

Coronavirus Prevention things to think about upon reopening

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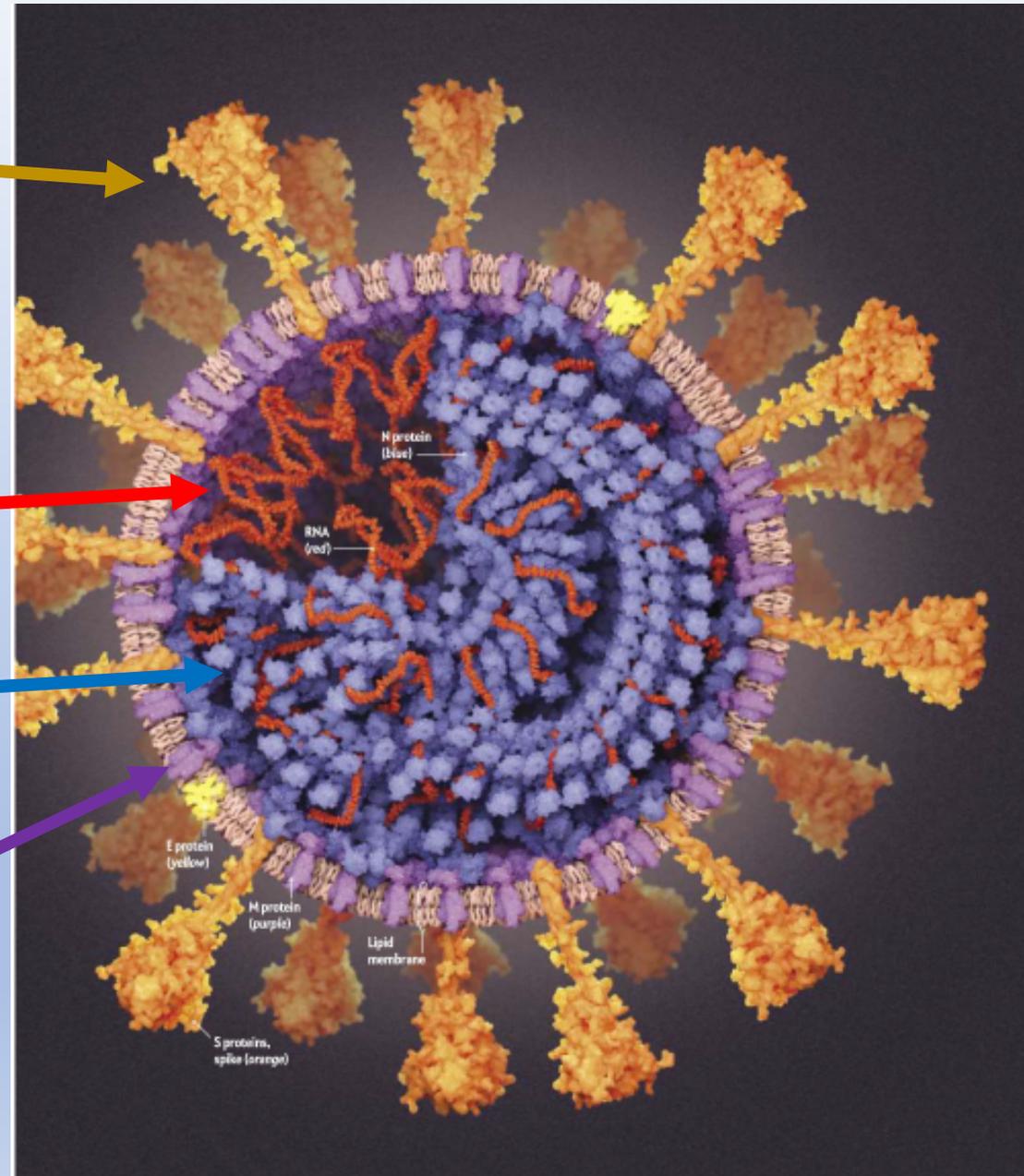
Coronavirus (SARS-Cov-2; COVID-19)

Spike proteins used to attach to and enter cells

Genetic material (RNA)

Attach proteins which take over the cell's chemical machinery

Virus membrane (oily covering)



Size: .06-.14 microns = 7 thousand times smaller than a millimeter! Too small to see, even with a regular microscope!

Scientific American 2020

Caronavirus attack on cells:

- Binds to the cell surface (e.g. inner lining cells of the lung)
- Penetrates the cell and takes over the cell's chemical machinery
- Orders the cell to make hundreds more of the same virus particles using its genetic RNA as its "instruction manual"
- Bursts open the cell to release hundreds of more virus particles to repeat the same infection of other cells.
- Attracts the body defense cells (white blood cells and other proteins) which are kill indiscriminately the virus ***and surrounding viable cells*** in an attempt to kill the virus.

Treatment of COVID-19 (= “Caronavirus” = “SARS Cov-2”)

- Currently no drugs identified which are clearly effective at destroying the virus (unlike antibiotics for bacteria). Scientist are desperately trying to create or identify some.
- Currently no vaccine, and not yet clear that natural antibodies to the virus (made after one gets over an infection) or that a vaccine can actually be made effective
 - E.g. We still do not have an effective vaccine for HIV/AIDS
- Treatment is therefore preventative and supportive
 - Try not to get the virus in the first place (face masks, social distancing, disinfecting and washing hands frequently)
 - Supportive care for those who get the virus (may need to be hospitalized and even put on a respirator). Different people are affected differently.

How to Put On a Mask



1 Wash your hands.



2 Fit the mask across the bridge of your nose and under your chin.



3 Loop the fasteners behind your ears or tie them behind your head, depending on your mask's style.



4 Henceforth, consider the mask's surface contaminated inside and out. Don't touch it. Don't adjust it. (And wash your hands if you do.)

How to Wear a Mask

The mask should fit without gaps and fully cover your nose and mouth. Take special care to ensure a snug fit across the bridge of the nose. If your mask doesn't have a flexible wire built in, you may be able to MacGyver a pipe cleaner, a tie for a coffee bag or another object into the role. Are there special precautions bearded individuals should take? Koehler doesn't think so. "None of us are getting a perfect seal around our nose anyway," she says. "It shouldn't make that big of a difference."

If the mask is on correctly, air will pass through it rather than around it. Your breath will probably make it feel kind of humid and "swampy" inside.



When to Take a Mask Off

There are not a lot of data on how long a mask can be effectively worn. According to the World Health Organization, a face covering should be replaced when you have breathed through it enough for it to become damp. That is likely to happen only after several hours: For a trip to the grocery store, one mask will probably do. If you will be out longer, bring a spare if possible.

How to Take a Mask Off and Clean a Reusable Mask

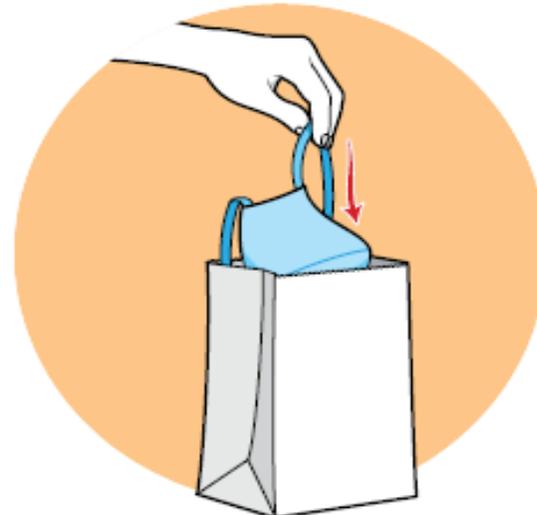
Placing a cloth mask in a paper bag immediately after taking it off has two purposes: the container isolates the mask from accidental handling, and the paper allows it to dry out. **Before wearing the covering again, let it sit in a warm spot—still in that paper bag—for two or three days. (The science here is nascent, but one study found that the coronavirus reaches undetectable levels on fabric after two days. After a week, levels were undetectable on the insides of surgical masks, although they remained detectable on the outsides.)** Koehler recommends setting the paper bag on a sunny windowsill or in the natural oven of your car because the virus becomes inert faster at higher temperatures. Alternatively, if you have your own laundry facilities, you can pop a used mask straight into the washing machine with the regular laundry. A bag for washing delicates will keep mask ties from making a knot of the whole load. **You can also wash a mask by hand: soak it in bleach suitable for disinfection for five minutes and then rinse it thoroughly.** Face coverings should be decontaminated after each use—so have a few on hand if you are going out more often than your decontamination schedule allows.



❶ Don't touch the front!



❷ Untie the ties or remove the loops and lift the mask off your face by the ties or loops only.



❸ Place the mask in a closed container. If you will not be using it again, aim for a lidded trash can. For reusable masks, a paper bag works when it is folded closed.



❹ Wash your hands.

Question 1: Can you contact COVID-19 from touching US postal mail or paper surfaces?



Larry Davis

June 22 at 10:52 AM · 🌐

How long the new coronavirus can live on surfaces

SURFACE	LIFESPAN OF COVID-19 VIRUS
 Paper and tissue paper**	3 hours 
 Copper*	4 hours 
 Cardboard*	24 hours 
 Wood**	2 days 
 Cloth**	2 days 
 Stainless steel*	2–3 days 
 Polypropylene plastic*	3 days 
 Glass**	4 days 
 Paper money**	4 days 
 Outside of surgical mask**	7 days 



Question 1: Can you contact COVID-19 from touching US postal mail or paper surfaces?

- Presumably **yes** since the virus can last for ~3 hours on paper and tissue products, up to 24 hours on cardboard, and 4 days on things such as paper money.
- However I am not aware of an actual documented case of such transmission, although it may have occurred.
- The sensible thing to do is to decontaminate all such materials you come in contact with (e.g. spray with isopropyl alcohol or even wash with soap for 20 seconds), and to wash your hands afterwards before fully handling these materials.

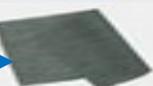
Question 2: How long does COVID-19 stay on surfaces and in the air?

Virus is airborne from one incident (e.g. one cough) for a few minutes, and then settles to the ground or onto surfaces.

If continued coughing or breathing then more is put into the air and the process starts over!

Larry Davis
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[video of cough]

- <https://www.livescience.com/face-mask-visualization-droplets-covid-19.html>

2. How long does COVID-19 stay on surfaces and in the air?

- In closed environments, COVID-19 can linger in the air for several minutes and even hours (e.g. with continued breathing). This is why good ventilation and being outside is better. Eventually such aerosols fall to the floor or ground after a few minutes but may easily travel several feet before doing so.
- How far the aerosols travel may also depend on the nature of the room ventilation. For example, a fan may behind the person coughing or singing may carry the virus well beyond 6 feet (the recommended distance for social distancing).

3. When should an individual seek emergency care? Also, please touch on symptoms.

a. Note: Many infected individuals have **no symptoms at all**. This is problematic since such a person doesn't know if they are infected, unless they get a virus RNA test, and it may take days to get the test done and the results back.

b. The most common symptoms people get are like any cold or influenza symptoms and therefore you cannot tell if you have COVID-19 based on symptoms alone!:

- i. Fever
- ii. Cough
- iii. Sneezing

More Severe and Concerning Symptoms:

More serious symptoms include (and should prompt you to seek medical attention):

- i. Fatigue**
- ii. Shortness of breath**
- iii. Low circulating oxygen levels (need a pulse oximeter to detect this, especially with people of color who may not turn “blue”).**

Rarer symptoms (list is still growing as we learn more):

- i. Loss of taste and/or smell**
- ii. Blood clots to the lung**
- iii. Stroke**
- iv. Worsening heart failure**

Note: None of these symptoms are specific to Coronavirus. You need a test to make a diagnosis, either testing for the virus RNA or for viral antibodies (the latter indicating a prior infection with the Coronavirus that you have gotten over).

4. Do you recommend a screening questionnaire to be completed by parishioners before entering a worship service? If yes, please recommend questions.

Yes. I suggest the questions which are asked by the hospital entry monitors at the University of Michigan. These are:

- i. Have you had a fever in the last 24 hours?**
- ii. Do you have a cough?**
- iii. Have you had exposure to someone positive for COVID-19 in the last 2 weeks?**
- iv. Are you short of breath?**

Remember that many patients will be totally asymptomatic, and that these questions will only identify those who are symptomatic with COVID-19 or other cold/influenza viruses. Thus, there is no perfect screening system.

Create remote options for folks to attend services (e.g. video conferencing or recording the service and placing the video online). This gives some the option of staying home, particularly if they are concerned about their age or underlying medical conditions.

5. Should people coming from another state be quarantined for 14 days Regardless of symptoms?

- a. I cannot give a simple answer to this. If the person has had known exposure anywhere, even from the same state, they should self-quarantine for 14 days even if they are asymptomatic.**
- b. If a person has traveled via public bus or airline and thus been in settings which are enclosed for hours at a time (this include in-person conferences or spending time at restaurants or bars where there is not proper mask wearing or social distancing) they should consider self-quarantining for 14 days, even if they are asymptomatic.**
- c. A person coming from another community that has essentially no cases of Coronavirus, and who has no symptoms, probably does not have to self-quarantine.**
- d. All people, regardless of where they are coming from, should social distance (at least 6 feet) and wear a mask when they are out in public or interacting with someone with compromised health.**

6. If it's found that a person tested positive for COVID-19 and participated in worship service is it a recommendation that the entire congregation be quarantined for 14 days? Please advise.

- If a person tests positive for the COVID-19 virus, the local public health department should be notified. They should have people who can do “contact tracing” = identifying all people that the infected person has come in contact with (both within and outside the church).
- The usual recommendation for such contacts, is that they self-quarantine and watch for symptoms. I would think that if the infected person was wearing a mask and self-distanced themselves, then the whole congregation probably doesn't have to be quarantined. However, if this individual mingled with several other folks without a mask and without keeping their distance, then the whole congregation may have been exposed, and one should consider not holding in-person services for the following 2 weeks.

7. What would be your recommended temperature reading for entry?

- There is a normal range of body temperatures. However, if someone measures at a temperature greater than 100°F, they should probably be considered to have a fever and not admitted.

8. As a person takes the temperature check, and encounters someone with the COVID-19 symptoms, the person taking the temperature what do they do? Does he or she quarantined for 14 days?

- The person monitoring folks entering the facility, themselves should wear a mask, and preferably be behind a plexiglass or plastic barrier, through which they can check someone's temperature using a remote device. They should also wear gloves and have extra masks available to give to people who show up without a mask (I would not allow anyone to enter the building without a mask). In this way they should be protected from becoming infected.
- The area where such screening is being done should be well ventilated, preferably with a fan facing outwards away from the tester. With these precautions, the tester should not have to self-quarantine.

9. Is the virus airborne? What does airborne mean?

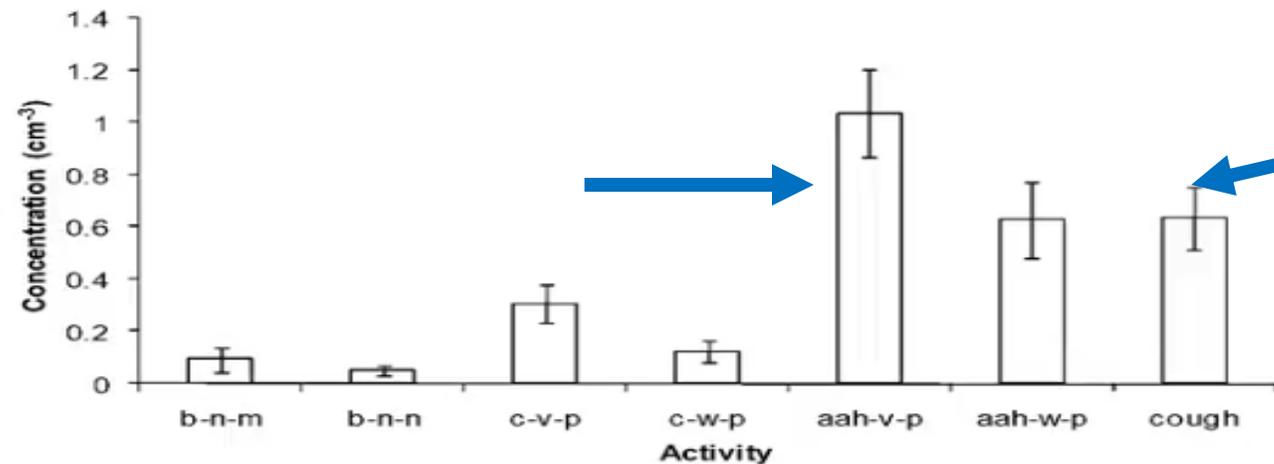
- The virus is usually transmitted by tiny fluid droplets which float in the air (=“airborne”). These tiny droplets are what forms the mist you see when someone breathe in cold weather; we just can’t see them during warm weather, but they are there. These droplets also come from a person’s lungs, mouth or nasal passages (e.g. exhaled during normal breathing, coughing or sneezing). These float in the air and can extend furthest if the person is not wearing a mask.
- The activities which spread the droplets the furthest are coughing, sneezing, and singing, especially when not wearing a face mask.

Droplets from human expiration

Distinct physiological processes → distinct modes

Speech: BFFB (1 μm), LV (2 μm), OSAM (50 μm)

b – breathing
n- nose
p – paced
breathing
m – mouth
c- counting
v- voice



Average concentrations during each expiratory activity

10. How many times should a person wear certain masks before disposing of them?

- **Cloth masks should be cleaned with soap (e.g. laundry detergent) daily, or sooner if they become wet (e.g. you actually cough up something into the mask or someone splashes something onto you mask).**
- **Paper masks should be discarded in the trash and a new one worn every day. If you have limited access to paper masks and if you have the ability to spray them with isopropyl alcohol, then this is a good alternative, since alcohol also destroys the virus, and alcohol evaporates leaving you with a reusable dry mask. Again, if the mask becomes wet it should be replaced.**

11. When a person is walking outside in a park should they wear a mask? Because someone with the virus could have just coughed 10 minutes prior to them walking on that path and they are now walking through that area.

- I would recommend wearing a mask any time you leave your house to go anywhere. Even if you are walking, jogging or running, try to wear your face mask properly. Outside is usually better ventilated than inside, but I do worry about your passing someone outside who recently coughed or sneezed, and your passing through their infected aerosol cloud without mask protection.

12. When someone is standing over another person, are they both at risk for obtaining the virus?

- **Yes, if they are not social distancing (at least 6 feet apart) and not wearing masks. The uninfected person is at risk for getting infected, but neither may know whether or not the other is infected. Thus, to play it safe, always wear masks and social distance. No hand shaking or hugging, and try not to touch your own face, mouth, nose or eyes, since the mucous membranes are how the virus enters the body (e.g. from your hands to rubbing your nose or eyes).**

13. Research notes that fans can spread the virus so do not use fans. So, does the air conditioning spread the virus since it acts like a fan?

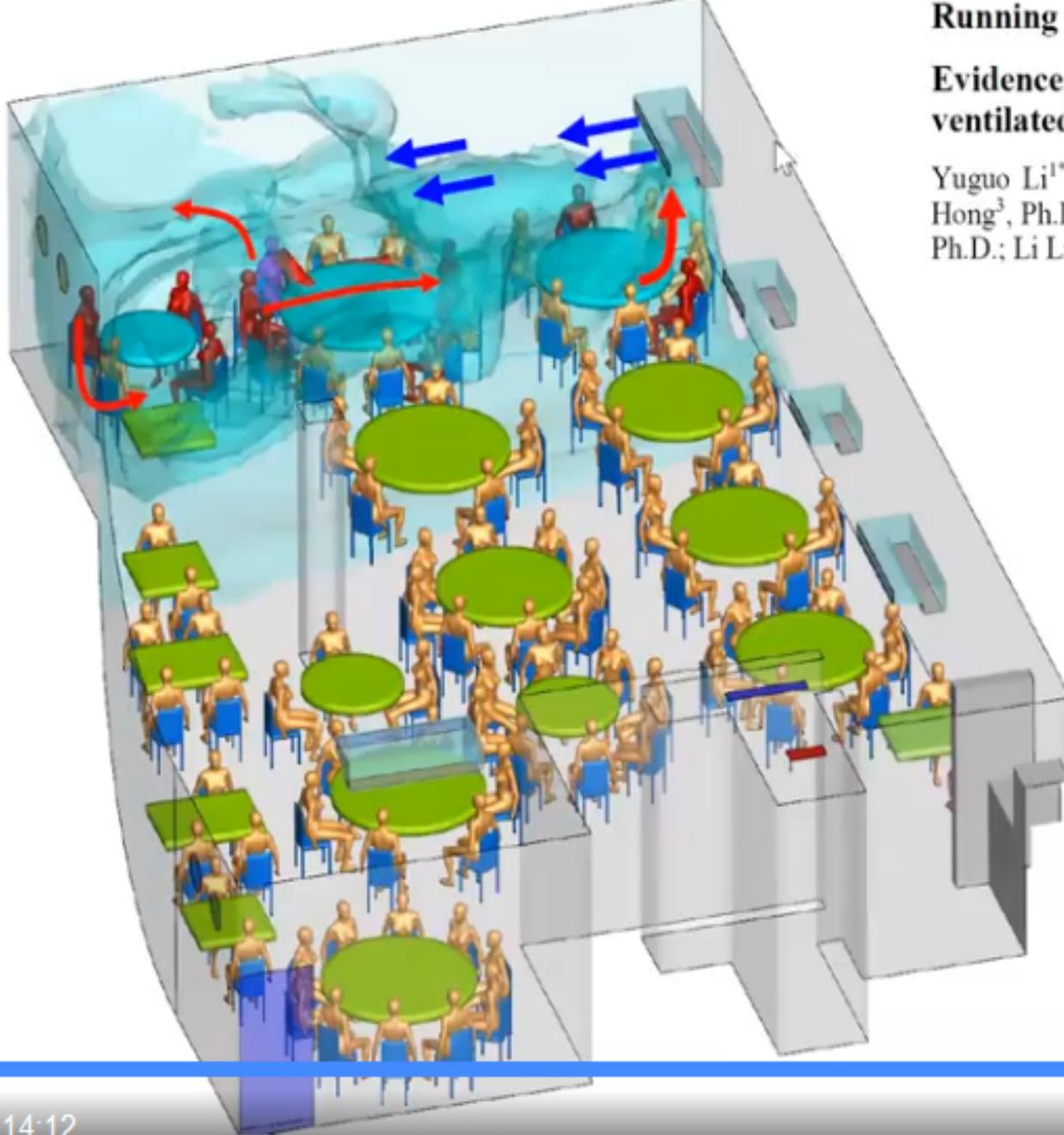
- An air conditioner blowing air around like a fan is likely to also spread the virus on aerosol clouds. A fan blowing outward at the front monitoring station might be helpful.

Running title: Aerosol transmission of SARS-CoV-2

Evidence for probable aerosol transmission of SARS-CoV-2 in a poorly ventilated restaurant

Yuguo Li^{1*}, Ph.D.; Hua Qian^{2†}, Ph.D.; Jian Hang^{3†}, Ph.D.; Xuguang Chen⁴, M.Sc.; Ling Hong³, Ph.D.; Peng Liang⁵, M.Sc.; Jiansen Li⁴, M.Sc.; Shenglan Xiao¹, Ph.D.; Jianjian Wei⁶, Ph.D.; Li Liu⁷, Ph.D.; and Min Kang^{4†}, M.Sc.

Posted April 22, 2020 doi:
<https://doi.org/10.1101/2020.04.16.20067728>. medRxiv preprint



Case study



14. Bringing personal items to church such as a Bible, notebook, fans, pens put others at risk for the virus?

- Can't give a straightforward answer here. Personal items such as a Bible, notebook, fans, etc., **should be kept with the individual and not shared with others.** Decontaminating them with isopropyl alcohol wouldn't hurt either. In all I think the risk of virus spread from bringing these into a sanctuary should be minimal.

15. Can you explain the roles and responsibilities of an infection Prevention Coordinator per, Centers for Disease Control and Prevention, CDC? Is there online training for this role?

The Centers for Disease Control and Prevention (CDC) together with the Centers for Medicare & Medicaid Services (CMS) does offer a course on infection prevention and control (IPC). This is particularly aimed at nursing home staff and covers:

- Core activities of effective IPC programs,
 - Recommended IPC practices to reduce pathogen transmission
 - Healthcare-associated infections
 - Antibiotic resistance
- a. This is an online course; link: https://www.train.org/cdctrain/training_plan/3814
 - b. This might be something to consider for staff who are doing facility cleaning, and/or who are visiting debilitated church members in nursing homes and long-term care facilities.

16. Is it true that lemon and warm water eliminates the virus at the beginning before reaching the lungs?

- I am not aware of any research that supports this idea. I would think that lemon and warm water would do nothing to the virus, unlike soap or alcohol or bleach which directly disrupt the virus membrane and destroys its infectivity.

17. Which one is a better protection from the virus face mask or face shield?

a. A face shield that is open at the bottom (as most are) are good for preventing the wearer from being splattered with liquids, **but probably does little-to-nothing to stop aerosol clouds from getting to the individual.** I would still use a face mask even if wearing a face shield, as do some maintenance cleaners who are cleaning units such as restrooms, or if someone fears they may be coughed on (e.g. the entrance monitor).

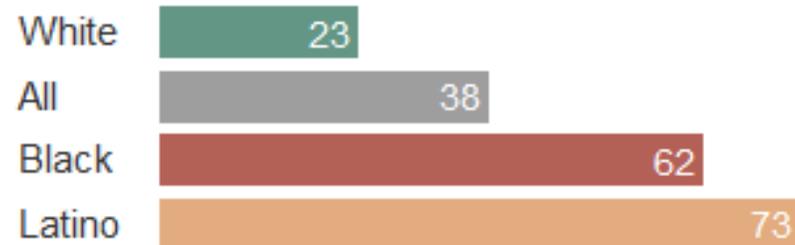
Other considerations:

- a. Decontaminate surfaces frequently (particularly pews, bathrooms, hymnals, or other things frequently touched by folks). I would recommend doing this at least daily, and preferably after each service (if multiple services are held the same day in the same building). Use detergent, isopropyl alcohol, or bleach for this.**
- b. Wash your hands with soap and water or hand sanitizer frequently throughout the day, even if you feel you have not touched anything.**
- c. Arrange for online service viewing options for those who may either be infected, or who prefer not to risk exposure by attending in person.**
- d. Monitor the infection rate of your congregation. If this starts going up as you try to reopen, then need stricter controls. Some people will tend to be cavalier about precautions (“I’ll be fine” attitude). They need to be continually reminded of the risks they pose not only to themselves but to others around them.**

Health Disparities Highlighted by Coronavirus Epidemic (particularly affecting African Americans):

The New York Times

Coronavirus cases per 10,000 people



The Fullest Look Yet at the Racial Inequity of Coronavirus

By [Richard A. Opel Jr.](#), [Robert Gebeloff](#), [K.K. Rebecca Lai](#), [Will Wright](#) and [Mitch Smith](#) July 5, 2020

Health Disparities Highlighted by Coronavirus Epidemic (particularly affecting African Americans; Michigan data 4/2/2020):

Race	Percentage of Overall Cases by Race	Percentage of Deceased Cases by Race
American Indian or Alaska Native	<1%	0%
Asian/Pacific Islander	1%	1%
Black or African American	34%	40%
Caucasian	24%	29%
Multiple Races	2%	1%
Other	3%	2%
Unknown	36%	26%

Health Disparities Highlighted by Coronavirus Epidemic (particularly affecting African Americans):

- Many people of color have poorly managed chronic health conditions such as hypertension, diabetes, heart failure. This in part is because of:
 - lack of adequate health insurance,
 - lack of access to primary care which could better manage these conditions,
 - lack of access to healthy food options (many live in “food deserts”).
- Many are poor and cannot afford the co-pays even if they have some baseline health insurance, and thus they avoid healthcare until they think it’s absolutely necessary (e.g. severe chest pain which may be a heart attack).
- Many live in more crowded conditions (e.g. some shelters, or families doubling up in apartments rather than becoming homeless) and thus cannot do proper self-isolation and social distancing.

Health Disparities Highlighted by Coronavirus Epidemic (particularly affecting African Americans):

- Many cannot adequately afford and/or get protective supplies such as face masks, gloves, hand sanitizers, to both prevent spread and to properly disinfect themselves and their living environments.
- Many hold jobs that don't allow for working from home (service and production jobs), and thus they cannot easily quarantine themselves without losing pay.
- Many work in jobs (service and production jobs) which bring them in close contact with others and the virus (e.g. sanitary workers, house/office cleaners).
- People of color are overrepresented in our prison system which is very suboptimal regarding social distancing and healthcare.

Health Disparities Highlighted by Coronavirus Epidemic (particularly affecting African Americans):

- More likely to have to take public transportation with consequent closed environments with poor ventilation and exposure to others who are infected.
- Relative lack of health education/health literacy and health advocacy.

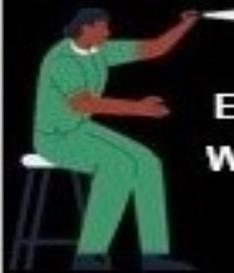
QUESTIONS?



Navigating the health
care system should not
be challenging.

Our Team is available to provide personalized
health education, coaching and advocacy, to fit
your health needs.

Contact us to learn more!



Email: contact@takechargehealth.com
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