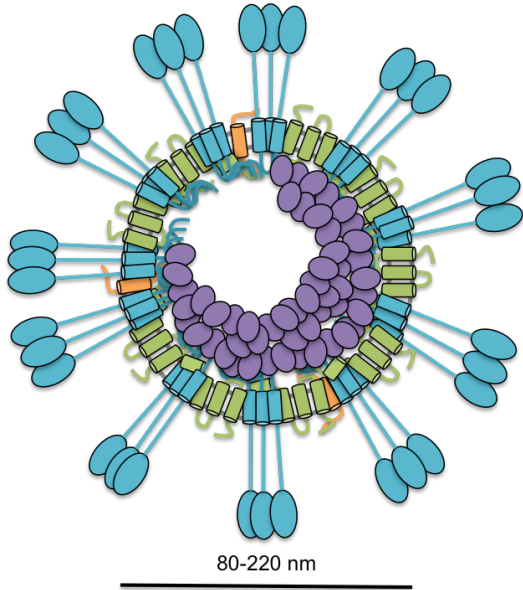
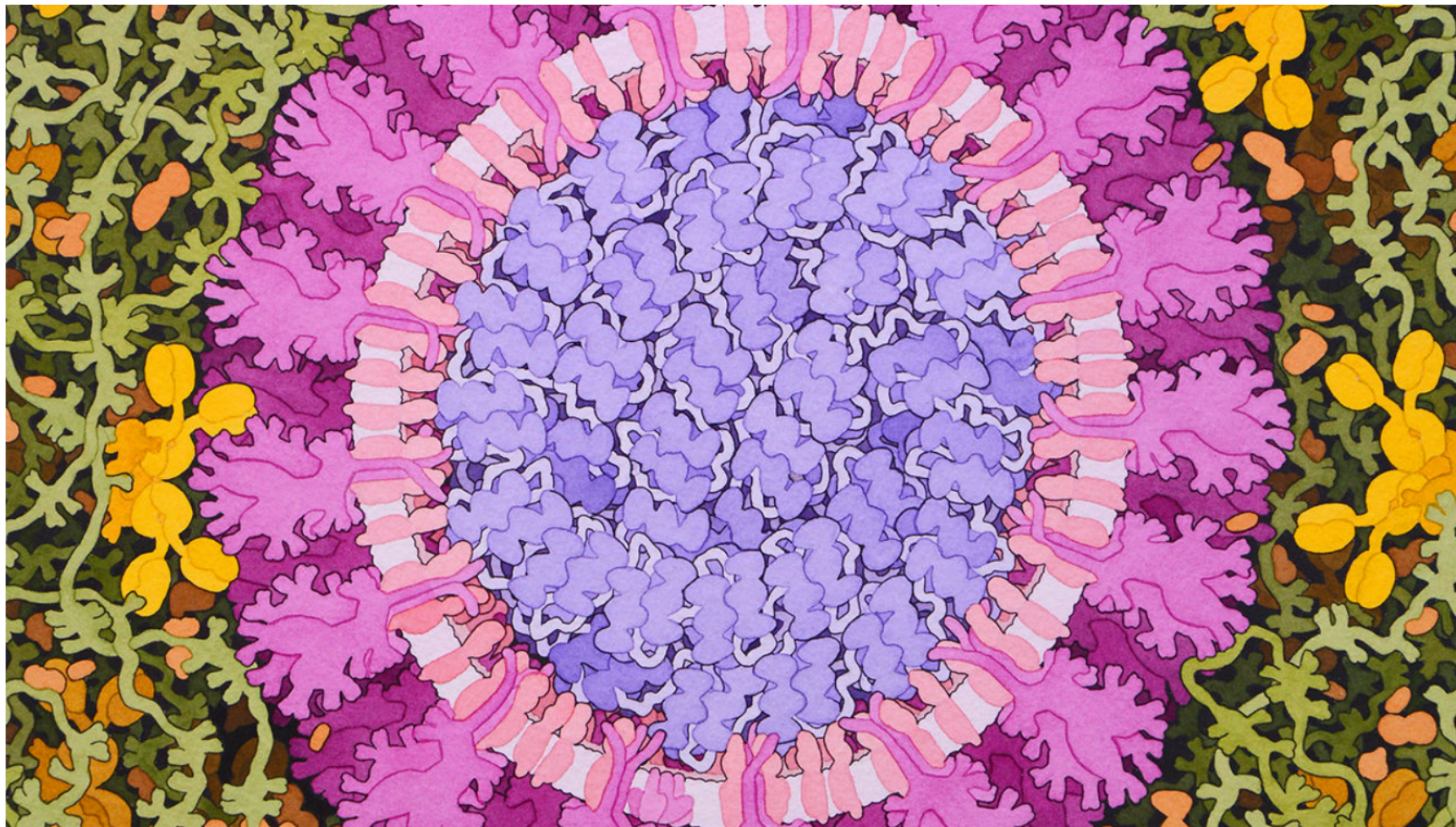


COVID-19 and Kid's Health: An evidence-based practical guide and FAQ



Megan Culler Freeman, MD, PhD
Pediatric Infectious Diseases Fellow
University of Pittsburgh Department of Pediatrics

What is COVID-19?



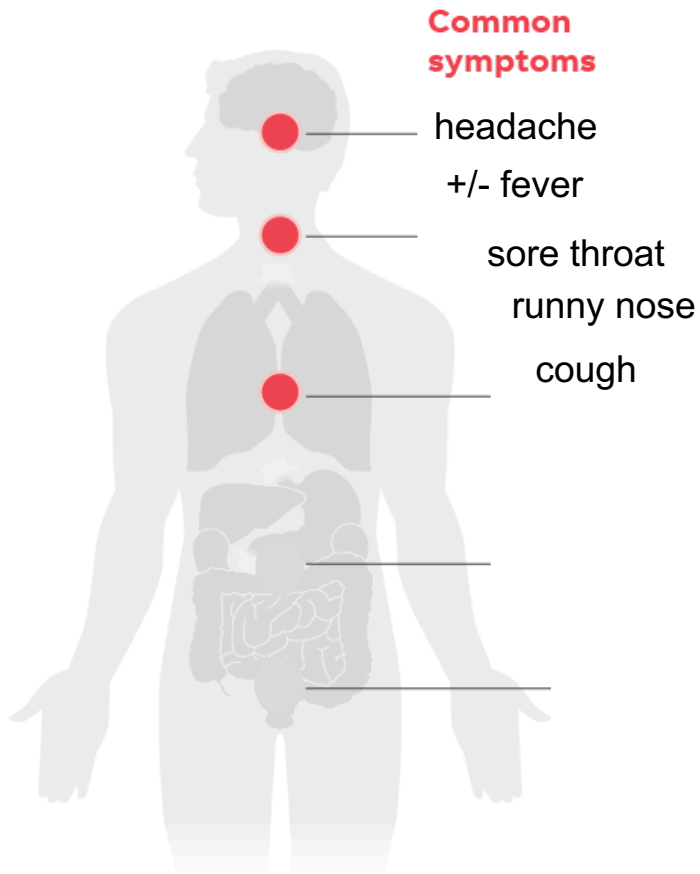
Originally '2019-nCoV'
Virus = SARS-CoV-2
Syndrome = COVID-19

A painting of the severe acute respiratory syndrome coronavirus as it enters the lungs. An expert group says a novel coronavirus, now named SARS-CoV-2, belongs to the same viral species. DAVID S. GOODSELL

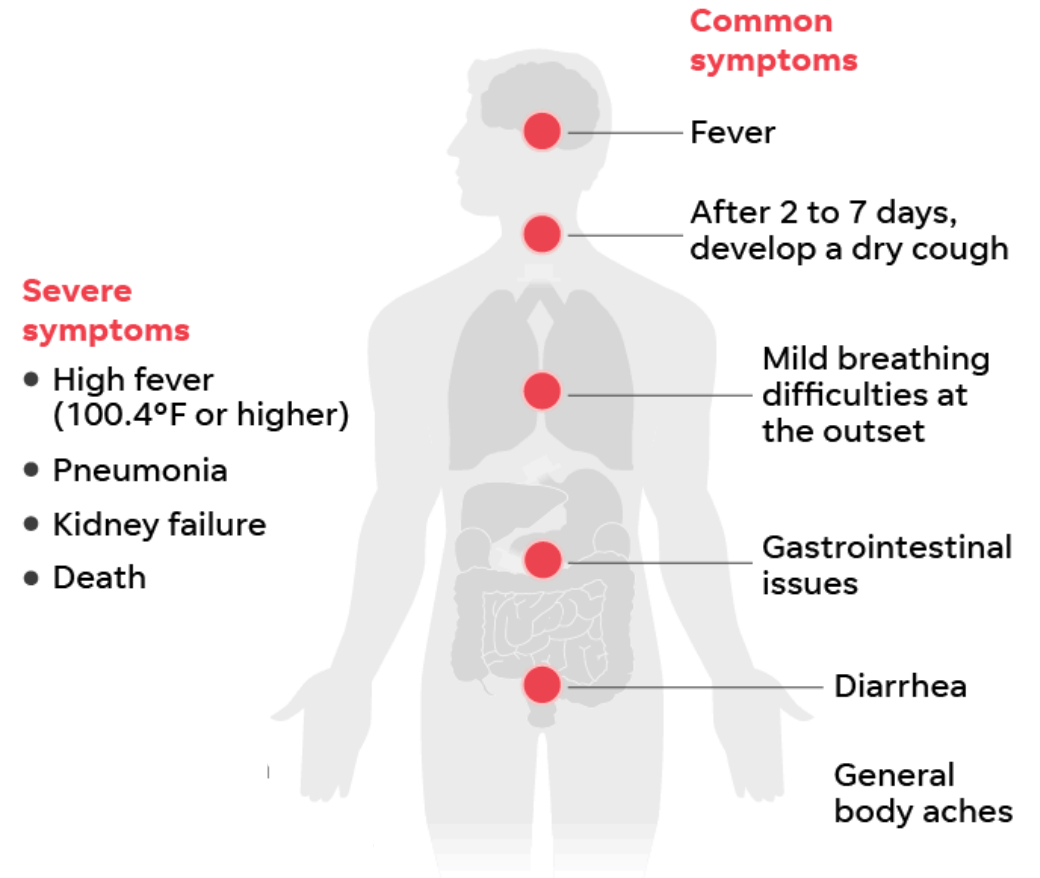
Update: 'A bit chaotic.' Christening of new coronavirus and its disease name create confusion

Human Coronaviruses cause two different types of diseases.

The common cold



Emerging infections



How is SARS-CoV-2 transmitted?

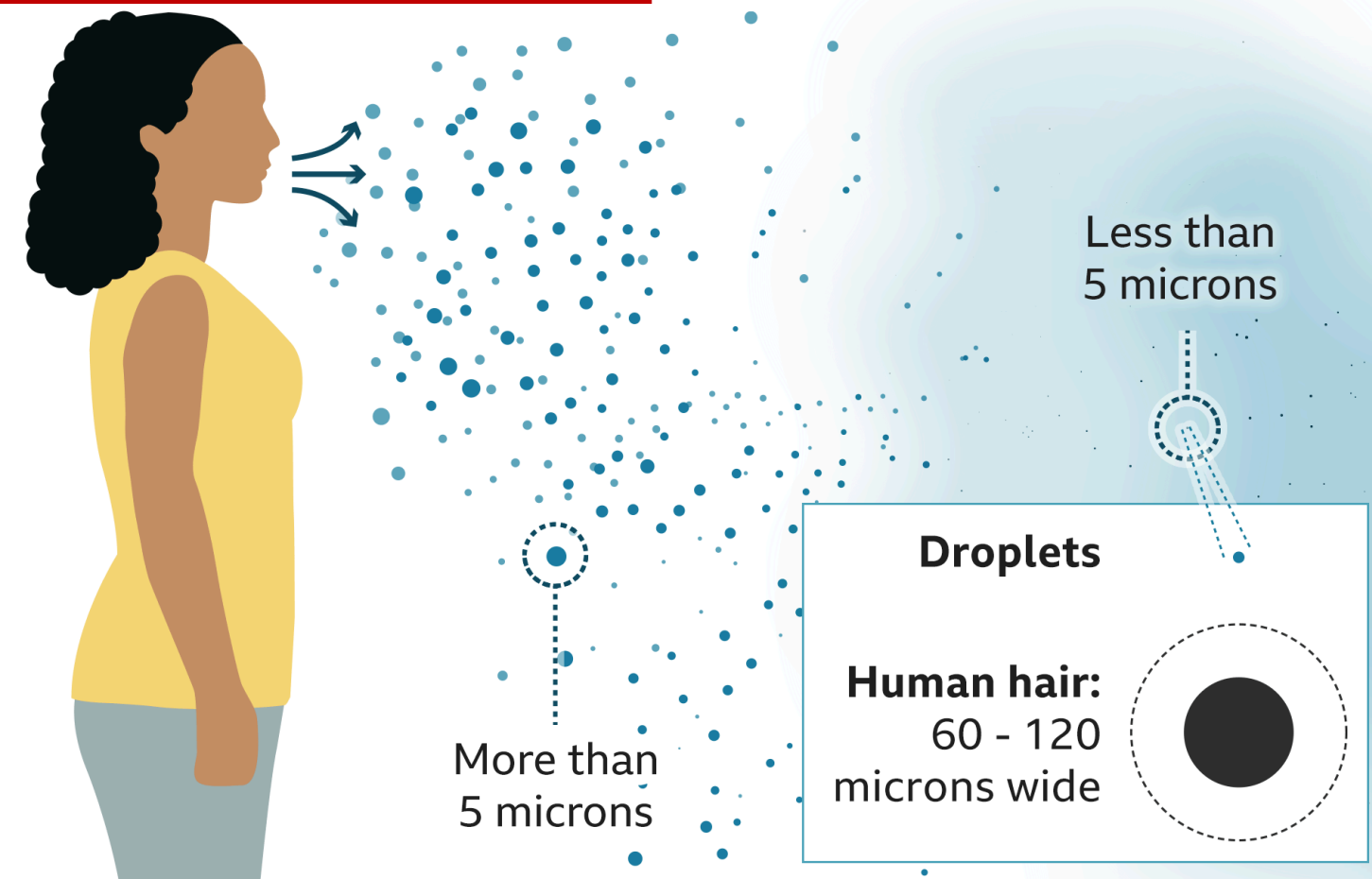
The difference between droplet and airborne transmission

Droplet transmission

Coughs and sneezes can spread droplets of saliva and mucus

Airborne transmission

Tiny particles, possibly produced by talking, are suspended in the air for longer and travel further



Contact transmission

Obtaining infection from touching a contaminated surface, then touching one's face



What are symptoms in children?

COVID-19 Symptoms in Adults and Kids



Fever occurs in
88% of cases.
35%



A **dry cough**
occurs in
68% of cases.
50%



Fatigue:
38%
8%



Producing **sputum**
or **phlegm:** **33%**
X



**Shortness of
breath:** **19%**
12%



Sore throat:
14% **24%**



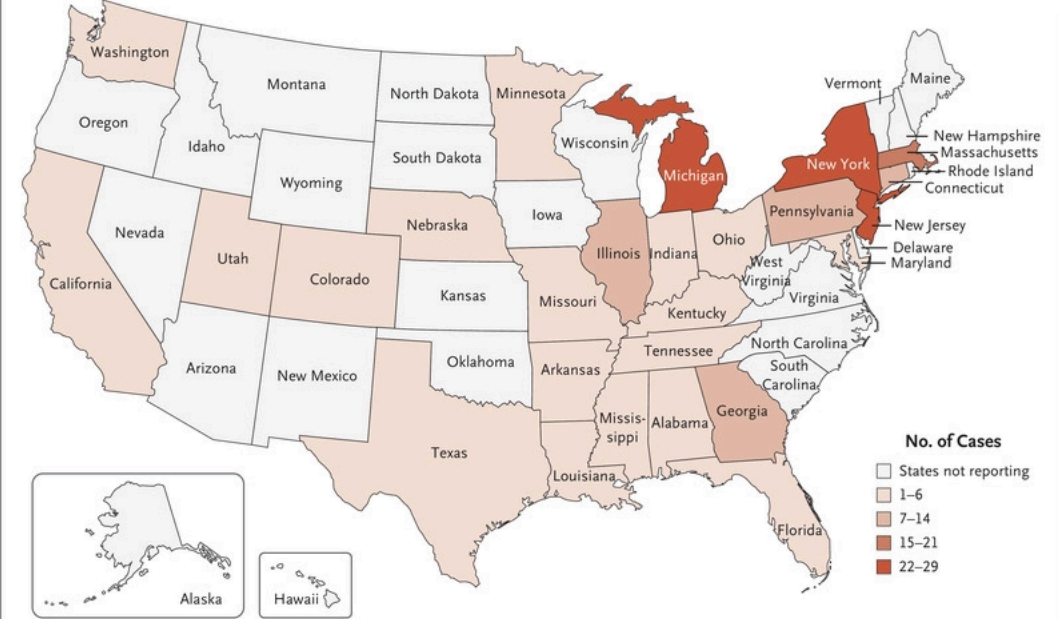
Headache:
14% **28%**

Children are more likely to be infected with NO symptoms, “asymptomatic.”

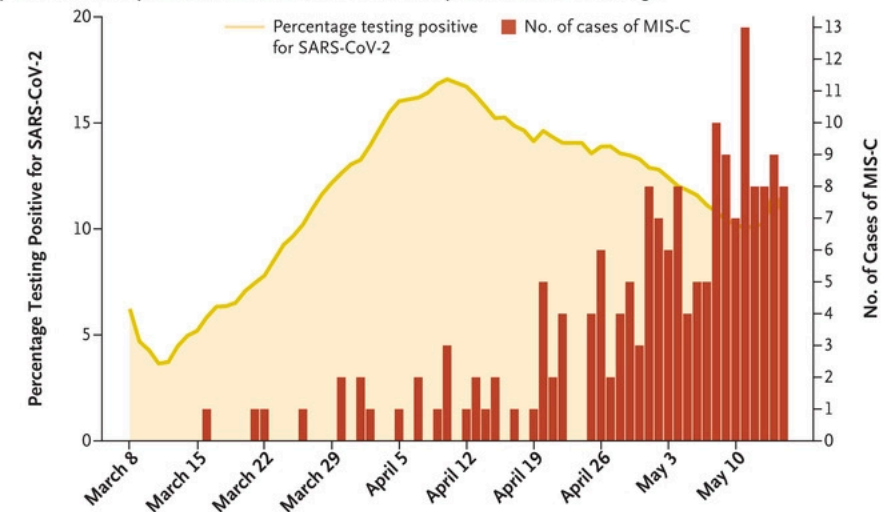
MIS-C

- Multisystem inflammatory Syndrome in Children
- A VERY SMALL number of children develop this syndrome in response to COVID-19 infection.
- They can be very ill and require hospitalization

A Cases of MIS-C According to State

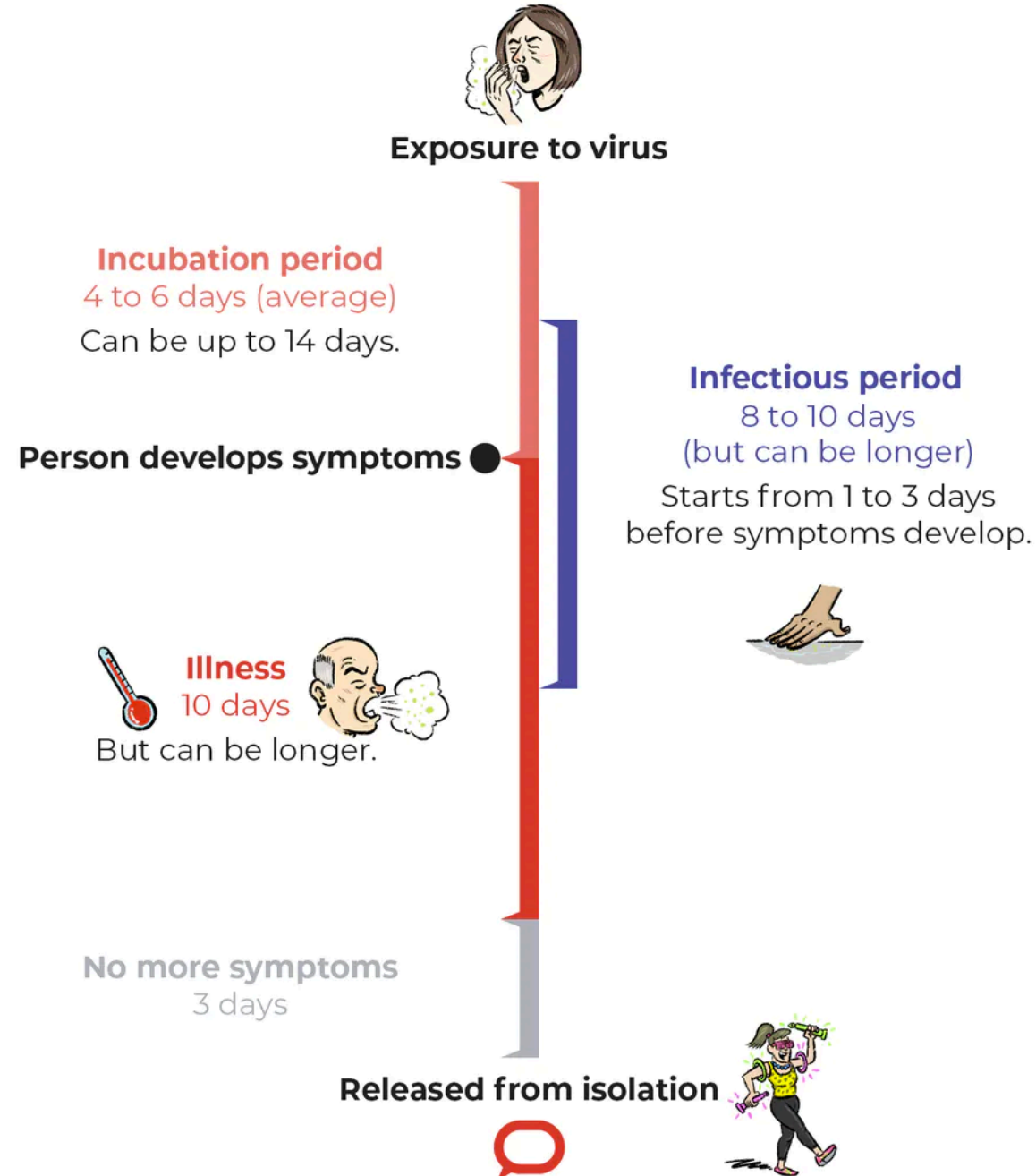


B Temporal Relationship between MIS-C and Covid-19 Activity in Persons <21 Yr of Age



How long are infected people
contagious?

Coronavirus progression in majority of cases



Can children spread COVID-19 to others?

Summer camp in Georgia

Masks required for staff, not campers

All had negative COVID test less than 12 days prior to camp

260/597 positive campers (44%)

51% of school age infected
44% teens infected



How long does virus last on surfaces?

How long is **coronavirus** detectable on surfaces?

AEROSOLS	3 HOURS
COPPER	4 HOURS
CARDBOARD	24 HOURS
STAINLESS STEEL	2-3 DAYS
PLASTIC	2-3 DAYS

NIH.GOV

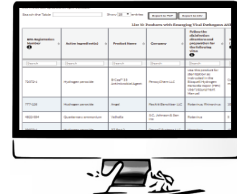
How do we disinfect surfaces?

6 Steps for Safe & Effective Disinfectant Use



Step 1: Check that your product is EPA-approved

Find the EPA registration number on the product. Then, check to see if it is on EPA's list of approved disinfectants at: [epa.gov/listn](https://www.epa.gov/listn)



Step 2: Read the directions

Follow the product's directions. Check "use sites" and "surface types" to see where you can use the product. Read the "precautionary statements."

Step 3: Pre-clean the surface

Make sure to wash the surface with soap and water if the directions mention pre-cleaning or if the surface is visibly dirty.



Cleaning products with bleach, ethanol, or hydrogen peroxide can all be effective, in addition to many others.



Step 4: Follow the contact time

You can find the contact time in the directions. The surface should remain wet the whole time to ensure the product is effective.

Step 5: Wear gloves and wash your hands

For disposable gloves, discard them after each cleaning. For reusable gloves, dedicate a pair to disinfecting COVID-19. Wash your hands after removing the gloves.



Step 6: Lock it up

Keep lids tightly closed and store out of reach of children.

[coronavirus.gov](https://www.coronavirus.gov)

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-covid-19>

Do masks help prevent
transmission?

HELP KEEP YOURSELF SAFE

CDC ISSUES NEW CLOTH MASK GUIDELINES

The CDC now recommends everyone wear cloth mask while in public. Here are some dos and don'ts to help keep you and your family safe

DO



wear mask when running essential errands



practice social distancing, even with the mask on in public



take the mask off by the ear elastic when you get home and wash it as soon as possible



wash your hands for 20 seconds after removing the mask and on a regular basis

DON'T



touch the mask without washing your hands



play with the mask while wearing it



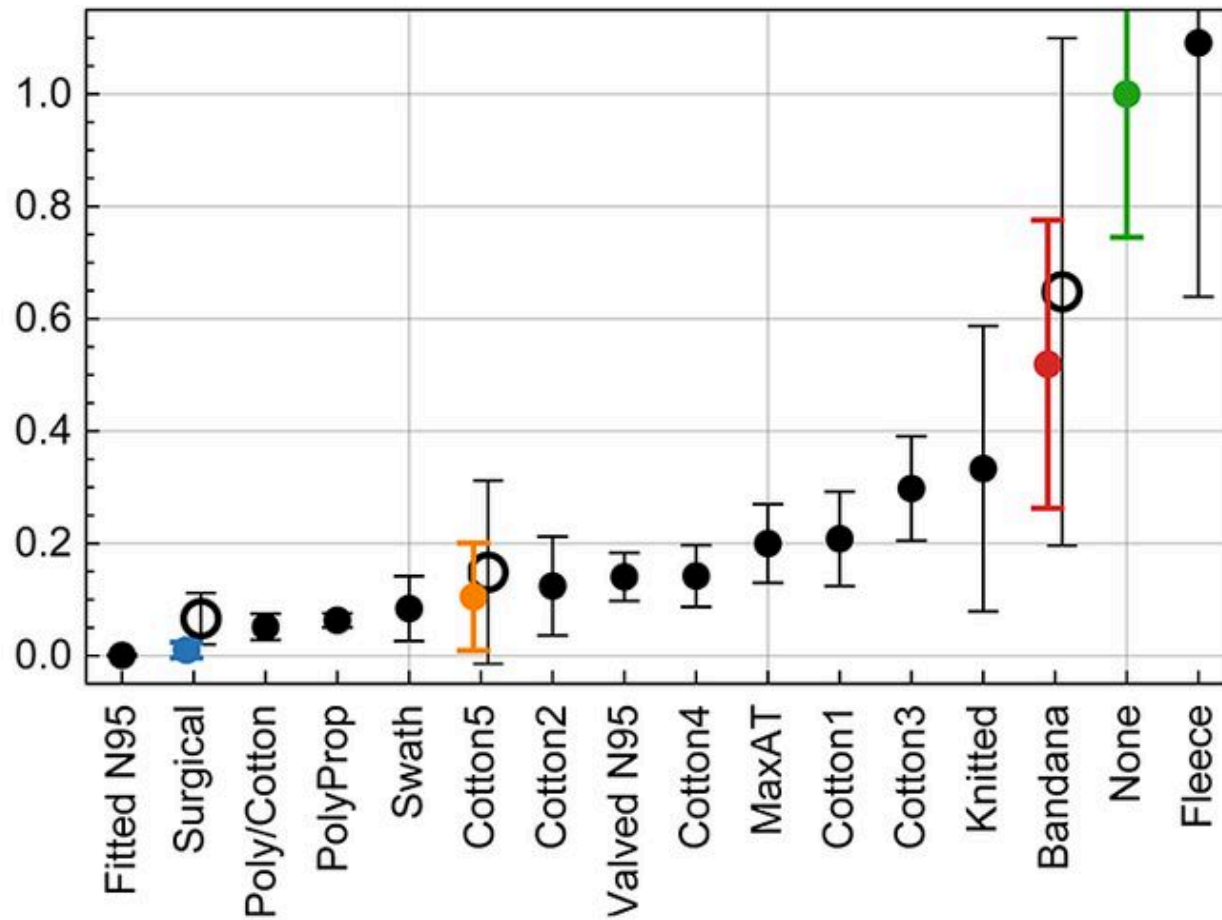
take the mask off by grabbing the center fabric near your mouth and nose



share mask with others in your household without washing them first

(A)

relative droplet count



One wearer, "stay healthy, people" x5, counted droplets.
This is normalized to 'no mask' which made 960 droplets.

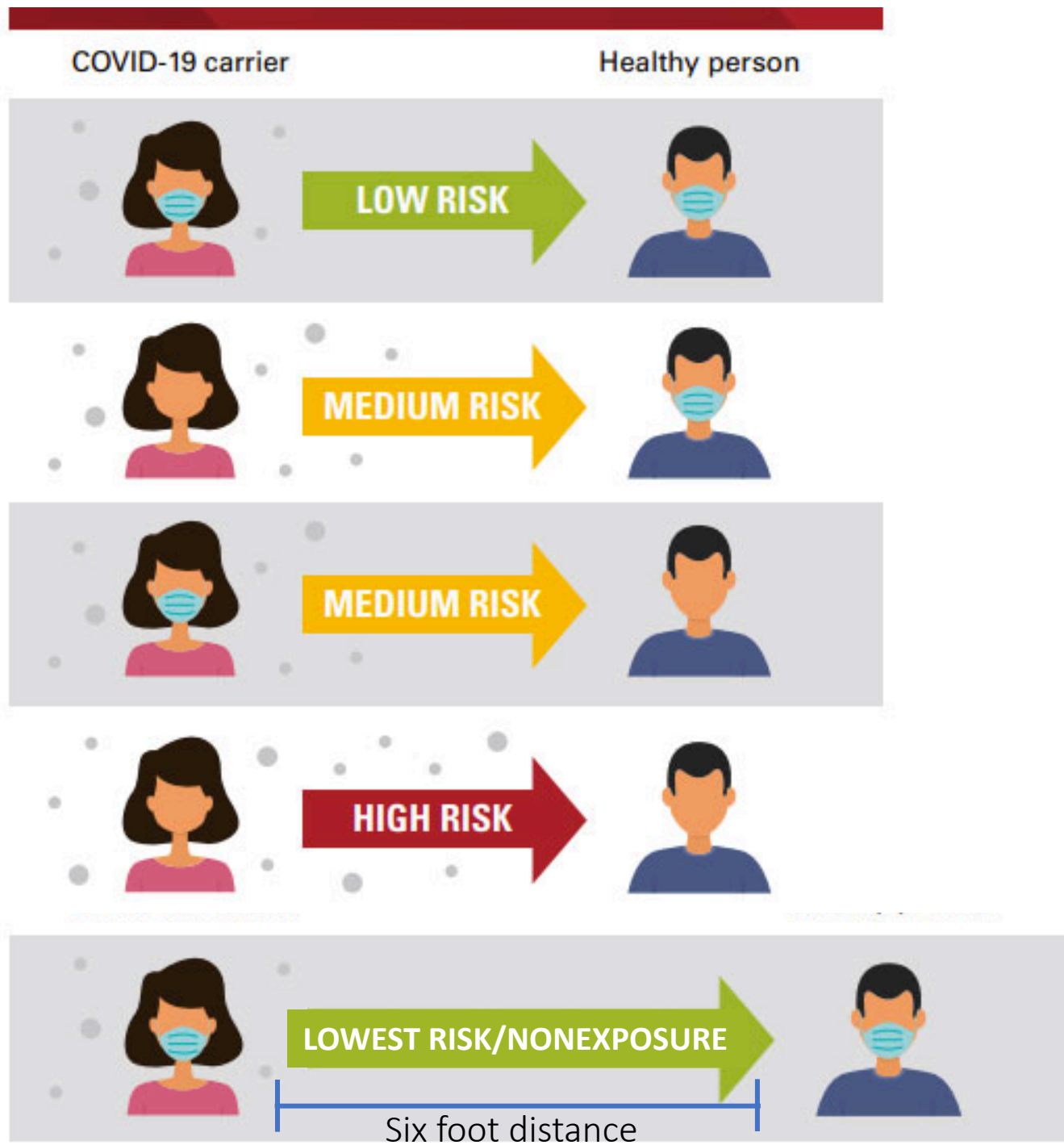


Can we use face shields instead?



- Do not protect as well as masks when worn alone (can be infected from the sides/bottom)
- Outbreak at a restaurant in Sweden
 - Waiters with face shields were infected
 - Waiters with masks were not

Who should mask at school?
Kids? Staff?



- Children under 2 can not wear masks (choking hazard).
- VERY FEW medical conditions that will not allow wearing of masks.
- In many cases, medical conditions would require me to ENCOURAGE masking!

Other ways to decrease risk

- Plastic barriers between people/rows
- Cohorting students to keep small groups of students and their teacher together throughout the day while limiting contacts with students not in these groups
- Teaching outside when able and increasing air flow within the classroom by opening windows
- Face desks the same direction to the front of the room and not each other

How do masks and distancing help?

Why social distancing works

Social Distance



Now



In 5 days



After 30 days

Normal Contact

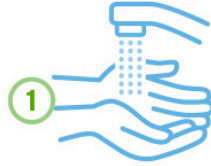


What kind of hand hygiene can be used?

TAKE 20 SECONDS

TO HELP PREVENT THE
SPREAD OF COVID-19

PRACTICE PROPER HAND HYGIENE >



WET

hands with clean
running water,
turn off the tap
and apply soap.



LATHER

the backs of
hands, between
fingers and
under nails.



SCRUB

for at least
20 seconds.



RINSE

hands well
under clean
running water.



DRY

hands using
a clean towel
or air dryer.



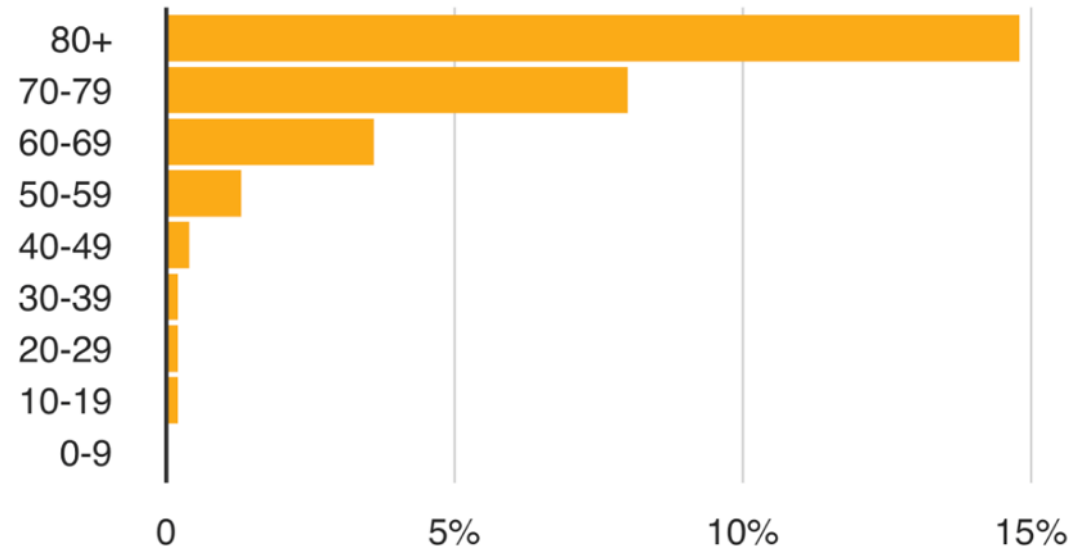
IF SOAP AND WATER ARE NOT AVAILABLE,
use an alcohol-based hand sanitizer that contains at least
60% alcohol.

Who is at greatest risk of
infection?

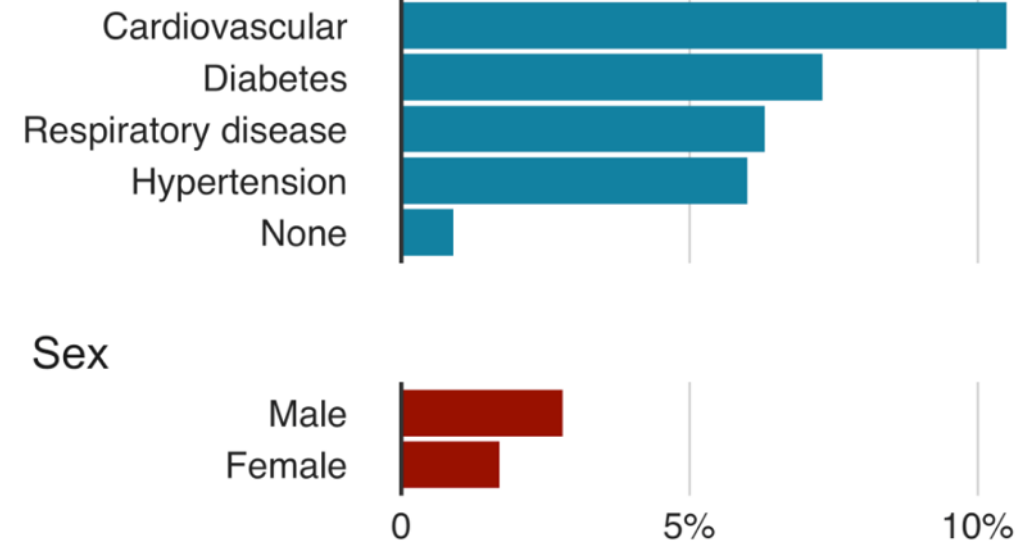
Fatality rate varies by age, health, and sex

Case fatality ratio

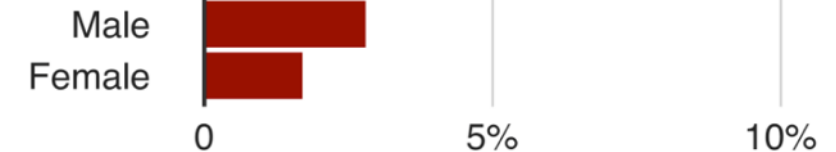
Age



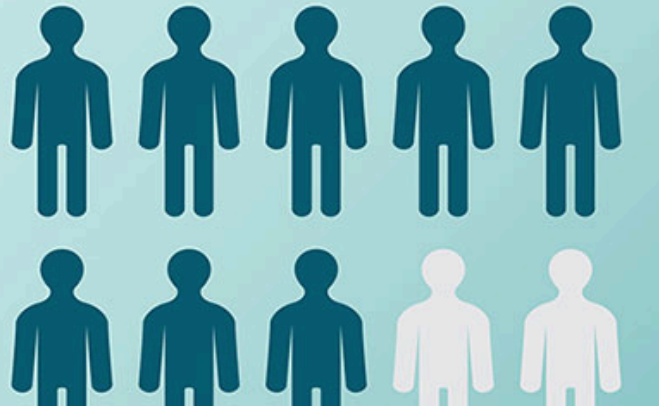
Health condition



Sex



8 out of **10** COVID-19 deaths reported in the U.S. have been in adults 65 years old and older. Visit [CDC.gov/coronavirus](https://www.cdc.gov/coronavirus) for steps to reduce your risk of getting sick.

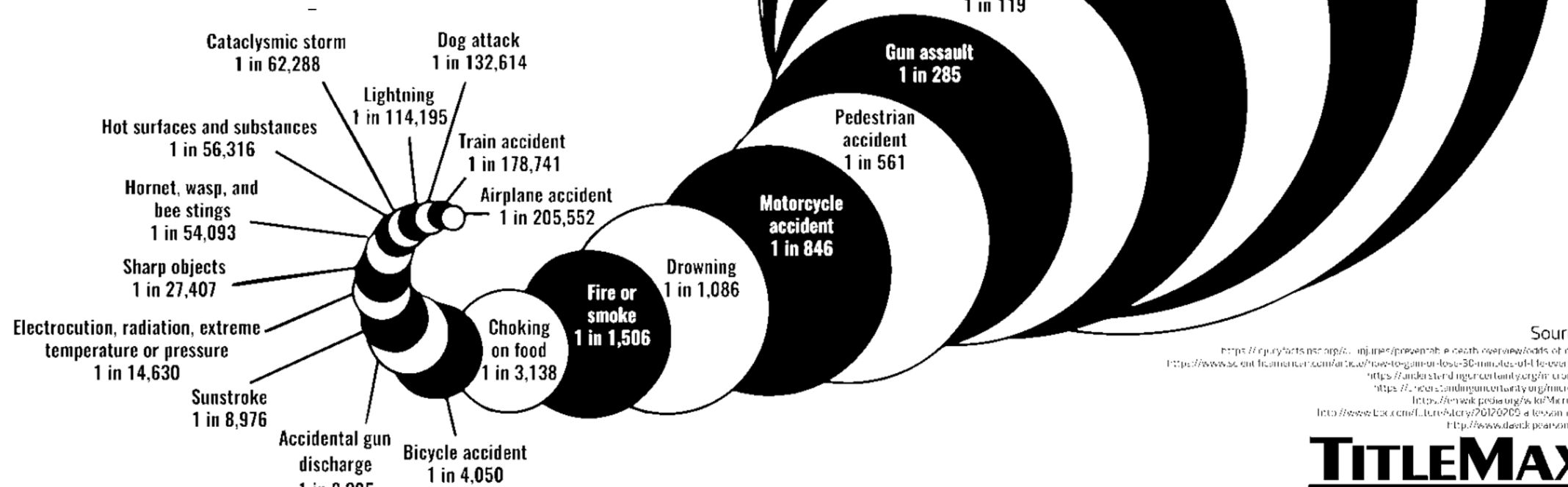


Should kids with underlying medical conditions return to school?

What about kids with a high-risk
adult at home?

We all take risks daily.

- Each family will have to measure the risks and benefits of sending their child to school
- Most kids handle COVID very well, even some with medical complexity
- Kids can transmit COVID to high risk family members.



Who should stay home from
school or be sent home?

Students/Staff should NOT be at school...

- With fever of 100.4F or greater.
- With respiratory symptoms including cough, congestion, and/or shortness of breath.
- They should be referred to their physician for additional testing and evaluation.

Can we have PE? Choir?
Band/Orchestra?

After choir practice with one symptomatic person, 87% of group developed COVID-19



● Index case

● 32 confirmed and 20 probable cases

● unaffected person

COVID-19 spreads easily

- Avoid groups
- Stay at least 6 feet apart
- Wear face coverings

CDC.GOV

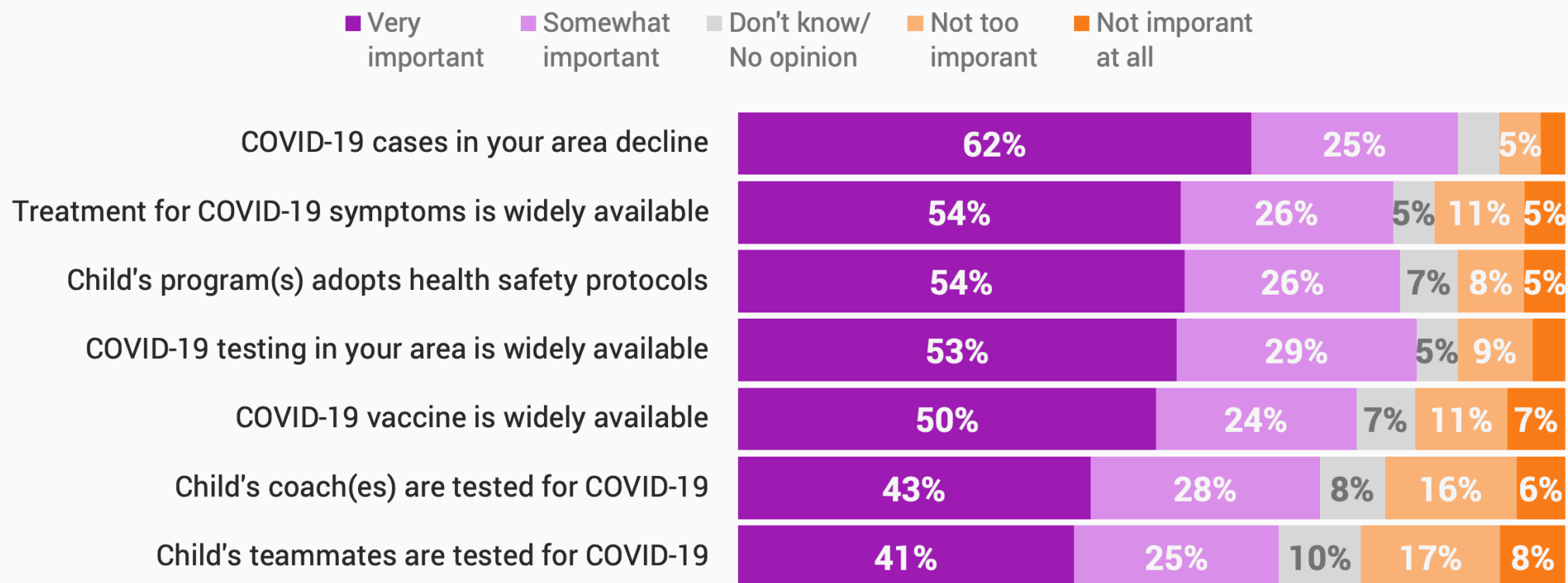
bit.ly/MMWR51220

MMWR

Can we restart kids sports?

Nearly All Sports Parents Say COVID-19 Cases in Their Area Need to Decline Before Kids Can Play Again

Parents with children that have participated in organized sports in the past year were asked how important it is that each of the following occur before returning:



What is the best approach to lunch?

- Inherent risk, because unmasked.
- Reduce risk of transmission with
 - Social distance
 - Use of outdoor spaces
 - Having lunch in classrooms instead of with many other students



Can kids use water fountains?
Shared materials or equipment?
Playgrounds?

Sharing

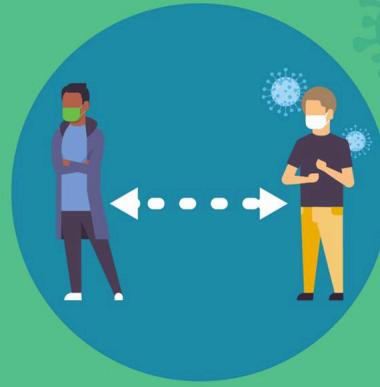
- Avoid shared equipment when possible
- Frequently touched equipment needs to be frequently disinfected
- Hand hygiene after using shared equipment.

SLOW THE SPREAD OF COVID-19

cdc.gov/coronavirus



Wear a cloth face covering
in public spaces



Stay at least 6 feet
from other people



Frequently wash
your hands

Suggested Resources:

- <https://explaincovid.com/>
- <https://www.alleghenycounty.us/Health-Department/resources/COVID-19/Covid-19.aspx>
- <https://www.health.pa.gov/topics/disease/coronavirus/Pages/Cases.aspx>
- <https://coronavirus.jhu.edu/map.html>
- <https://www.chp.edu/our-services/infectious-diseases/covid-19>