids such as chicken broth or apple juice. Some children prefer cold foods such as popsicles or ice cream.
 - Age over 6 years: Can also suck on hard candy or lollipops. Butterscotch seems to help.
 - Age over 8 years: Can also gargle. Use warm water with a little table salt added. A liquid antacid can be added instead of salt. Use Mylanta or the store brand. No prescription is needed.
 - Pain medicine: Use if pain interferes with swallowing. Not needed for mild pain.
10. **Sore Throat - Fluids and Soft Diet:**
 - Try to get your child to drink adequate fluids.
 - Goal: Keep your child well hydrated.
 - Cold drinks, milk shakes, popsicles, slushes, and sherbet are good choices.
 - Solid Foods: Offer a soft diet. Also avoid foods that need much chewing. Avoid citrus, salty, or spicy foods.
 - Note: Fluid intake is much more important than eating any solid foods.
11. **Muscle Pains - Treatment:**
 - Here are some tips for treating muscle pains and body aches:
 - **Massage:** Gently massage any sore muscles.
 - **Stretching:** Gently stretch any sore muscles.

- **Apply Heat:** Use a heat pack, heating pad or warm wet washcloth. Do this for 10 minutes 3 times per day.
 - **Warm bath:** For widespread muscle pains, consider a warm bath for 20 minutes 2 times a day. Gently exercise the sore muscles under water.
 - **Pain medicine:** For widespread body aches, give acetaminophen every 4 hours OR ibuprofen every 6 hours as needed. (See Dosage table.) Not needed for mild aches.
12. **Headache - Treatment:**
- Here are some tips on treating a headache:
 - **Pain medicine:** Give acetaminophen every 4 hours OR ibuprofen every 6 hours as needed. (See Dosage table.) Not needed for mild headaches.
 - **Cold pack:** Apply a cold wet washcloth or cold pack to the forehead for 20 minutes.
 - **Massage:** Stretch and massage any tight neck muscles.
13. **Loss of Smell and Taste:**
- Losing the sense of smell and taste can be an early symptom of COVID-19.
 - It is strong evidence for having COVID.
 - In 50% of patients, these senses return within 1 to 3 weeks.
 - In 85%, they return within 6 months.
 - Most of the others recover by 1 year.
 - If symptoms persist, it should not delay the end of isolation.
14. **Call Back If:**
- Shortness of breath occurs
 - Difficulty breathing occurs
 - Your child becomes worse

COVID-19 Home Isolation Questions

1. **Home Isolation Is Needed for those that are Sick with COVID-19:**
- Isolation means separating sick people with a contagious disease from people who are not sick. (CDC)
 - Stay Home for a Minimum of 10 Days: Home isolation is needed for at least 10 days after symptoms started.
 - Follow local, state or provincial Department of Health directives.
 - Students should follow their school's COVID-19 policy.
 - Living with a suspected COVID-19 patient implies close contact has occurred.
 - Both patient and any exposed unvaccinated/partially vaccinated family members should stay home on isolation and quarantine. Period of quarantine starts on the date of last exposure and goes for 10 days.
 - Exception for Fully Vaccinated Exposed Persons with NO symptoms: If 2 weeks have passed since your final vaccine, you do not have to quarantine after close contact with a COVID-19 infected person. However, you should be tested 3-5 days after exposure and wear a mask in public indoor settings for 14 days or until they receive a negative test result.
 - Exceptions: Essential workers who have COVID-19 exposure but do not have any symptoms. Talk to your employer.
 - The patient does not need to be confined to a single room. Reason: Preventing spread of respiratory infections within a home is nearly impossible.
 - The sick person should try to avoid very close contact with other family members. That includes hugging, kissing, sitting next to or sleeping in the same bed. None of this is realistic for young children.
 - Older children and adults with symptoms may consider wearing a mask in common household areas.
 - Note to Triager: Many families have limited options. Triagers should individualize their recommendations for isolation after discussing it with the caller.

- **Isolation Questions for PCP - Note to Triager:** Home isolation can be complicated. A parent may need to return to work. Someone in the household may be elderly or have a serious medical problem. If a caller has additional questions, involve the PCP.
2. **Stopping Home Isolation (CDC):**
 - Symptomatic patients must meet 3 criteria: [1] Fever gone for at least 24 hours off fever-reducing medicines AND [2] Cough and other symptoms must be improved AND [3] Symptoms started more than 10 days ago.
 - Asymptomatic unvaccinated/partially vaccinated patients who don't develop symptoms: Stay at home until 10 days have passed since the date of the positive test was done (test specimen collected). Period of quarantine starts on the date of last exposure and goes for 10 days.
 - Shorter quarantine option for exposed asymptomatic unvaccinated/partially vaccinated people: If they get a negative COVID-19 lab test on day 5 to 7 after exposure, can leave quarantine after day 7. (CDC). This helps essential workers return to the work force.
 - If unsure it is safe for you to leave isolation, check the CDC website or call your PCP.
 3. **How to Protect Others - When You or Your Child are Sick with COVID-19:**
 - **Stay Home for a Minimum of 10 Days:** Home isolation is needed for at least 10 days after symptoms started.
 - Follow local, state or provincial Department of Health directives.
 - Students should follow their school's COVID-19 policy.
 - **Cover the Cough:** Cough and sneeze into your shirt sleeve or inner elbow. Don't cough into your hand or the air. If available, sneeze into a tissue and throw it into trash can.
 - **Wash Hands often with Soap and Water:** After coughing or sneezing are important times.
 - **Don't Share Personal Household Items:** Don't share glasses, plates or eating utensils.
 - **Wear a Mask:** Wear a face mask when around others or you go to a medical facility.
 - **Avoid High-risk People:** Carefully avoid any contact with the elderly and people with weak immune systems or other chronic health problems.
 4. **Call Back If:**
 - Shortness of breath occurs
 - Difficulty breathing occurs
 - Your child becomes worse

COVID-19 Prevention Questions

1. **COVID-19 - How to Protect Yourself and Family from Catching It - The Basics:**
 - Get the COVID-19 vaccine. It is your best protection against this serious infection.
 - Avoid close contact with people outside your family unit. Avoid closed spaces (indoors) when possible and all crowds (even outdoors).
 - Always wear a face mask when you must leave your home. Also, observe social (safe) distancing.
 - Everyone 6 months and older should get an annual flu shot. Reason: Getting COVID-19 while you also have or are recovering from the flu may increase the chances of getting severe symptoms.
 - **Wash hands often with soap and water (very important).** Always do before you eat.
 - Use an alcohol-based hand sanitizer if water is not available. Remember: soap and water work better.
 - Don't touch your eyes, nose or mouth unless your hands are clean. Germs on the hands can get into your body this way.
 - Don't share glasses, plates or eating utensils.
 - No longer shake hands. Greet others with a smile and a nod.
 - If your child needs to be seen for an urgent medical problem, do not hesitate to go in. ERs, urgent care sites and your doctor's office are safe places. They are well equipped to protect you against the virus. For non-urgent conditions, talk to your doctor's office first.

2. **Social (Safe) Distancing and COVID-19 Prevention:**
 - Avoid any contact with people known to have COVID-19 infection. Avoid talking to or sitting close to them.
 - **Social (Safe) Distancing:** Try to stay at least 6 feet (2 meters) away from anyone who is sick, especially if they are coughing. Also called physical distancing. Avoid crowds because you can't tell who might be sick.
 - If COVID-19 is widespread in your community, try to stay 6 feet away from everyone outside your family unit.
 - **Stay at Home Orders:** Follow any stay at home (stay in place) orders in your community. Leave your home only for essential needs such as buying food or seeking medical care.
 - **After Stay at Home Orders are Lifted:** Continue social distancing. Also wear a mask when entering any public building or outdoor crowded area. These precautions will be needed for many months. Your state public health department will decide when they are no longer needed.

3. **Face Masks and COVID-19 Prevention:**
 - **Overview:** Face masks are essential for reducing the spread of COVID-19. They will also reduce the spread of influenza. People with COVID-19 can have no symptoms, but still spread the virus.
 - Because of the Delta variant (and other possible future variants) recommendations for wearing masks are pretty much the same for people who are vaccinated or unvaccinated. Mask wearing is even more important if you are in an area of high COVID-19 spread or if you have a weak immune system.
 - **People Who Are Well (Not Sick With COVID-19) Should Wear Masks If:**
 - You are in indoor public spaces (such as a church or a grocery store).
 - You are in a crowded outdoor setting (e.g., concert, music festival, rally).
 - You are traveling on a plane, bus, train, or other form of public transportation or in transportation hubs such as airports and train stations.
 - You must be around someone who has symptoms of COVID-19 or has tested positive for COVID-19.
 - **People Who Are Sick With COVID-19 Must Wear Masks If:**
 - You need to leave the home. Example: for medical visits. Patients with trouble breathing in a mask can consider a loose face covering such as a bandana.
 - You are around other people or animals (such as pets).
 - **Exceptions to Masks:**
 - Face coverings are **NOT** recommended for **children under 2 years**.
 - Face mask or covering is optional if outdoors and you can avoid being within 6 feet (2 meters) of other people. Some examples are an outdoor walk or run.

4. **Keep Your Body Strong:**
 - Get your body ready to fight the COVID-19 virus.
 - Get enough sleep (very important).
 - Keep your heart strong. Walk or exercise every day. Take the stairs. Caution: avoid physical exhaustion.
 - Stay well hydrated.
 - Eat healthy meals. Avoid overeating to deal with your fears.
 - Avoid the over-use of anti-fever medicines. Fever fights infections and ramps up your immune system.

5. **Keep Your Mind Positive:**
 - **Live in the present, not the future.** The future is where your needless worries live.
 - **Stay positive.** Use a mantra to reduce your fears, such as "I am strong".
 - **Get outdoors.** Take daily walks. Go to a park if you have one. Being in nature is good for your immune system.
 - **Show love.** As long as they are well, hug your children and partner frequently. Speak to them in a kind and loving voice. Love strengthens your immune system.

- **Stay in touch.** Use regular phone calls and video chats to stay in touch with those you love.
 - **"2-Household Bubble".** To reduce social isolation, especially for young children, some families have joined up with one other family for visits. Rules: Both families must agree that they will not have social contacts with any other families. No one in either family can work outside the home. Not approved by CDC but a reasonable family decision.
6. **How to Protect Others - When You or Your Child are Sick:**
 - Stay home from school or work if you are sick.
 - See the Home Isolation section for details.
 7. **Call Back If:**
 - Your child becomes worse
 - You have other questions

COVID-19 Testing Questions

1. **COVID-19 Testing - Who Needs It:**
 - Note to Triager: Follow the policy for testing recommended by your practice.
 - If COVID-19 is suspected, getting a lab test is the only way to know for sure. Getting the test is not urgent.
 - Testing is widely available. Where to get it can be different for every community.
 - In addition to hospital labs and some offices, many retail clinics and urgent care centers can also perform COVID-19 testing. Even pharmacies (such as CVS and Walgreens) now perform drive-thru testing on children age 3 and older. Testing is also available at some local and state public health departments. Self- tests (such as Abbot BinaxNow) for use at home are now available in some drugstores (such as CVS, Walgreens).
2. **COVID-19 Testing Facts:**
 - Here are some facts that may answer some of the caller's questions.
 - **Diagnostic Tests:** These are performed on nasal or mouth secretions. The test can tell us if you have a COVID-19 infection now. Your doctor is the best resource for up-to-date information on diagnostic testing. Timing is important on when to do diagnostic tests.
 - **COVID-19 Diagnostic Tests - Recommended Timing (CDC recommendations):**
 - **Symptomatic patients** - get a test immediately or at least within 3 days of onset of symptoms.
 - **Asymptomatic Unvaccinated or Partially Vaccinated Patients with a COVID-19 close contact** - Get a COVID-19 test immediately (within 24 hours). If the test is negative, the test should be repeated 5 to 7 days after exposure. Test sooner if symptoms develop.
 - **Asymptomatic Fully Vaccinated Patients with a COVID-19 close contact** - Get a test on day 3 to 5 after exposure. Test sooner if symptoms develop.
 - **Antibody Tests:** These tests are different. These are performed on blood. They can sometimes tell us if there are antibodies from a previous infection. Discuss if this test would be helpful with your doctor.
 - **Timing guideline for Antibody Tests:** If indicated, antibody tests are not recommended until at least 2 or 3 weeks have passed since the start of the infection (CDC). Waiting for a few weeks will give the most accurate result (highest positive rate).
3. **Questions About Rapid COVID-19 Results:**
 - Positive rapid test results are accurate and can be trusted.
 - Negative rapid test results are usually accurate but can sometimes be wrong.
 - An error is more likely with tests performed at home. Rapid tests performed at a test site are usually more accurate.
 - Note to Triager: For callers who are worried about a false negative, especially if they had a known exposure, discuss with the PCP.
4. **Repeat Diagnostic Tests:**
 - After a positive test, repeat tests are not recommended. Even after it is safe to stop isolation

(usually 10 days), tests may stay positive for up to 90 days. A positive test does not mean the patient can spread the infection once the required isolation period is completed.

- After a negative test, a repeat test is sometimes needed. Reason: A test may be falsely negative; for example, if a person gets the test too soon after exposure. Further, if a person is exposed again or develops symptoms suggestive of COVID-19, then repeat viral testing.

5. **Call Back If:**

- Shortness of breath occurs
- Difficulty breathing occurs
- Your child becomes worse

COVID-19 Disease FAQs

1. **Trusted Sources for Accurate Information - CDC and AAP:**

- To meet the extreme demand for COVID-19 information, when possible, find your answers online. Here are the most reliable websites:
- CDC website: <https://www.cdc.gov/coronavirus>.
- American Academy of Pediatrics parent website: www.healthychildren.org

2. **COVID-19 Cause:**

- It is caused by a new coronavirus: SARS-CoV-2 (COVID-19).
- Viruses change through mutation. New variants of the COVID-19 virus are expected to appear and spread.
- In the fall of 2021, the Delta variant has become the most common COVID-19 variant.
- The Delta variant spreads much faster than other variants.
- It may cause more severe illness and more hospitalizations.
- The COVID-19 vaccines help protect against the delta variant.
- Infection with COVID-19 Delta variant occurs less often in people who are vaccinated. When it happens it is called a 'breakthrough' infection.
- The risk of serious illness and hospitalization is much lower than if a person is not vaccinated.

3. **COVID-19 Symptoms:**

- COVID-19 coronavirus most often causes a respiratory illness. The most common symptoms are cough and fever. Some patients progress to shortness of breath.
- Other common symptoms are chills, shivering (shaking), runny nose, sore throat, muscle pain, headache, fatigue, and loss of smell or taste.
- The CDC also includes the following less common symptoms: nausea, vomiting and diarrhea.
- Some people may have minimal symptoms or even have no symptoms (asymptomatic).

4. **Multisystem Inflammatory Syndrome (MIS-C):**

- MIS-C is a very rare complication of COVID-19. In general, COVID-19 continues to be a mild disease in children.
- The most common symptoms are fever with red eyes, red lips, red palms and soles. Abdominal pain, vomiting and diarrhea also occur. Half of the patients develop trouble breathing.
- Onset of symptoms: Usually about 4 weeks after a COVID-19 infection and apparent recovery.
- Peak age: 8 years. Age range: 6 months to 21 years.
- Treatment: MIS-C is treatable with medications, including IV immune serum globulin.
- If a child gets this rare complication, a parent will know that their child needs to see a doctor. Patients with MIS-C need to be admitted to the hospital.
- Prevention: MIS-C cannot be prevented nor predicted. When approved for this age group, the COVID-19 vaccine will prevent MIS-C.

5. **COVID-19 - Exposure Risk Factors:**

- Here are the main risk factors for getting sick with COVID-19:
- Close contact with a person who tested positive for COVID-19 AND contact occurred while they were ill. Close contact is defined as being within 6 feet (2 meters) for a total of 15 minutes or

more over a 24-hour period. Prolonged close contact would extend the risk to the 48 hours prior to the person becoming ill with symptoms. This includes living with someone infected with COVID-19.

- Living in or travel to an area where there is high community spread of COVID-19 also carries some risk.
- International travel: The CDC (<https://www.cdc.gov/coronavirus>) has the most up-to-date list of where COVID-19 outbreaks are highest.
- Not being fully vaccinated

6. **COVID-19 - How it is Spread:**

- COVID-19 is spread from person to person.
- The virus spreads when respiratory droplets produced when a person coughs, sneezes, sings or shouts. The infected droplets can then be inhaled by a nearby person or land on the surface of their face or eyes. Droplets fall quickly to the floor or ground. This is how most COVID is spread.
- Most infected people also have respiratory secretions on their hands. These secretions get transferred to healthy people on doorknobs, faucet handles etc. The virus then gets transferred to healthy people when they touch their face or rub their eyes. This is a less common cause of spread.
- These methods are how most respiratory viruses spread.
- Aerosols are tiny, invisible particles that can float in the air for 1 to 2 hours. They only occur in a closed room with poor ventilation. Aerosols are a rare cause of COVID-19 transmission (CDC and WHO). Evidence: within household units, only 30% of contacts get infected.

7. **COVID-19 - Travel:**

- Avoid all non-essential air travel.
- The Centers for Disease Control and Prevention (CDC) maintains a website with the latest recommendations regarding travel and your health.
- Currently, the CDC recommends against travel to any geographic areas with widespread and ongoing spread of COVID-19. See current list at <https://wwwnc.cdc.gov/travel/>.

8. **Breastfeeding and COVID-19:**

- Breastfeeding experts recommend you continue to breastfeed even if you are sick with COVID-19. (AAP)
- Wash your hands before feeding your baby.
- The CDC recommends wearing a face mask. Be careful to avoid coughing on your baby.
- Breastmilk gives beneficial antibodies your body is making against this illness to your baby. This should provide some protection against this illness for your baby, like it does for influenza and most other viral illnesses.
- Research has proven that the virus is not passed through breastmilk.
- Breastfeeding mothers are also encouraged to get the COVID-19 vaccine. (CDC)

9. **COVID-19 - Other Facts:**

- **Incubation Period:** average 5 days (range 2 to 14 days) after coming in contact with the secretions of a person who has COVID-19.
- **No Symptoms but Infected:** Over 30% of infected adult patients have no symptoms (asymptomatic patients). Children and teens are even more likely to have no symptoms. Such patients do however spread the disease and most develop protective antibodies (immunity).
- **Mild Infections:** 80% of those with symptoms have a mild illness, much like normal flu or a bad cold. The symptoms usually last 2 weeks.
- **Severe Infections:** 20% of those with symptoms develop trouble breathing from viral pneumonia. Many of these need to be admitted to the hospital. About 2% of children with COVID-19 need to be admitted to the hospital. Without vaccination, the hospital admission rate in teens is about 10% and about 3% require ICU care. (CDC). People with complications generally recover in 3 to 6 weeks. Severe infections are rare in people who are vaccinated.
- **Deaths:** Children generally have a mild illness and recover quickly. Pediatric deaths are very rare. (CDC) Older adults, especially those with chronic lung disease, heart disease, diabetes or

weak immune systems, have the highest death rates. The overall death rate is around 6 per 1000 people. The risk of death is much lower in people who are vaccinated.

- **Vaccine:** Safe and effective vaccines are available. Some vaccines are 2 doses, given 3-4 weeks apart. Others are a single dose. Similar to flu shots, they will probably provide protection for 6 to 9 months. At this time, vaccines have been tested and are FDA approved for 12 years and older. Trials on children younger than 12 years have started (June 2021). Breakthrough cases are COVID-19 infections that bypass vaccine protection. They are rare and many are asymptomatic. The vaccine prevents almost all hospital admissions, ICU care and deaths.

- **Treatment:** New treatments for severe COVID-19 are available. They are mainly used on hospitalized patients and are given in a vein (IV).

- **Prevention:** The COVID-19 vaccine is the best way to prevent infections. Face masks, social (safe) distancing and extra handwashing are also proven to help prevent disease. The malaria drug (chloroquine) was studied and found not to be helpful for this disease and had side effects. A monoclonal antibody therapy has become available in the US for people 12 years and older at *high risk for severe disease* AND who have had a recent close contact exposure OR confirmed COVID-19 mild symptoms. It is usually given IV to prevent progression and complications. People hospitalized with COVID-19 are not eligible.

10. **Call Back If:**

- You have other questions

FIRST AID

N/A

BACKGROUND INFORMATION

Matching Pediatric Care Advice (PCA) Handouts for Callers

Detailed home care advice instructions have been written for this protocol. If your software contains them, they can be sent to the caller at the end of your call. Here are the names of the pediatric handouts that are intended for use with this protocol:

- COVID-19 - Diagnosed or Suspected
- COVID-19 Prevention
- COVID-19 or Influenza - How to Tell
- COVID-19 Vaccines - Answers to Common Questions
- Coughs and Colds: Medicines or Home Remedies?
- Fever - How to Take the Temperature
- Fever - Myths Versus Facts
- Acetaminophen (Tylenol) Dosage Table - Children
- Ibuprofen (Advil, Motrin) Dosage Table - Children

COVID-19 Key Points

- An outbreak of this new viral infection began in Wuhan, China in early December 2019.
- The first COVID-19 patient in the United States was reported on January 21, 2020.
- Four patients were confirmed in Canada on January 31, 2020.
- The World Health Organization (WHO) declared COVID-19 a global pandemic on March 11, 2020.
- In the summer and fall of 2021, the Delta variant has become the most common COVID-19 variant.
- The Centers for Disease Control and Prevention (CDC) is considered the source of truth for this protocol. This continues to be a rapidly changing situation and recommendations from the CDC are

updated daily. See: <https://www.cdc.gov/coronavirus>. If the CDC recommendations are different than what is in this protocol, follow the CDC guidelines.

COVID-19 Main Symptoms (CDC)

COVID-19 should be suspected in people who have 1 or more of the following symptoms (CDC) and have not been vaccinated against COVID-19:

- Cough
- Shortness of breath (difficulty breathing)
- Fever or chills
- Loss of smell or taste
- Muscle or body aches
- Headache
- Sore throat
- Runny nose (not from allergies)
- Fatigue
- The CDC also includes the following less common symptoms: nausea, vomiting and diarrhea. In isolation, these symptoms (such as diarrhea) are not very helpful for recognizing COVID-19. Reason: Too common, multiple causes and sometimes subjective. For example, mild diarrhea is often caused by a change in the diet.
- **"COVID Toes"**: Reddish or purple toes have been reported as a rare finding. They can occur alone and go away without treatment. Or they can occur 1-2 weeks after the more common symptoms.
- **Long-Haul Symptoms**: Have been reported in some children after hospitalization with severe infections. Main symptoms are fatigue, brain fog, muscle pains and joint pains. Up to 2% have symptoms beyond 8 weeks.

Cause

- It is caused by a novel (new) coronavirus: SARS-CoV-2 (COVID-19).
- Viruses change through mutation. New variants of the COVID-19 virus are expected to appear and spread.
- In the summer and fall of 2021, the Delta variant has become the most common COVID-19 variant.
- The Delta variant spreads much faster than other variants.
- It may cause more severe illness and more hospitalizations.
- The COVID-19 vaccines help protect against the delta variant.
- Infection with COVID-19 Delta variant occurs far less often in people who are vaccinated. When it happens, it is called a 'breakthrough' infection. In general, the patient has mild or no symptoms.
- The risk of serious illness and hospitalization is rare compared to a person who was not vaccinated.

Multisystem Inflammatory Syndrome (MIS-C)

- MIS-C is a rare and sometimes severe complication associated with COVID-19. The most common symptoms are fever with red eyes, red lips, red palms and soles. Abdominal pain, vomiting and diarrhea also occur. Half of the patients develop trouble breathing and shortness of breath. Always has multiple symptoms. All patients with suspected of having this syndrome should be seen by a doctor. Most need to be admitted to the hospital. Some cases are similar to Kawasaki's Disease (KD), but MIS-C is a more serious condition.
- Incidence: a very rare complication of COVID-19. In general, COVID-19 continues to be a mild disease in most children.
- Onset of symptoms: Usually about 4 weeks after COVID-19 infection and apparent recovery.
- Peak age: 8 years. Age range: 6 months to 21 years.
- Treatment: MIS-C is treatable with medications, including IV immune serum globulin (ISG). At this time, it cannot be prevented nor predicted.

- Reassurance: If a child gets this rare complication, a parent will know that their child needs to see a doctor.
- Outcomes: death rate is 10-29%. A shorter duration of symptoms before admission was associated with worse outcomes.
- Prevention: MIS-C cannot be prevented nor predicted. When approved for this age group, the COVID-19 vaccine will prevent MIS-C.

High-Risk Children for Complications with Influenza (also with COVID-19)

- Significance: HIGH-RISK children also are the main patients who may need prescription anti-viral medications when they develop influenza.
- Lung disease (e.g., asthma, cystic fibrosis, bronchopulmonary dysplasia)
- Technology-dependent lung disease (e.g., oxygen required, tracheostomy, ventilator)
- Compromised ability to handle respiratory secretions (e.g., spinal cord or brain injury)
- Heart disease (e.g., congenital heart disease, rheumatic heart disease)
- Neuromuscular disease (e.g., muscular dystrophy, cerebral palsy, epilepsy)
- Metabolic disease (e.g., diabetes mellitus)
- Sickle cell disease
- Renal disease (e.g., nephrotic syndrome, renal dialysis)
- Liver disease (e.g., liver failure, chronic hepatitis)
- Down syndrome
- Compromised immune system (e.g., cancer, chemotherapy, HIV/AIDS, transplant, taking oral steroids)
- Diseases requiring long-term aspirin therapy (e.g., Kawasaki's disease and rheumatoid arthritis)
- Pregnancy
- Morbid Obesity (BMI > 40) Note: for COVID-19, this may be lowered to BMI > 30 (the 95th percentile).
- Healthy children under 2 years old are also considered HIGH-RISK. Reason: higher rate of pneumonia and hospitalization.

High-Risk Children: Possible Exceptions

- The current HIGH-RISK list includes over 20% of children because 10% of children are under 2 years of age and 10% of children have asthma.
- To reduce unnecessary prescribing of Tamiflu, our call center and ED have decided to exclude children who only have exercise-induced asthma or cough-variant asthma. We have also excluded any child with asthma who has not needed to use any asthma medications within the last year. The latter would indicate that they have very mild intermittent asthma.
- Each call center or office practice will need to decide if certain conditions will not be included in the HIGH-RISK group.

Child Abuse During the COVID-19 Pandemic

- Social isolation combined with the financial crisis has caused unremitting stress for many parents.
- Young children often become irritable and demanding when confined to the home.
- These factors have increased the rate of angry outbursts and child abuse.
- Triagers need to be alert for calls about bruises or other injuries that are suspicious, unexplained or occur in the first year of life.
- They also need to offer help to families in crisis before they reach the breaking point. Be prepared. Know where to refer at-risk families.
- National Alliance on Mental Health (NAMI) Helpline: 1-800-950-6264. This is an information and referral source for locating community mental health programs.
- Domestic Violence Hotline: 1-800-799-7233
- Child Abuse: Call the Child Abuse Reporting Hotline in the county where the child lives. The number

can also be obtained by calling 911.

- See the Psychosocial Problems or Child Abuse protocols for details.

Symptomatic COVID-19 Calls: Patients Who Need to Be Seen and Telemedicine Visits

- At this point in the COVID-19 pandemic, most PCP's offices are equipped to handle sick child visits. Many also are providing telemedicine visits (video visits).
- A telemedicine visit is appropriate if it can provide a definitive diagnosis and care without being seen in-person.
- How to implement: The triage nurse continues to manage the Home Care disposition calls and the "for information only" calls. These are more than half of incoming calls.
- If available, the triager schedules many other nonemergent calls with the PCP for a video visit. If unsure, triager discusses patient eligibility with the PCP.

Animals and COVID-19

- The main way COVID-19 spreads is from person to person. There is low risk of getting COVID-19 from a pet or other animal.
- It is possible for animals to catch COVID-19 from people. A few pets have tested positive for COVID-19 (including cats and dogs).
- The CDC recommends treating pets like other family members when trying to avoid spreading COVID-19. Do not let pets have close contact with other people or animals outside your household. A sick person should self-isolate and avoid contact with both people and pets.
- Call your vet if your pet gets sick or you have other questions.
- The CDC has more information on COVID-19 and animals at: <https://www.cdc.gov/coronavirus>

COVID-19 Disease and Repeat Infections

- Most viral infections cause our immune system to create antibodies that protect us from getting that infection again.
- Sometimes this provides lifelong protection, but sometimes that protection only lasts months or years.
- **Protection Duration.** Research about how long protection against COVID-19 lasts is ongoing. Protection has been proven to last for at least 90 days (3 months) after infection. The CDC recommends using 90 days post exposure as a protected period.
- For now, it remains important for people who have recovered from COVID-19 infections to be careful. Take normal precautions such as wearing a mask and social distancing.
- **Need for Vaccine.** People who have recovered from COVID-19 should still get a COVID-19 vaccine. Vaccination will provide more reliable protection beyond the protection provided after a COVID-19 infection.
- **Recovery and Re-infections.** Re-infections after full recovery do occur. The arrival of COVID-19 variant (mutant) viruses has increased the rate of re-infections for some of the variants.
- **Vaccines and Re-infections.** Currently available COVID-19 vaccines protect against most of the COVID-19 variants. Even when they don't, they usually protect against severe disease and the need for hospitalization.
- Modified vaccines are being developed to provide more targeted protection against COVID-19 variants.

Ibuprofen and other NSAID Use for COVID-19

- Many callers have expressed concerns that ibuprofen (or other NSAID) use to treat COVID-19 symptoms may worsen the disease.
- These concerns originated from a few physicians' comments and have since spread over social media.
- To date, there is no scientific evidence (clinical trials or studies) that show that using ibuprofen

negatively impacts outcome in COVID-19 patients. We will continue to review any new literature as it is published.

- The CDC, WHO, AAP and our Infectious Disease expert reviewers continue to approve the use of ibuprofen for COVID-19.
- For this reason, STCC guidelines continue to recommend ibuprofen as an acceptable way to treat high fevers and pain. (Note: Remind callers that fevers are beneficial, help fight the infection, and may speed recovery. Low-grade fevers should not be treated.)
- If callers remain concerned, they can use acetaminophen for symptoms that warrant treatment.
- Caution: For suspected COVID-19 patients on oral steroids, such as prednisone, the triager should involve the PCP for a decision about whether the drug can be continued.

Office Call Surges: How to Better Manage

Getting behind in responding to calls is always a problem during infection outbreaks or panic created by the media. The COVID-19 pandemic caused major surges in call volumes. Here are some suggestions for off-loading calls:

- Refer callers to the American Academy of Pediatrics parent website: www.healthychildren.org while they are waiting for a callback. The answer to their questions will likely be found there.
- The website contains numerous articles written for parents on every COVID-19 issue. Examples are masks, getting outside, breastfeeding, dealing with anxiety, etc.
- Every topic is available in both English and Spanish.
- Your favorite COVID-19 handouts from the AAP or CDC can be emailed or texted to parents directly or using your EHR portal.
- The AAP website also features a Pediatric Symptom Checker. It helps a parent self-triage. It also provides self-care advice if they don't need to be seen. In addition to 160 other symptom topics, it contains 2 COVID-19 self-triage guides.
- Changing Parent Behavior: During a major pandemic, encourage parents to use a pediatric symptom checker before calling. Result: Parents would only call about patients who might need to be seen or tested.

Internet Resources

- Centers for Disease Control and Prevention (CDC): Coronavirus. <https://www.cdc.gov/coronavirus>.
- Public Health Agency of Canada: <https://www.canada.ca/en/public-health/services/diseases/coronavirus.html>.
- World Health Organization (WHO): Coronavirus. <https://www.who.int/health-topics/coronavirus>.
- American Academy of Pediatrics: <http://www.healthychildren.org>

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REFERENCES

1. Alramthan A, Aldaraji W. A case of COVID-19 presenting in clinical picture resembling chilblains disease. First report from the Middle East. *Clin Exp Dermatol* 2020 Aug;45(6):746-748.
2. Bautista-Rodriguez C, Sanchez-de-Toledo J, Clark BC, et al. Multisystem Inflammatory Syndrome in children: An international survey. *Pediatrics* 2021 Feb;147(2):e2020024554.
3. Castagnoli R, Votto M, Licari A, et al. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Infection in Children and Adolescents: A Systematic Review. *JAMA Pediatr.* 2020 Sep 1;174(9):882-889.
4. CDC COVID-19 Response Team. Coronavirus Disease 2019 in Children - United States, February 12 - April 2, 2020. *MMWR Morbidity and Mortality Weekly Report.* ePub: 6 April 2020.
5. Chung E, Chow EJ, Wilcox NC, et al. Comparison of Symptoms and RNA Levels in Children and Adults With SARS-CoV-2 Infection in the Community Setting. *JAMA Pediatr.* 2021 Jun 11.
6. De Rose DU, Piersigilli F, Ronchetti MP, et al. Novel coronavirus (COVID-19) in newborns and infants. *Ital J Pediatr.* 2020 Apr 29;46(1):56.
7. DeLaroche AM, Rodean J, Aronson PL, et al. Pediatric Emergency Department visits at US Children's Hospitals during the COVID-19 pandemic. *Pediatrics.* 2021 Apr;147(4):e2020039628.
8. Dufort EM, Koumans EH, Chow EJ, et al. Multisystem Inflammatory Syndrome in children in New York state. *N Engl J Med.* [published online ahead of print, 2020 Jun 29]
9. Feldstein LR, Rose EB, Horwitz SM, et al. Multisystem Inflammatory Syndrome in U.S. children and adolescents. *N Engl J Med.* [published online ahead of print, 2020 Jun 29].
10. Fouda GGA, Kwiek JJ, Yotebieng M. Safety of breastfeeding by mothers with COVID-19: New evidence from Israel. *Pediatrics.* 2021 Apr 13;e2020049772.
11. Hatoun J, Correa ET, Donahue SMA, et al. Social distancing for COVID-19 and diagnoses of other infectious diseases in children. *Pediatrics.* 2020 Oct;146(4):e2020006460.
12. Hernandez C, Bruckner AL. Focus on "COVID Toes". *JAMA Dermatol.* 2020 Sep 1;156(9):1003.
13. Humphreys KL, Myint MT, Zeanah CH. Increased risk for family violence during the COVID-19 pandemic. *Pediatrics.* 2020 Jul;146(1):e20200982.
14. Kainth MK, Goenka PK, Williamson KA, et al. Early experience of COVID-19 in a US children's hospital. *Pediatrics.* 2020 Oct;146(4):e2020003186.
15. King JA, Whitten TA, Bakal JA, et al. Symptoms associated with a positive result for a swab for SARS-CoV-2 infection among children in Alberta. *CMAJ.* 2021 Jan 4;193(1):E1-E9.
16. Laws RL, Chancey RJ, Rabold EM, et al. Symptoms and transmission of SARS-CoV-2 among children - Utah and Wisconsin, March-May 2020. *Pediatrics.* 2021 Jan;147(1):e2020027268.
17. Lu X, Zhang L, Hui, D, et al. SARS-CoV-2 Infection in children. *N Engl J Med.* 2020 Apr 23;382(17):1663-1665.

18. Ludvigsson JF. Systematic review of COVID-19 in children shows milder cases and a better prognosis than adults. *Acta paediatrica*. March 2020. doi:10.1111/apa.15270.
19. Mithal LB, Machut KZ, Muller WJ, et al. SARS-CoV-2 infection in infants less than 90 days old. *J Pediatr* 2020 Sep;224:150-152.
20. Muchmore B, Muchmore P, Lee CW, et al. Tracking potential COVID-19 outbreaks with influenzalike symptoms urgent care visits. *Pediatrics*. 2020 Oct;146(4):e20201798.
21. Ouldali N, Yang DD, Madhi F, et al. Factors associated with severe SARS-CoV-2 infection. *Pediatrics* March 2021,147 (3) e2020023432.
22. Parri N, Lenge M, Buonsenso D; et al. Children with Covid-19 in Pediatric Emergency Departments in Italy. *N Engl J Med*. 2020 Jul 9;383(2):187-190.
23. Paules CI, Marston HD, Fauci AS. Coronavirus infections - more than just the common cold. *JAMA*, Published online January 23, 2020.
24. Ruiyun Li, Sen Pei, Bin Chen, et al. Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV2). *Science* 10.1126/science.abb3221 (2020)
25. Shekerdemian LS, Mahmood NR, Wolfe KK, et al. Characteristics and outcomes of children With Coronavirus Disease 2019 (COVID-19) infection admitted to US and Canadian pediatric intensive care units. *JAMA Pediatr*.2020 Sep 1;174(9):868-873.
26. Shlomai NO, Kasirer Y, Strauss T, et al. Neonatal SARS-CoV-2 infections in breastfeeding mothers. *Pediatrics*. 2021 May;147(5):e2020010918
27. Song W, Li J, Zou N, et al. Clinical features of pediatric patients with coronavirus disease (COVID-19). *J Clin Virol*. 2020 Apr 24;127:104377.
28. Su L, Ma X, Yu H, et al. The different clinical characteristics of corona virus disease cases between children and their families in China - the character of children with COVID-19. *Emerging Microbes and Infection* 2020; 9(1): 707-13.
29. Tagarro A., Epalza C., Santos M., et al. Screening and severity of Coronavirus Disease 2019 (COVID-19) in children in Madrid, Spain. *JAMA Pediatr*. 2020 Apr 8:e201346.
30. Wong CA, Ming D, Maslow G, et al. Mitigating the impacts of the COVID-19 pandemic response on at-risk children. *Pediatrics*. 2020 Jul;146(1):e20200973.
31. Yu IT, Li Y, Wong TW, et al. Evidence of airborne transmission of the severe acute respiratory syndrome virus. *N Engl J Med*. 2004;350(17):1731-1739.
32. Zheng F, Liao C, Fan QH, et al. Clinical Characteristics of Children with Coronavirus Disease 2019 in Hubei, China. *Curr Med Sci*. 2020 Apr;40(2):275-280.

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