Basic Prevention

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Create and maintain a social bubble

- Establish a **“social bubble”** with others who have similar risk tolerance and are committed to maintaining that bubble.
- When outside of that social bubble, wear a mask and practice physical distancing as long as COVID-19 is still a threat.
- **Follow the hygiene and safety guidelines in the slides that follow**

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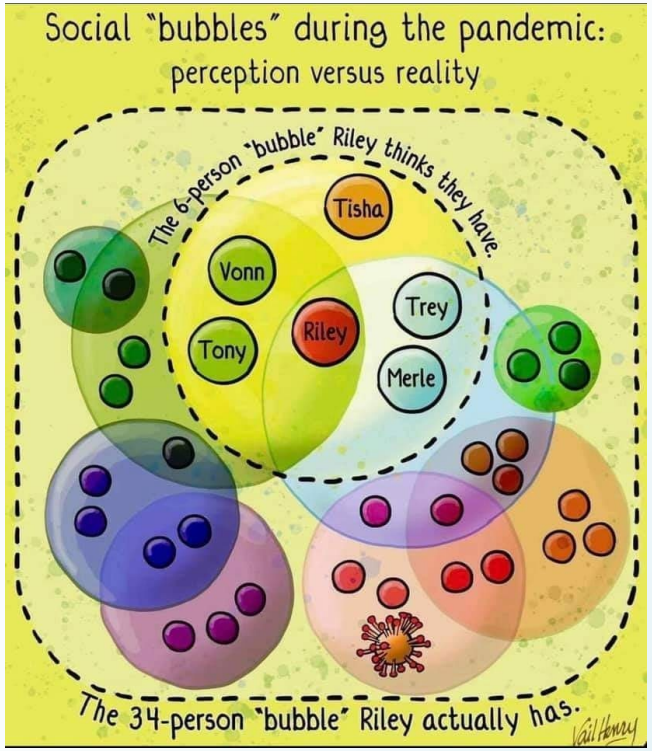
Social bubbles: Perception vs Reality

- Be aware of how members of your bubble are interacting with others.
- **Whomever they interact with and how they interact with those other people also affects your safety.** A couple things to think about when establishing your social bubbles:
  - Do they visit others only outside and while wearing a mask at a suitable physical distance?
  - Do they wear a mask while in the presence of others while inside buildings?



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Social bubbles: Perception vs Reality

- Now imagine a multigenerational household with one person working in a service industry and another person attending school in person
- A social bubble can be a good way of balancing your need for social connection with pandemic safety—but it can also give you a false sense of security. You are only as protected as the biggest risk taker in your group! So communicate, communicate, communicate.

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Physical Distancing

- The CDC recommends ***at least 6 feet*** of distance between individuals to prevent the spread of viral particles from one person to another
- **Every time we breathe, speak, or exhale in a similar fashion, droplets leave our mouths**. COVID-19 is transmitted through these droplets.
  - Larger droplets may fall quickly to the ground
  - Smaller droplets may travel further in the air
- This distance may depend on factors such as **location** and **activities**
  - Mask wearing behavior
  - Population density within an area
    - Areas with poor circulation may warrant distances *further* than 6 feet
  - Physical activity/exercise

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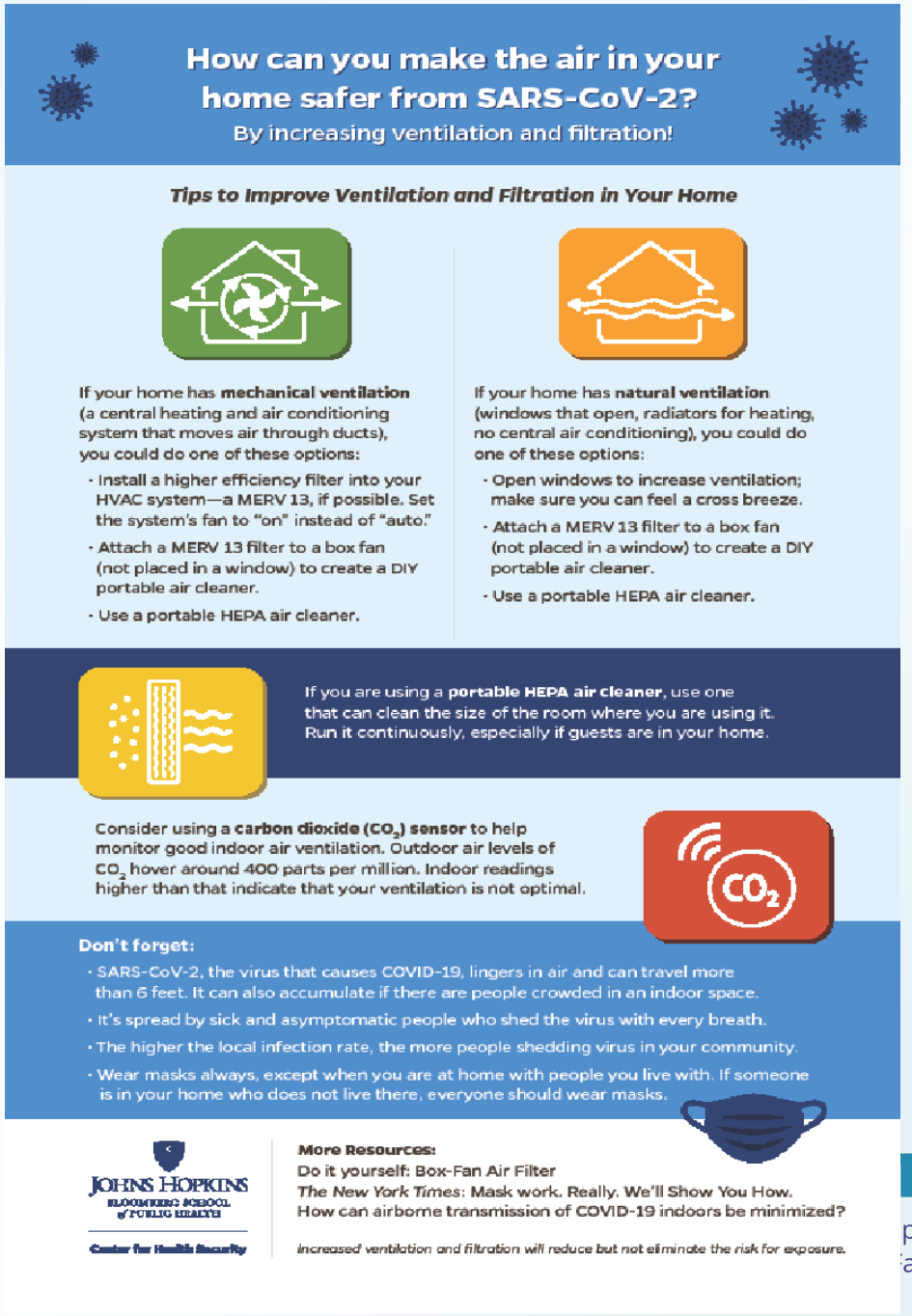
Ventilation is key!

- In addition to social distancing and maintaining a social bubble, good ventilation is key to reducing your exposure to coronavirus both in your home and at work.
- Meet friends outside.
- Leave windows open, employ filters if possible.



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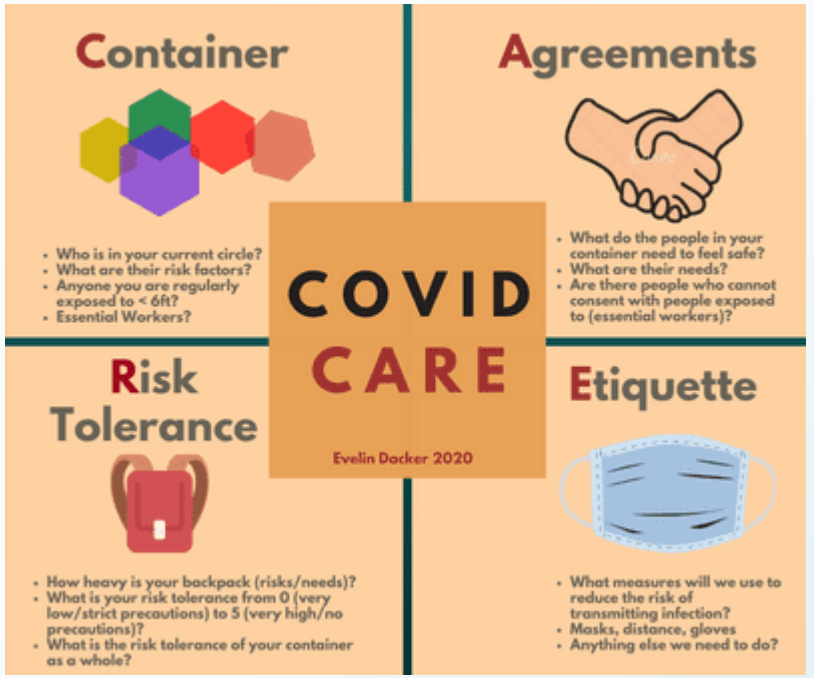
Employ the COVID-Care model to honestly assess risk within your social bubble

- COVID CARE is a model encouraging the assessment and building of trust through honest communication about COVID-19
  - Better communication enables transparency and co-creation of social bubbles thru agreement about mutual risk tolerance and shared behavior (etiquette).
  - Your Bubble (Container) includes the people who are in your household/domicile, living space, work space, or whom you might interact with without social distancing or precautions.



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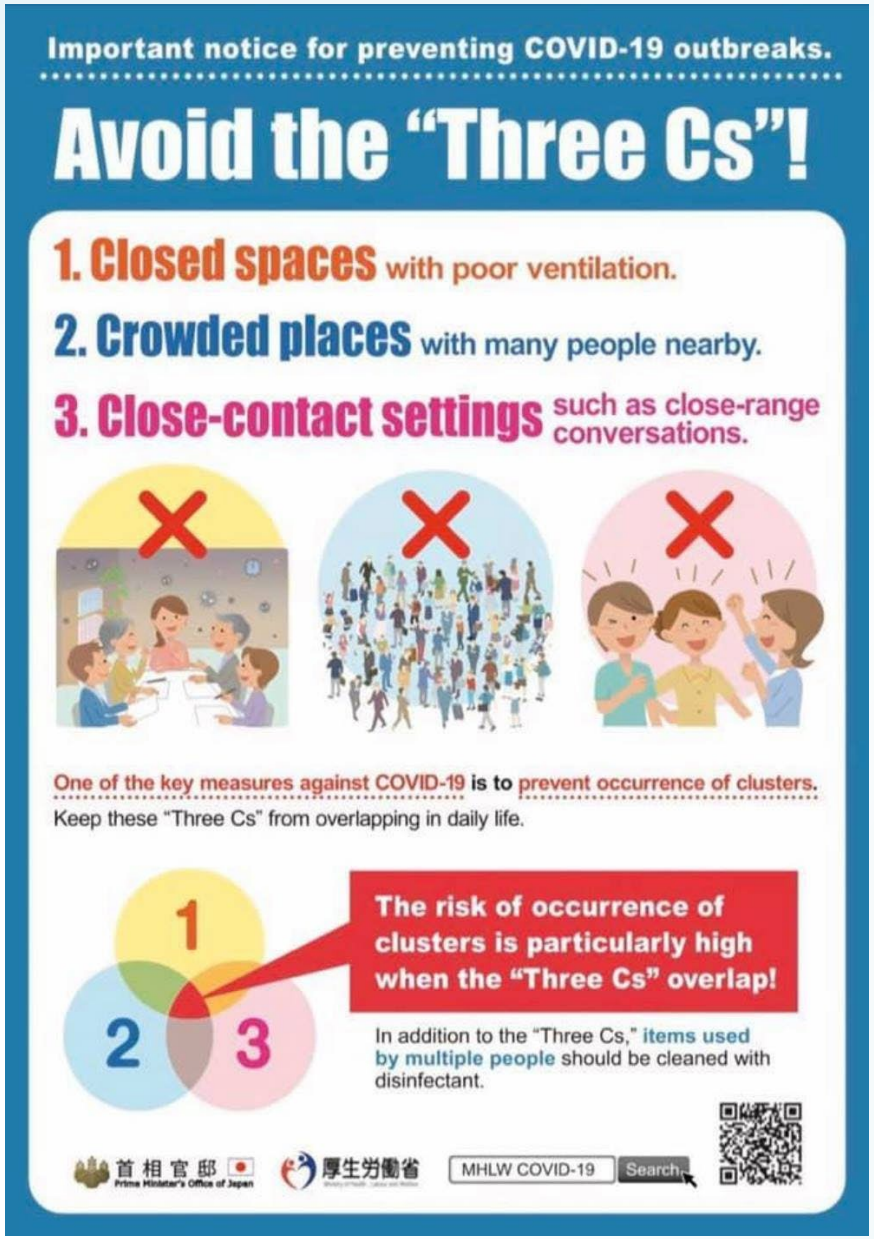
Risk tolerance and your social bubble

- Most of us have:
  - A primary container — those that we share space with
  - A secondary container such as work spaces or visitors who have their own primary residences or containers.
- Those with bigger containers have bigger risks of infections associated with them.



Young Kids, COVID-19, elders, and play groups

- Kids get infected at the same rate as the population average.
  - Kids are less likely to get severely sick than adults, but are just as contagious as adults
- **Parents, teachers, and grandparents can get very sick from children**
  - **Until grandparents are vaccinated, limit contact with grandparents > 65 years of age, especially if suffering from a chronic disease like diabetes or respiratory problems or if a smoker**
  - **Once vaccinated kids can play with grandparents inside and outside**
- **Child Play: Form a small playgroup and play outside. Adults should stand > 6 feet away from children other than their own**
  - Don't go into each other's homes unless you are part of a social bubble based on mutually assessed risk tolerance
  - Play outside : COVID-19 virus can live on surfaces for hours or days in a laboratory environment, but there has been little to no research on the survival of the virus on playground equipment.

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Sanitation

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How often you hand wash makes a difference in spread of respiratory diseases caused by viruses

- Frequency of hand washing makes a big difference.
  - A study conducted at a military boot camp found that a top-down program of hand washing five times a day cut medical visits for respiratory infections by forty-five percent. Research on the 2002 coronavirus outbreak found that washing hands more than ten times a day reduced people's infection rate by even more.
- **Core message:** Wash or sanitize your hands every time you go into and out of a group environment, and every couple of hours while you're in it, plus disinfect high-touch surfaces often – at the very least daily.

Wash your hands!

- Wash your hands with soap thoroughly for **20 seconds** or use a greater than 60% alcohol-based hand sanitizer. Song choruses can be a good approximation of 20 seconds:
- Soap and water is **more effective** than hand sanitizer at killing germs
  - Wash hands with warm or cold water, warm water is better for hands that are greasy–lather up!
  - Use hand sanitizer ***when soap and water is not available***
  - **Baby wipes are not successful in killing germs, only those labeled disinfecting!**
  - Do not expose your skin to straight bleach solutions or hydrogen peroxide–causing burns!
  - Do not use antibacterial soap- they offer no advantage
  - Apply skin moisturizer so skin does not crack and provide a place for virus to lodge
- **When returning home from ANY activity where you were around other people, wash your hands with soap and water!**
- Money that you exchange can be contaminated
  - Wash your hands after touching money
  - Do not try to wash money in the microwave–this does not work

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Proper handwashing technique is *thorough*:

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How about wearing gloves?

- **Not wearing gloves, but washing your hands often, is best for everyday tasks**
- Unless you're a health-care worker or, say, a cook with a cut on your hands, it is **not recommended that the general public wear gloves**
- **Wearing gloves might cause you to wash your hands less** because you keep wearing the now-dirty gloves instead of washing your hands
  - **You end up contaminating other objects, like your cell phones or your face, with the dirty gloves when not worn and used correctly**
  - Gloves are only useful when you use them and take them off properly as to not contaminate your hands with germs

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Clean surfaces you routinely touch – or that are touched by others – often

- Countertops, light switches, doorknobs, handles, bathrooms, cell phones, computer keyboards & mice, desks/workspaces, credit cards, steering wheels, etc.
- Use **appropriate cleaning products***
  - An effective bleach solution can be made by mixing 1/3 cup or 5 Tbs/gal of water or 4 tsp or 20 ml/quart
- How about ultraviolet light devices?
  - UV-C has been shown to be effective but limited in use
    - Smooth surfaces (think cell phone or a screen)
    - Penetrates superficially; the light can't get into nooks and crannies
    - Irritates skin (not to be used on hands or face) and carcinogenic
  - It is unclear if the sun can destroy COVID-19. **No measurable UV-C light from the sun reaches the earth's surface**

*Some common EPA-approved disinfectants include Clorox Disinfecting Bathroom Cleaner and Windex Disinfectant Cleaner. For a complete list of effective disinfectants see: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

Has food or food packaging been identified as a risk factor for COVID-19 transmission ?

- Currently there is no evidence to support transmission of COVID-19 associated with food (the food itself –not packaging or handling)
  - There is likely very low risk of spread from food products or packaging that are shipped over a period of days or weeks at room, refrigerated, or frozen temperatures.
- **Your biggest risk, especially if you are ordering takeout, is most likely the person who delivers your food; physical distancing should still be in place, even if contact is brief.**
- There is no evidence to support transmission of COVID-19 associated with imported goods and there have not been any cases of COVID-19 in the United States associated with imported goods.

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How about doing laundry if I suspect that I or a family member has COVID-19?

- If you're caring for someone in the house who is sick or you're cleaning the clothes of a family member who may have been exposed to the coronavirus, consider those clothes contaminated and keep them in a **separate** laundry bin until it's time to do the wash.
  - Place a washable or disposable liner in that laundry bin so that you can either launder it or throw it away after you remove the dirty clothes.
  - Use gloves when handling clothes and/or wash hands immediately after
- Wash contaminated clothes and linens as usual, but "launder items using the warmest appropriate water setting for the items and dry items completely"

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How about doing laundry if I suspect that I or a family member has COVID-19?

- Bleach may help inactivate viral microbes in the wash
  - For whites and light colors could add bleach to the load
  - For colors, could use detergent that contains color-safe bleach if appropriate for fabric
- Dryers may be better than hanging the clothes to dry because the heat may also help inactivate any viral microbes. Dry fabrics are less likely to transfer germs than wet ones.
- Clean surfaces of washing machine and the laundry bin with bleach or other household disinfectant after you've removed the dirty clothes.

What else can I do to stay safe at home

And protect other household members

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Wear a mask around those who are vulnerable

See our primer on mask wearing before and after being vaccinated

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Get a seasonal flu vaccine if you have not done so for four good reasons!

- **It is possible to get the "flu" and COVID-19 at the same time and this would increase the severity of your illness.**
- As the coronavirus continues to spread across the country, doctors say it's **more important than ever to build up herd immunity for other strains of "flu."**
  - **This protects the elderly and other vulnerable people** .
- **It is very important to protect yourself from influenza virus and not put more pressure on the health system with the impending cases of coronavirus.**
  - **The last thing they need is this double burden.**
  - **The best time to get a seasonal influenza vaccine is mid September to mid October**
- **Cross –immunity at some level is a possibility that is presently being investigated. This has not yet been demonstrated for COVID-19, but cross immunity has been documented for other diseases.**

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Consider giving up smoking and vaping

- A recent study* of those who smoked or vaped found that :
  - Depending on which nicotine products they used and how recently they had used them, young people who vaped or smoked, or both, were **2.6** to **9 times** more likely to receive COVID-19 tests than nonusers
  - Those who had used both e-cigarettes cigarettes in the previous 30 days were **6.8 times** more likely to be diagnosed with the disease.
- Active smoking and a history of smoking are also associated with severe COVID-19 according to a systematic review and meta-analysis**
  - Smoking modestly **increased** the risk for severe disease in hospitalized patients with COVID-19, particularly among younger patients without diabetes
- An associational study of smoking and vaping found that **both** are associated with a higher risk to COVID-19

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Smoking, vaping, and COVID-19

- **SMOKING MAKES COVID-19 SYMPTOMS MORE SEVERE:**
  - In a study of patients admitted to the hospital due to pneumonia caused by COVID-19, it was found that current and former smokers were **significantly less likely to improve over time**.
  - Instead, the disease was **14 times more likely to progress** to the point where the patients required **intensive respiratory assistance**.
  - The connection between smoking history and adverse pneumonia treatment outcomes and/or death are well established, which bolsters the observations that current or former smokers are at a **far greater risk of severe respiratory outcomes** once the virus is contracted.

Do not engage in diagnosis by treatment if you feel ill

- **Anticipatory anxiety may lead you to fear symptoms you are experiencing might be the signs of COVID -19**
  - **Get tested to find out ****
- **Do not take leftover antibiotics you have at home to see if your respiratory illness is bacterial or viral.**
- **This may alter your microbiome, affect your immunity, and render you more susceptible to a more severe form of COVID -19**
- **The intestinal microbiota influences the balance between pro-inflammatory and regulatory responses and shapes the host's immune system**

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Make sure you are not vitamin D deficient

- **Vitamin D deficiency may be associated with COVID-19 infections; a serological study of 190,000 Americans across all 50 states showed 54% higher COVID positivity in those who had deficient levels of vitamin D**
  - ✔ More research is necessary to determine whether vitamin D is actual protective against COVID-19 or an artifact of other social factors
- **Populations with low vitamin D levels have**
  - Higher number of COVID-19 infections
  - Greater rates of COVID -19 mortality
  - This may be because Vitamin D plays a role in
    - Regulation inflammation in the body
    - Reducing the risk of a cytokine storm cause by inflammation being out of control

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Vitamin D: facts to consider

- Our bodies produce vitamin D from UV rays from the sun
  - We also get vitamin D in our diet, but the typical American diet is poor in vitamin D
  - This means if you get less sun exposure, there is more need for vitamin D supplement plus sun some exposure (but not sunburn which places you at risk to melanoma)
    - Supplement doses –1,000-2,000 DRI unless very deficient –ask your doctor
    - No more than 4,000 -5,000 units or bone loss may result

Vitamin D: facts to consider

- 42 % of Americans are vitamin D deficient
  - 82.1 % African Americans
  - 62.9 % Hispanics
  - As we get older our bodies are less efficient creating vitamin D
    - An older adult needs 3x the UV exposure to create the same amount of vitamin D and
    - Obesity effects its distribution in the body as if it is stored in abdominal fat
- Vitamin D deficiency may be associated with COVID-19 infections; a serological study of 190,000 Americans across all 50 states showed 54% higher COVID positivity in those who had deficient levels of vitamin D
  - More research is necessary to determine whether vitamin D is actual protective against COVID-19 or an artifact of other social factors

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The bottom line

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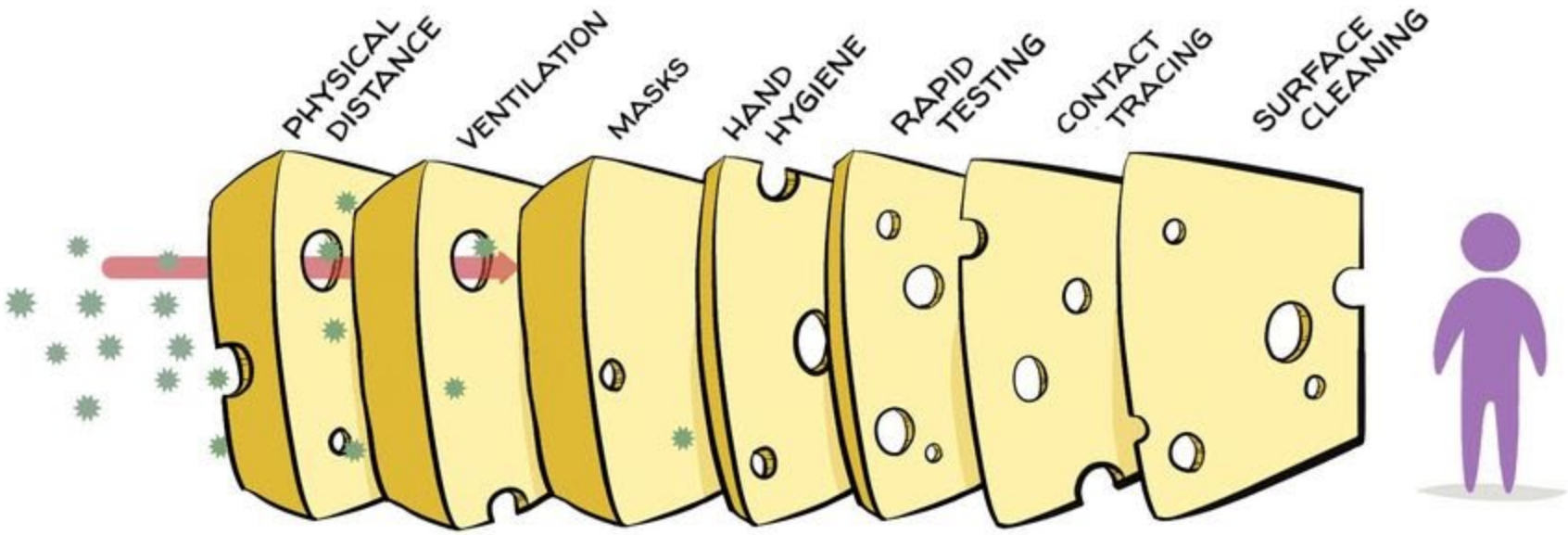
Protection against COVID-19 entails doing several things in concert. No one act of protection should be viewed as a panacea

- **An apt analogy may be drawn from road safety**
  - Air bags reduce the risk of dying by about 30-40%.
  - When added together with seatbelts, they are synergistic and reduce risk together by 65-70%.
  - We add licensing, speed limits, anti-lock brakes, police enforcement, and other things to achieve very good risk reduction (well into the upper 90s).
  - We need to be even more careful when we drive in more dangerous situations, such as in a snowstorm.
- **Protecting yourself (and society) from COVID-19 works exactly the same way: mask + physical distance + ventilation + sanitation + lockdown during the surge +testing + contact tracing**

SWISS CHEESE VIRUS DEFENSE

NO SINGLE INTERVENTION IS PERFECT



EACH INTERVENTION HAS HOLES.
MULTIPLE LAYERS SAVE LIVES.

Preparing for COVID-19

Have a plan!
Prepare your home in case you or someone you live with becomes sick with COVID-19

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Have a plan for where and how to get tested and isolate

- Do you know where to get a test?
- Can you isolate at home and how will you protect others you live with while contagious?
- If not, where can you isolate?
- Who will care for you if you are in need of assistance, groceries etc.
- Do you have the things necessary to monitor your symptoms : thermometer, blood pressure, and, if possible, an oximeter
- Do you know who to call and where to go if your symptoms become serious?

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Identify a “flu” buddy and prepare your home

- **Get a flu buddy (aka “pandemic pal”)** and make back-up plans for care of children, pets, and those in need of special assistance
- **Prepare a hot zone in your home** just in case someone falls ill
- **Stock up on essential foods and medicines, etc.**

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What if I have symptoms and am concerned that I might have COVID-19?

- **Call ahead to your doctor or emergency care facility. Do not just walk in or you risk other lives.**
  - Waiting rooms are often full of older patients with heart disease, cancer, and other conditions for whom the coronavirus could be fatal
  - Confirm with your doctor/health provider that your symptoms are consistent with COVID-19
    - Are your symptoms related to allergies? The common cold? The flu?

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What if I have symptoms and am concerned that I might have COVID-19?

Common symptoms of COVID-19

- Cough
- Shortness of breath/difficulty breathing
- Fever
- Chills
- Muscle pain
- Sore throat
- New loss of taste/smell

- **If symptoms are not severe** you will be given instructions on how to self treat and monitor your symptoms and if a test is necessary and available at the time of assessment by phone.

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Danger signs of COVID-19

- **When to seek emergency medical attention:**
  - Trouble breathing
  - Persistent pain/pressure in chest
  - New confusion
  - Inability to wake or stay awake
  - Blue-ish lips or face
- **When seeking medical attention:** ***call first!***
  - Call your doctor or emergency room before going in and tell them your symptoms. They will tell you what to do.
- **Wear a facemask:** Put on a facemask ***before*** you enter the health care facility.
- Try to stay at least 6 feet away from other people in the waiting room.

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