

Care for our valiant and precious health professionals

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Though much of the information in this document exist, they spread across the web, time consuming to find and wade through to isolate bits of useful idea. The goal of these few pages is to provide tangible and concise procedures (that can be done with resources available today) to help you alleviate physical and mental stress, and to mitigate COVID-19 spreading to your home. Please read with a critical mind set.

Words cannot express my gratitude for putting your safety AND your family's safety at risk for multiple hours daily for months on end.

1 Care for yourself

Sleep – Nutrition – Exercise – Social Interaction – Stress Coping Techniques

The above penta forms the foundation of a person's mental and physical health. I am sure you already know this, but perhaps the following will remind or assist in the realization of this foundation. Rituals and routines provide stability and motivation-- try to incorporate the ideas below into a pleasant routine that you look forward to daily and weekly.

1.1 Sleep

Establish a bedtime routine which should include one or more of these components:

- Light stretching exercise.
- Read a few pages of a positive novel.
- Journaling with pen/pencil and paper. (see journaling prompts in the web resources section).
- EFT (Emotional Freedom Technique – see link below) tap followed by a few minutes of deep breathing.
- Place a scented fragrance (Gardenia, Jasmine, or Lavender) bottle on a night stand.
- Turn off or silent cell phone/laptop at least half an hour before bed.

<https://www.nytimes.com/2020/10/10/at-home/exercises-for-better-sleep.html>

1.2 Nutrition

Nutrition: cooking can be a great stress release. However, since you are short on time, use the listed phrases in google search for nutritional recipes that take a very short time to cook and few ingredients: “3 ingredients 5 minutes recipe”, “5 ingredients 10 minutes recipe”. The below links point to apps that can suggest what and how to cook given whatever ingredients you have.

<https://www.escoffieronline.com/top-apps-for-finding-recipes-for-ingredients-you-already-have/>
https://play.google.com/store/apps/details?id=com.supercook.app&hl=en_US&gl=US

The Mediterranean diet (which emphasizes such foods as vegetables, fruits, nuts, seeds, legumes, whole grains, seafood, poultry, yogurt, herbs and spices and olive oil) besides being great for overall health, also helps facilitate sleeping.

1.3 Exercise

These links point to exercises you can do in 5 minutes or less at work with no equipment. In addition, try to find time on a day off to do a full (1-2 hours) work out at least twice a week.

<https://www.mdlinx.com/physiciansense/no-excuse-workouts-for-busy-doctors/>
<https://resources.nurse.com/self-care-7-easy-exercises-nurses-can-do-at-work>
<https://www.fastaff.com/article/five-discrete-workouts-stretches-nurses-can-perform-work>

1.4 Mitigating Stress

Signs of stress: irritability, indifference, exhaustion, poor hygiene, sadness, nervousness, insomnia, lack of motivation, change in appetite.

In the moment distressing: Do a combination of these procedures (take less than 5 minutes). I was a skeptic of this until I do it for a week.

- Release negative thought by saying I feel afraid (angry, sad, depress, guilt...) Followed by expressing the positive by saying: I feel grateful (happy, secure, blessed, ...). Ex: I feel afraid covid never end, I feel grateful I have a home. Repeat 3 or more times and truly hear yourself expressing these emotions.
- Slowly (with a 4-beat count) breathe in, hold your breath for 4 beats, breathe out within a count of 6, repeat this cycle 3 times. An alternative calming breathing technique is box breathing i.e slowly count to 4 while breath in, hold breath for 4 counts, count to 4 on exhale, hold for 4, repeat cycle 3 or more times. Box breathing is popular and used by navy seals, police, nurses, and athletes.
- Do 3 cycles of EFT (emotional freedom technique) tapping. If at work, use alternative tapping points to avoid touching your face (see EFT link in web resources section).
- 3 cycles of body scan where each cycle begins with closing your eyes and noticing sensations from each part of your body from head to toe.

For longer term resiliency:

- Put persistent effort in maintaining the penta Sleep – Nutrition – Exercise – Social Interaction – Stress Coping
- Use a buddy system <https://www.messiahlifeways.org/blog/wp-content/uploads/2020/11/Preventing-Burnout-for-Healthcare-Workers-Due-to-the-COVID-19-Pandemic-Using-the-Buddy-System-1.pdf>
- Limit exposure to news/social media
- Develop a hobby. The hobby itself can be a physical or mental exercise.
- Regularly release your anger, concern, etc with councilor or discussion group (see web resources section)
- Develop (from suggestion above and example below) short distress and exercise routine that you can do multiple times daily
- Develop a weekly comfort routine for family and self.

An example of mental and physical daily ritual:

- On arriving at work and before getting out of your car, do a short routine of mental stabilization ritual (as above) followed by a short (5 minute) exercise sequence.
- Whenever you can take off your PPE safely, do a short exercise sequence followed by a short mental stabilizing ritual.
- For longer breaks (half hour or longer), check in with a buddy, safely have lunch with coworkers, eat slowly and focus on noticing all sensations (taste, texture, temperature, smell, etc) generated by food.
- Go outside and do a short (or medium depending on time) exercise routine.
- Before starting the car to go home, lock the car first and do a short mental stabilizing routine so you can drive home safely.
- Develop a bedtime routine as suggested earlier.

Example of weekly comfort routine for self and/or family: Pick an evening of a day where you most likely have a consistent time off. Do several of the activities below.

- Connect (text, chat, zoom, facebook, Instagram, etc) with someone (friend, relative, buddy, etc).
- Cook a dish together with the entire family.
- Watch a movie (rotate genre weekly).
- Play a game (board, card, play acting, etc).
- Family karaoke, etc.

Talk to someone, use app, virtual counseling:

- Physician support line: 1-888 409 0141
- Disaster distress helpline: 1-800-985-5990
- Talk with us: Text 66746
- Please check with your state or city for local help lines
- See web resources section for cell phone apps and free virtual counseling web sites

1.5 Protect yourself from prolonged PPE usage

Prep skin (hand and face) before and after shift - remove PPE for 15 minutes every 2 hours (if possible, or 4 hours max) - drink lots of fluid throughout the day. Please be sure to verify creams and eye drops suggestions with the appropriate experts.

PPE usage routine: clean – moisturize – apply barrier – donning PPE – doffing PPE – clean remoisturize.

Prep skin before shift: wash and dry face/hand, apply moisturizer early to allow time for complete absorption. It's ok to use petroleum-based moisturizer on hand, not on face due to respirator slippage and seal breakage.

Liquid skin sealant/barrier: apply Marathon, Cavilon, etc to respirator contact areas, don't forget the ears. Physical protective layers between N95 and skin may interfere with sealing. You need to recheck the seal after applying the barrier.

Moisturizer and cleanser: CeraVe, Aveeno, Cetaphil, Vanicream, Toleriane, look for fatty acid (hydroxyacid, not hydroxygenated, hyaluronic) based.

Dry eyes: dry or irritated eyes can occur due to redirected airflow from mask (surgical, homemade, or misfit N95). A few remedies are: make sure your mask fits well, use eye goggles, warm compresses at night, and eye drops several times per day. Use emollient (Systane Hydration PF, SoothXP, Oasis Tears Plus, etc) based eyes drops for non-contact wearers. Avoid oil-based eye drops if you wear contacts. Some contact compatible eyes drop are FreshKote PF, Systane Contact, Refresh Contacts, etc.

Off shift respirator and face shield maintenance: Spray/wipe both sides of the face shield with 70% alcohol. Check with your hospital/clinic if respirator reuse procedure eliminates bacteria build up. If not, use UV-C to disinfect inner/outer surfaces of respirator to reduce bacteria build up. Do not expose skin (eyes in particular) to UV-C. If available, FAR-UV-C is safer (see web resources section for UV detail). Reduction of bacteria build up alleviates infection/acne.

2 Mitigating COVID transmission in your home

Surprisingly, there isn't a rigorous procedure for this written anywhere. What is written below seems daunting at first, but after a week, this regimen will become routine for you and your family.

Assessment of Air Contamination by SARS-CoV-2 in Hospital Settings

https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2774463?utm_source=silverchair&utm_medium=email&utm_campaign=article_alert-jamanetworkopen&utm_content=wklyforyou&utm_term=010221

Household Transmission of SARS-CoV-2A Systematic Review and Meta-analysis

https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2774102?utm_source=silverchair&utm_medium=email&utm_campaign=article_alert-jamanetworkopen&utm_term=mostread&utm_content=olf-widget_12302020

2.1 Things to have in car

- A pair of shoes dedicated for wearing at work (W-shoes)
- Two big plastic boxes with lids
- Assortment of sanitizers.
- One box (clean box) containing a week's worth of clean head to toe coverall (or similar).
- Washable/reusable head-to-toe coverall-- available on Amazon for about \$30 each.

2.2 Leaving home for work

Immediately after entering the car do these steps in this order:

1. Lock car
2. Change to W-Shoes

3. Put on coverall (from clean box) over street clothing
4. Sanitize hands
5. Put on mask and drive to work

2.3 Returning home

The last step before leaving the hospital is to wash your hands. Immediately after entering the car, do these steps in this order:

1. Lock car
2. Take off coverall and put in dirty box (DB1)
3. Change to home shoes
4. Sanitize hands
5. Sanitize cell phone - keys - purse/wallet
6. Sanitize both sides of face shield-- do not use cell phone after this
7. Do a short 1-5 minutes de-stress (see mental section) routine
8. Put on mask
9. Drive home.
10. Do a short mental decompress routine to change to home mental state

After entering into your house, leave your home shoes outside the door, enter and lock your door, don't let your loved ones hug you yet, sanitize your hands before touching anything, take a long warm (for more stress release) shower, and put dirty clothes into plastic box 2 (DB2).

At the end of the week, take "DB1" from the car into home, with your mask on, transfer (minimize shaking things up) dirty hospital clothing into the washer. Wash hospital clothing by themselves with soap and hot water. Do the same for clothing in DB2. Sanitize all boxes. Refill the car with clean coveralls, wipes, alcohol spray, etc.

2.4 At home

If possible, you should have your own bedroom and bathroom, and isolate/social distance self from the rest of the family. But given this is a long-term fight and you are already mentally and physically stressed, the unclear (due to sharing the same air space) benefits of isolation at home vs added mental stress might not be worth it. However, if everyone wears a mask when in sight of each other in conjunction with isolation then the benefits of isolation is worth it.

2.4.1 Sanitizing fomites

More and more epidemical evidences are pointing to aerosol as a significant transmission mode for Covid-19. But transmission via fomites is definitely not zero. Hence this fomite disinfecting procedure is needed as part of a layered defense.

To give you a mental and physical break, someone other than yourself should do this sanitizing protocol:

- Program a cell phone alarm to some periodic intervals (such as before each meal) as a sanitizing reminder. For each alarm do the following:
- Wash hands, turn the heater on (only for cold weather) full blast and fully (or partially depending on safety) open all windows to clear the air.
- Do one room at a time: sanitize all door knobs/handles (fridge, microwave, etc), light switches, faucets, remotes, counters, etc.
- Everybody washes hands and sanitizes their cell phones, laptops (screen, keyboard, mouse).
- Make sure to close (security) all windows as the last step in this procedure.

To add one more layer of protection, it only takes a day or two of practice to acquire the habit of using elbows, backs of hands to operate light switches, faucets, doors (don't keep doors tightly shut), etc.

2.4.2 Air filtration

If your home or apartment has central heating/ac, be sure to install a filter with Merv-12 (or better) rating. If using filter with higher than Merv12 rating, check with your furnace technician to make sure the system can handle the airflow. If unsure, start with Merv-12 rating filter. Also add a portable hepa air purifier to each room, particularly gathering space. To minimize cost (up-front and filter replacement), you can very easily make an effective hepa air purifier by strapping a Merv-12 (or better) filter to a rectangular box-fan (select 20x20 inch fan). Tutorial and parts sources are in web resources section. Do not spend extra money to buy air purifier with UV disinfection. An effective UV disinfection requires enough energy to hit the virus. This energy is a combination of exposure time, UV wave length, and intensity. A typical affordable home UV disinfection device does not meet this requirement for multitude of reasons.

A widely and cheaply available CO2 meter (50ppm accuracy) can be used to check ventilation and CO2 reading as surrogate for infection risk. For example, every 50th inhale in a room with 1200 ppm CO2 reading has exhaled air from another person.

Please see section 9 of a document at this link <https://tinyurl.com/FAQ-aerosols>,
https://medium.com/@jjose_19945/how-to-quantify-the-ventilation-rate-of-an-indoor-space-using-a-cheap-co2-monitor-4d8b6d4dab44
<https://smartbuildingsmagazine.com/features/carbon-dioxide-monitoring-to-lower-the-coronavirus-threat>

2.4.3 Meal time

Do NOT eat at the same table. Eating at the same table optimizes all 3 conditions (time, distance, entry points) for the virus to spread. Develop new habits of not eating with your hands, use serving utensils for food, not sharing anything, and washing hands before AND after eating. After meals, fill up and mix soap/water in a sink, completely immerse all dirty dishes in this sink for 10 minutes, after that transfer dishes to the machine or hand wash them.

2.4.4 Bathroom usage

Everyone practices closing the toilet lid before flushing as flushing generates aerosol. Turn on the bathroom fan on entering and off on leaving. Ideally, leave the fan on for 5-10 minutes after bathroom use. A simple fan timer can be installed, though electrically dangerous unless you know what you are doing. Everyone keeps their own personal items (tooth brush, washcloth, etc) in their own room.

2.4.5 If someone is sick (regardless of disease)

Dedicate a bedroom for the patient, preferably adjacent to a bathroom and on the second floor. Turn this room into a negative pressure room by installing a reversible “window fan” (make yourself or buy on Amazon) to draw room-air to outside. Select fan that is no bigger than 8 inches to minimize heat loss and discourage (small opening) intruder. Please be sure to install securely to prevent intruders.



Have the fan running all the time. Also add a fan-less heater AND a smoke/fire/carbon monoxide alarm to this room. Keep the door closed at all times. To minimize airflow out of the room to the rest of the house, slowly open (partially) and close the door when entering/leaving the patient's room.

Have a box/hamper with a lid in the patient's room for all dirty clothes and beddings. Wear a mask when moving and washing this box's content. Wash all patient's items (clothing, utensil, etc) on their own (without mixing with other people's items). Reduce aerosol production by minimizing shaking things up during the process.

The patient must wear their mask when not in this room. Caregiver wears mask, face shield, gloves, coverall (follow PPE donning/doffing procedure) when caring for a patient.

2.4.6 Taking someone in a car

Wear extra warm clothing, everyone wears masks, and fully open all windows. If someone cannot tolerate cold, then half open all, or follow suggestions in this article for seating arrangement and windows opening.

<https://www.umass.edu/newsoffice/article/riding-car-pandemic-which-windows-open>

3 With sincere gratitude for being there

No matter what happens next, have confidence AND comfort that you have done your best given the constraints of your circumstance. That is more than anyone can ask of you. Rt (real time virus transmission rate) for us is improving slightly and vaccines are here. Please know and take comfort that you and your loved ones are in my and others daily prayers.

4 A very short tutorial on web search techniques

I am sure there are times when you need to search for information. This tutorial reduces the number of web searches and web pages to get results.

Site specific search: covid site:jama.com

Using the search operator “site:” directs google to search only in the specified site. The example above searches for documents containing the word “covid” in site jama.com.

Search for words near each other: “mental health” AROUND (50) nurse AROUND (40) covid

Combination of words (or concept) that are near each other leads to precise results. Using the “AROUND” (need all caps) operator, the above example using google search engine returns only documents containing the phrase “mental health”, and words “nurse” and “covid” with 50 and 40 other words respectively between them.

5 Selected web resources

After reading so many web sites, the below were selected for having concrete actions instead of generalized suggestions. Much of those actions have been summarized in this document.

5.1 Mental support information for physicians and nurses

<https://www.physiciansupportline.com/>

<https://www.peerrxmed.com/>

<https://project-parachute.org/>

<https://nursegroups.org/>

<https://www.aaets.org/frontline-groups>

<https://heroeshealth.unc.edu/resources-for-health-care-workers/>

<https://nurse.org/articles/nurse-mental-health-selfcare-covid19/>

<https://mashable.com/article/covid-mental-health-help-healthcare-workers/>

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/mental-health-healthcare.html>

<https://pages.apa.org/healthcare-worker-covid-19-resources/>

<https://self-compassion.org/>

<https://www.ama-assn.org/practice-management/physician-health/peer-support-program-strives-ease-distress-during-pandemic>

<https://www.theodysseyonline.com/journal-prompts-anxiety>

5.2 EFT tapping

<https://www.myamericannurse.com/eft-healing-technique-reducing-stress-pain/>
<https://www.thetappingsolution.com/blog/traditional-and-alternative-eft-tapping-points/>
<https://www.youtube.com/watch?v=9BjKZOV9pzs> (History and Science of EFT)
<https://pubmed.ncbi.nlm.nih.gov/27125158/> (The effect of emotional freedom technique on stress and anxiety in nursing students: A pilot study)
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6381429/> (EFT Improves Multiple Physiological Markers of Health)

5.3 Cell phone meditation and mental support apps

<https://www.happythemovement.com/ana>
<https://www.getmoodfit.com/anf>
<https://hminnovations.org/meditation-app>
<https://www.psychiatry.wisc.edu/covid-19-mental-health-resource-guide-support/apps-for-mindfulness-wellbeing/>
<https://woebothealth.com>
<https://onemindpsyberguide.org/>
<https://www.smilingmind.com.au/smiling-mind-app>

5.4 Protection from prolonged PPE usage

<https://rcni.com/nursing-standard/newsroom/analysis/covid-19-how-to-avoid-skin-damage-while-wearing-ppe-160451>
<https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/coronavirus-skin-care/art-20487664>
<https://www.medscape.com/viewarticle/929590> (worthwhile to read comments section)
<https://intermountainhealthcare.org/blogs/topics/covid-19/2020/04/face-masks-gloves-and-protecting-your-skin/>
<https://npiap.com/page/COVID-19Resources>

5.5 UV-C usage

<https://www.sciencedirect.com/science/article/pii/S1011134420304942?via%3Dihub>
<https://www.nature.com/articles/s41598-020-67211-2.pdf>
[https://www.ajicjournal.org/article/S0196-6553\(20\)30756-2/fulltext](https://www.ajicjournal.org/article/S0196-6553(20)30756-2/fulltext)
[https://www.ajicjournal.org/article/S0196-6553\(20\)30809-9/fulltext](https://www.ajicjournal.org/article/S0196-6553(20)30809-9/fulltext)
<https://www.fda.gov/medical-devices/coronavirus-covid-19-and-medical-devices/uv-lights-and-lamps-ultraviolet-c-radiation-disinfection-and-coronavirus>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7319933/>

5.6 Links to co2 meter, window fan, make your own air purifier:

Normally I would strongly suggest support local businesses, but to minimize risk to yourself and the community, Amazon links to product are listed here.

Co2 meter: https://www.amazon.com/gp/product/B08CZL1RQ4/ref=ox_sc_act_title_1?smid=AKLG77BYXA7BY&psc=1
Merv12 filter: https://www.amazon.com/Nordic-Pure-Honeywell-FC100A1011-Replacement/dp/B005ESP3SW/ref=sr_1_4?dchild=1&keywords=20x20+merv+12+air+filter&qid=1609628515&s=home-garden&sr=1-4
Box fan: https://www.amazon.com/Lasko-B20301-20-Inch-Premium-3-SPEED/dp/B01CEITGQ4/ref=sr_1_4?dchild=1&keywords=24+inch+box+fan&qid=1609625233&sr=8-4
Window fans: https://www.amazon.com/Holmes-HAWF2043-Blade-Window-Thermostat/dp/B000065DK8/ref=sr_1_1?dchild=1&keywords=Holmes+Dual+8%22+Blade+Twin+Window&qid=1609627179&s=home-garden&sr=1-1
Build your own air purifier tutorial: <https://www.youtube.com/watch?v=3vzKQ8i7o60>