

Covid – 19 Infections How to prevent them, and what to do.

Covid-19 is now widespread in our community. It is no longer confined to specific workplaces, or cities. The advice that we are seeing on the news is often conflicting, and it is hard to get a well-researched opinion. In order to help, we are sharing what we have learned.

The good news is that most of our patients have come through Covid fine, but for some it was a distressing and challenging experience. We hope that having a plan outlined will help you.

PREVENTION

Highest level of protection:

- Stay at home. Limit your visitors to those who are low risk for infection.
- If you must leave home, take advantage of early shopping hours at the supermarket, or use online ordering so they will bring your order to your car.
- For doctors' appointments, consider using a televisit with Zoom, or eClinicalWorks Healow. Some of our doctors use Doxy.Me. All of these are approved by Medicare until October.
- When going out, you can protect yourself and others with an N95 or KN95 mask. Stay away from anyone without a mask on, particularly if they are talking, or speaking on a cell phone. Stay at least 6 feet or more. Most COVID-19 transmission is from respiratory mist or droplets from sneezing, coughing, or talking. Wash your hands or use hand sanitizer frequently.

For those who are working in essential positions, or can't stay home:

- Wear a cloth or surgical mask to protect others in case you become infectious.
- Avoid anyone who is not wearing a mask. Stay away from people without masks talking or speaking on their cell phone.
- Don't shake hands with anyone. Greet others with an elbow bump, or place your right hand over your heart, or nod your head.
- If you are in a high-risk environment, use an N-95 or KN-95 mask for personal protection.



COVID Protection Cocktail

We have very limited research data on what medications may reduce the risk of Covid. The strength of this evidence is not as good as we like to see, but these may have a role in prevention or mitigation of Covid-19 disease. This "cocktail" of medications is cheap, widely available, and safe for those without chronic disease.

These medicines WILL NOT necessarily prevent Covid. Only avoidance of infectious people will do that. However, these *may* reduce the reproduction of virus in your body and they may reduce your chances of having a severe case.

All of these are available in pharmacies, in the vitamin department.

- Vitamin C 500 mg twice a day
- Quercetin 250-500 mg twice a day [2-8]
- Zinc 50-75 mg/day (elemental zinc). Zinc lozenges are preferred and are usually taken 23mg two or three times a day. After 1 month, reduce the dose to 30-50 mg/day. [2,9-13]
- **Melatonin** (slow release): Begin with 0.3mg and increase as tolerated to 2 mg at night [1,14-17]
- Vitamin D3 2000-4000 u/day [18-25]
- Optional: Famotidine (Pepcid) 20-40 mg/day [26]

What to do if you think you might be sick.

Call your PCP's office at AMS. They can set up a televisit from your home computer, iPad, or phone. If we suspect you may have Covid, we will have our staff get a nasal swab test in the parking lot. Testing is fast and easy. We process the results within 2 hours, and we will call you by phone.

What to expect at a Coronavirus Test Collection Drive-Through



Pulling up to the test collection site. Drive alone, if possible, and stay in your car.



Show your photo ID and doctor's order. You'll verbally confirm your info.



Complete your test. You'll get a quick nasal swab.



Drive back home. Wait for your results.



Planning Ahead – Just in case

Stock up on supplies and food and keep them in reserve in case you get Covid. This will make your life easier.

- A thermometer
- Consider buying a pulse oximeter to measure your oxygen level. These are inexpensive and many pharmacies and Amazon sell them. They cost about \$25.
- Cough medicines and cough drops.
- Tylenol 325mg. Aspirin 81mg for adults only.
- Your prescription medications
- Gloves
- Plastic disposable silverware
- The vitamins on the "Home COVID Treatment Cocktail" list
- Groceries to include fruits and vegetables, and canned or frozen foods that are easy to prepare.
- Many people develop gastrointestinal symptoms such as diarrhea, so pick up Gatorade to stay hydrated. If that is too sugary for you, consider Gatorade G2 (low sugar) or Gatorade G0 (sugar free).
- Cleaning products, TP, extra sheets and towels, and PJs so you don't need to do laundry as much.
- Make a list of who you will need to contact if you need to isolate for 14 days, identify someone who can pick up food and supplies for you when you are in isolation.
- Make sure you are current on your Netflix, Hulu, Amazon accounts for entertainment.
- Hand sanitizer You need 60% or higher Ethanol liquid or gel. Some brands from Mexico have been recalled due to contamination from methanol, which is poisonous, so check country of origin.



Who needs to Quarantine?

When somebody comes into close contact with an infected person, they are at risk for becoming infected themselves, and spreading the illness to friends, coworkers, and family.

What counts as a close contact?

- You were within 6 feet of someone who has COVID-19 for a total of 15 minutes or more
- You provided care at home to someone who is sick with COVID-19
- You had direct physical contact with the person (hugged or kissed them)
- You shared eating or drinking utensils
- They sneezed, coughed, or somehow got respiratory droplets on you

If you had close contact, you need to quarantine at home for 14 days after last exposure.

If you have Covid symptoms, even without known exposures, do not go to work or in public until you can be tested.

What are the symptoms of Covid-19?

- Dry cough
- Fatigue
- Loss of sense of smell and taste
- Loss of appetite
- Body aches
- Fever, sometimes with shaking chills
- Shortness of breath
- Increased mucus or phlegm
- Congestion or runny nose
- Sore throat
- Headache
- Nausea
- Diarrhea



WHAT TO DO IF YOU GET COVID

Most people who get Covid-19 have only mild disease and can easily recover at home. Symptoms may last 3 - 10 days.

Treatment is focused on symptom relief, getting plenty of rest, taking lots of fluids, and pain relief as necessary. Check your oxygen level twice a day with a pulse oximeter if available, and for any congestion, shortness of breath, or blue face or lips.

Stay home from work, school, and any public place except for going for medical care.

If you need medical care, **call first.** We may be able to help with a televisit, or we may need to direct you to be seen in the ER. (We do not want to mix healthy and Covid patients in our office at the same time.)

Don't use public transportation.

Consider using the "Home Covid Treatment Cocktail" – to follow.

Avoid transmission to your family, if at all possible.

- Wear a mask and stay 6 feet away from family members.
- Stay in 1 room away from your family as much as possible. Eat in the room. Use a separate bathroom if possible.
- Frequently wash your hands with soap and water for 20 seconds more or use alcoholbased hand sanitizer.
- If going to the kitchen, try to open the windows to air out the room.
- After you leave the kitchen it needs to be disinfected.
- Don't share items such as dishes, silverware, towels, sheets, or electronics.
- Use a Kleenex or handkerchief to cover coughs and sneezes.

You are considered 'recovered' when:

If you are not immunocompromised from an immune disease, or take immune compromising medications for cancer, or rheumatologic problems:

- o 10 days have elapsed from the start of your symptoms
- o -AND-
- You have not taken any Tylenol for 24 hours and have no fever for 24 hours.
- Once recovered with no sneezing, nasal discharge, cough, or fever for 24 hours, you can leave isolation and rejoin your family.



- You may need more time before returning to work, depending on your energy level.
 Current CDC guidelines allow for return to work when there is no fever for 24 hours off Tylenol.
- Immunocompromised patients may need 10 20 days and repeat testing. Check with your doctor on this.

Many symptoms take longer to go away, particularly

- Loss of taste and smell. (These may recover faster with zinc lozenges.)
- Severe fatigue
- Brain fog
- Some patients have reported not feeling back to normal for several weeks.

Stress Relief

- Get daily exercise
- Get plenty of rest and sleep. The melatonin in the cocktail will help with sleep.
- Stay in touch with family and friends by phone, Facetime, or Zoom. They will appreciate seeing that you are doing OK.
- Avoid watching too much news or social media, with COVID 19 updates.
- Stay on a regular schedule. Get up on time, shower, get dressed. Don't spend all day in bed.
- Eat healthily and stay well hydrated with water or non-alcoholic drinks.
- No alcohol or drugs

Go to the ER if you have any of the following:		
	High fever (more than 102) that does not come down with Tylenol.	
	Oxygen saturation that stays below 90% on your pulse oximeter, or bluish lips or face.	
	Severe trouble breathing / shortness of breath	
	Severe pain	
	New confusion	

If you are developing problems from Covid, it is important to seek medical care, as there are prescription medications available such as dexamethasone or remdesivir that can change the course of this disease.



WHAT TO DO IF A FAMILY MEMBER GETS COVID

- Wear a face mask when around the patient, preferable an N-95 or KN-95 mask. A surgical mask may give you some protection. Stay at least 6 feet away if you can. Don't touch or handle the mask until you take it off, then wash your hands.
- This may sound obvious, but don't have friends and family over until the ill person has completely recovered.
- Wash your hands frequently with soap and water frequently, particularly after being in close contact with the ill person.
- Disinfect your home at least daily. Use a spray cleaner like Lysol to clean surfaces that may have been touched, particularly the kitchen surfaces, refrigerator handles, doorknobs, tabletops. Defer cleaning the sick person's bedroom and bathroom until they are well.
- Provide the plastic disposable silverware so they can eat in their room.
- Put off doing their laundry if you can. If you need to do laundry, wear the gloves when handling it. Use the warmest setting possible with regular detergent. Wash your hands after putting the clothes in the washer, and again when you put them in the dryer. Throw away the used gloves, disinfect the clothes hamper, and wash your hands.
- Handle any used dishes with gloves on, and wash with hot water and soap or in dishwasher.
- Avoid contact with body fluids. Again, wear gloves, and then wash your hands if you need to clean up any stool, urine, or other secretions.



HOME COVID TREATMENT COCKTAIL

This home treatment program and references are adapted from the Eastern Virginia Medical School Pulmonary and Critical Care recommendations, and is for people with confirmed or strongly suspected Covid:

- Vitamin C 500 mg BID twice a day
- Quercetin 250 or 500 mg twice a day
- Zinc 75-100 mg/day (elemental zinc)
- Melatonin 6-12 mg at night (the optimal dose is unknown)
- Vitamin D3 2000-4000 u/day
- Aspirin 81 -325 mg/day (unless taking other blood thinners, or contraindicated)
- Optional: Famotidine (Pepcid) 20-40 mg/day

• *Optional:* **Ivermectin** 150-200 ug/kg orally (dose can be repeated on day 2) *This is a prescription item, and you can discuss with your doctor.* [27-31]

• In patients with congestion or breathing symptoms, monitoring with home pulse oximetry is recommended. An oxygen saturation below 90% should prompt ER evaluation or hospital admission. [32]

• Not recommended: Hydroxychloroquine (HCQ). The use of HCQ is extremely controversial.[33] The best scientific evidence to date suggest that HCQ has no proven benefit for post exposure prophylaxis, for the early symptomatic phase and in hospitalized patients. [34-39] It should be noted that these studies did not include Zinc, and it is possible that the efficacy of HCQ requires the co-administration of Zinc. [40,41] However, considering the unique pharmacokinetics of HCQ, it is unlikely that HCQ is of benefit (takes about 10 days to achieve adequate plasma and lung concentrations).[42-44] The benefit derived from the co-administration of Zinc may be due to the effects of zinc alone. This is however, a very "volatile" situation, so stay tuned.

Your doctor may prescribe other medications, such as inhalers to help breathing, antibiotics to prevent a bacterial pneumonia.



VACCINES

COVID

The pathway to restoring a normal social and business environment is by having an effective treatment or vaccine. Without a vaccine, it is estimated that about 60% of the US population will get Covid. The immunity conferred by a vaccine helps protect the person taking the vaccine, and the people around them. Once enough of us have immunity, the spread of the virus will diminish to the point where we can live life normally again.

We have closely tracked the development of Covid vaccines, and we are optimistic that safe and effective vaccines will emerge from the candidates in clinical trials. Our lead supply vendor, McKesson, will be the government authorized distributor for the vaccines, and we expect to be allotted supplies as they become available. We expect that CDC will dictate how the vaccines will initially be distributed and allocated to patients. AMS will be ready to begin immunization as soon as receive supplies and will communicate by email, social media, and our web site the process for this.

INFLUENZA

This fall we are looking at the serious potential of a 'Twindemic' with both Covid and Influenza simultaneously infecting us. Amarillo saw both viruses in play in March and April, and we had some patients with *both* viruses simultaneously. We expect Influenza to begin again as soon as October. Last year was a very light Influenza year, which increases the probability of a bad Influenza year this year. We should see benefit from wearing masks, as that will also reduce the Influenza transmission.

We have received initial supplies of flu vaccine and have begun flu vaccinations for this year.

Influenza is preventable. It is particularly important to get a Flu Shot this year. Flu is also a lifethreatening virus, that shares the many of the symptoms as Covid. Up to 740,000 hospitalizations per year happen from flu, and as our ICU beds approach capacity with Covid, we could potentially run out of ICU rooms and ventilators when Flu cases get sick in addition to Covid cases. Flu can leave patients more vulnerable to Covid-19 and having both viruses simultaneously could be a catastrophe.

We are predominantly use FluBlok as our Flu Vaccine this year. It covers the 4 expected flu strains. FluBlok is not made using any eggs, mercury, or thimerosal, and was exceptionally well tolerated by our patients last year.

We urge everyone to get their flu shot by October 31 this year.

PNEUMONIA

CDC recommends pneumonia shots for persons over 65, with chronic medical conditions such as diabetes, asthma, COPD, cigarette smoking, liver disease or who are immunocompromised. These are readily available in our offices.



Healthcare considerations during COVID

It is important to not ignore or delay treatment of your medical problems during the pandemic.

Our offices, both Amarillo hospitals, and the hospital Emergency Departments, have worked hard to provide a safe environment for our patients.

If you are concerned about going out in public, or unable to get out, AMS offers televisits. These use your smartphone, iPad, or home computer. Most insurances will now cover them. Medicare coverage for televisits should last until at least October 23.

If you have any severe symptoms that need evaluation, please don't hesitate to call us. If this is a severe problem, you should go directly to the hospital Emergency Department.

Some health issues deserve special mention.

- Lung Disease Anyone with lung disease should be sure to have a good supply of any prescriptions and take special care to avoid anyone who may have Covid.
- High Blood Pressure Persons with high blood pressure have a higher risk of problems with Covid. Stay on your blood pressure medicines unless directed otherwise by your doctor. ACE inhibitors are OK to take with Covid, in contrast to earlier information.
- Diabetes Persons with diabetes have a significantly higher risk of problems. Try to do your best as far as keeping your sugar under good control. If Covid happens, it may increase the need for more insulin, and you should stay in touch with your doctors for help.
- Obesity This is also a significant risk factor for Covid problems. Avoid high risk places and people who may have Covid. Get daily exercise to keep up your general exercise and respiratory fitness.

Contact Information

Amarillo Medical Specialists has many ways to contact your doctors.

If the problem is of a routine nature, you can use our web portal at <u>www.amspatients.com</u> or use our Healow application for iPhone, iPad, or Android. Our general information web site is: <u>www.amarillomed.com</u>



Primary Care

	,		
٠	Ako Bradford, MD, FACP	350-7308	
•	Nam Do, MD	355-9741	
•	Christopher Gulley, MD, JD	350-7373	
•	Alan Keister, MD, FACP	355-9741	
•	George Marck, MD	358-1374	
•	Susan Neese, MD	677-2039	
•	Steven Norris, MD	355-9741	
•	Shilpa Saralaya, MD	677-2001	
•	Raj Saralaya, MD	677-2001	
•	Ryan Batson Smithee, MD	358-1374	
Primary Care – Nurse Practitioner			
•	Amy Brasher, FNP-C	350-2389	
Endocrinology, Diabetes, and Metabolism			
•	Cesar Arias, MD, FACE	358-8331	
•	William C Biggs, MD, FACE	358-8331	
•	Kenny M Brantley, MD, PhD	358-8437	
•	Susan T Wingo, MD	350-7307	
Gynecology			
•	Estelle Archer, MD, FACOG	350-7312	
Nephrology			
•	Anthony De Mory, MD	358-8477	
•	Milton A Giron, MD, FASN	358-8477	
•	Tarek Naguib, MD	358-8477	
Neurology			
•	Lawrence A. Schaeffer MD	353-3061	
Psychiatry			
•	Kathryn McNeil, MD	677-7603	
Pulmonary Medicine			
•	Kalil Al-Nassir, MD	677-2030	
Rheumatology			
٠	Carlos Plata, MD	356-2280	
•	Janet Schwartzenberg, MD	356-2280	



References

1. Jehi L, Ji X, Milinovich A et al. Individualizing risk prediction for positive COVID-19 testing. Results from 11,672 patients. Chest 2020.

2. Maggini S, Beveridge S, suter M. A combination of high-dose vitamin C plus zinc for the common cold. Journal of International Medical Research 2012; 40:28-42.

3. Colunga Biancatelli RM, Berrill M, Catravas JD et al. Quercetin and Vitamin C: experimental therapy for the prevention and treatment of SARS-CoV-2 via synergistic action. Front Immunol 2020.

4. Kyung Kim T, Lim HR, Byun JS. Vitamin C supplementaion reduces the odds of developing a common cold in Republic of Korea Army recruits: a randomised controlled trial. BMJ Mil Health 2020.

5. Colunga Biancatelli RM, Berrill M, Marik PE. The antiviral properties of vitamin C. Expert Rev Anti Infect Ther 2020; 18:99-101.

6. Khaerunnisa S. Potential inhibitor of COVID-19 main protease (Mpro) from several medicinal plant compuns by molecular docking study. medRxiv 2020.

7. Chen L, Li J, Luo C et al. Binding interaction of quercetin-3-B-galactoside and its synthetic derivatives with SARS-CoV 3CL: structure-activity relationship reveal salient pharmacophore features. Bioorganic & Medicinal Chemistry Letters 2006; 14:8295-306.

8. Yi L, Li Z, Yuan K et al. Small molecules blocking the entry of severe respiratory syndrome coronavirus into host cells. J Virol 2020; 78:11334-39.

9. te Velthuis AJ, van den Worm SH, Sims AC et al. Zn2+ inhibits Coronavirus and Arterivirus RNA polymerase activity In Vitro and Zinc ionophores block the replication of these viruses in cell culture. PLos Pathog 2010; 6:e1001176.

10. Gammoh NZ, Rink L. Zinc in Infection and Inflammation. Nutrients 2017; 9.

11. Hemila H. Zinc lozenges and the common cold: a meta-analysis comparing zinc acetate and zinc gluconate, and the role of zinc dosage. J Royal Soc Med Open 2017; 8:1-7.

12. Singh M, Das RR. Zinc for the common cold. Cochrane Database of Syst Rev 2013; 6:CD001364.

13. Hoeger J, Simon TP, Beeker T et al. Persistent low serum zinc is associated with recurrent sepsis in critically ill patients - A pilot study. PloS ONE 2017; 12:e0176069.

14. Colunga Biancatelli RM, Berrill M, Mohammed YH et al. Melatonin for the treatment of sepsis: the scientific rationale. J Thorac Dis 2020; 12 (Suppl 1):S54-S65.

15. Reiter RJ, Abreu-Gonzalez P, Marik PE et al. Therapeutic algorithm for use of melatonin in patients with COVID-19. Front Med 2020; 7:226.

16. Reiter RJ, Sharma R, Ma Q et al. Melatonin inhibits COVID-19-induced cytokine storm by reversing aerobic glycolysis in immune cells: A mechanistic analysis. Medicine in Drug Discovery 2020; 6:100044. 17. Zhang R, Wang X, Ni L et al. COVID-19: Melatonin as a potential adjuvant treatment. Life Sci 2020; 250:117583.

18. Grant WB, Lahore H, McDonnell SL et al. Evidence that Vitamin D supplementation could reduce risk of influenza and COVID-19 infections and deaths. Nutrients 2020; 12:988.

19. Lau FH, Majumder R, Torabi R et al. Vitamin D insufficiency is prevalent in severe COVID-19. medRxiv 2020.

20. Marik PE, Kory P, Varon J. Does vitamin D status impact mortality from SARS-CoV-2 infection? Medicine in Drug Discovery 2020.

21. Rhodes JM, Subramanian S, Laird E et al. Editorial: Low population mortality from COVID-19 in countries south of 35 degrees North - supports vitamin D as a factor determining severity. Alimentary Pharmacology & Therapeutics 2020; (in press).

22. Dancer RC, Parekh D, Lax S et al. Vitamin D deficiency contributes directly to the acute respiratory distress syndrome (ARDS). Thorax 2015; 70:617-24.



23. LLie PC, Stefanescu S, Smith L. The role of vitamin D in the prevention of coronavirus disease 2019 infection and mortality. Aging Clin Exp Res 2020.

24. Daneshkhah A, Eshein A, Subramanian H. The role of vitamin D in suppressing cytokine storm of COVID-19 patients and associated mortality. medRxiv 2020.

25. Bergman P, Lindh AU, Bjorkhem-Bergman L et al. Vitamin D and respiratory tract infections: A systematic review and meta-analysis of randomized controlled trials. PloS ONE 2013; 8:e65835.

26. Freedberg DE, Conigliaro J, Sobieszczyk ME et al. Famotidine use is associated with improved clinical outcomes in hospitalized COVID-19 patients: A propensity score matched retrospective cohort study. medRxiv 2020.

27. Caly L, Druce JD, Catton MG et al. The FDA-approved drug Ivermectin inhibits the replication of SARS-CoV-2 in vitro. Antiviral Res 2020.

Patel AN, Desai SS, Grainger DW et al. Usefulness of ivermectin in COVID-19 illness. medRxiv 2020.
 Rajter JC, Sherman MS, Fatteh N et al. ICON (Ivermectin in COvid Ninteen) study: Use of ivermectin is associated with lower mortality in hospitalized patients with COVID-19. medRxiv 2020.

30. Scheim DE. Ivermectin for COVID-19 treatment: clinical response at quasi-threshold doses via hypothesized alleviation of CD147-mediated vascular occlusion. medRxiv 2020.

31. Dayer MR. Coronavirus (2019-nCoV) deactivation via spike glycoprotein shielding by old drugs, bioinformatic study. Preprints 2020.

32. Jouffroy R, Jost D, Prunet B. Prehospital pulse oximetry: a red flag for early detection of silent hypoxemia in COVID-19 patients. Crit Care 2020; 24:313.

33. Risch HA. Early outpatient treatment of symptomatic, high-risk Covid-19 patients that should be ramped-up immediately as key to the pandemic crisis. medRxiv 2020.

34. Borba MG, Val FF, Sampaio S. Effect of High vs Low Doses of chloroquine diphosphate as adjunctive therapy for patients hospitalized with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. A randomized clinical trial. JAMA Network Open 2020.

35. Boulware DR, Pullen MF, Bangdiwala AS et al. A randomized trial of hydroxychloroquine as postexposure prophylaxis for Covid-19. N Engl J Med 2020.

36. Mitja O, Corbacho-Monne M, Ubals M et al. Hydroxychloroquine for early treatment of adults with mild Covid-19: A randomized-controlled trial. Clin Infect Dis 2020.

37. Mitja O, Ubals M, Corbach-Monne M et al. A cluster-randomized trial of hydroxychloroquine as prevention of Covid-19 transmission and disease. medRxiv 2020.

38. Cavalcanti AB, Zampieri FG, Rosa RG et al. Hydroxychloroquine with or without azithromycin in mild-to-moderate Covid-19. N Engl J Med 2020.

39. Skipper CP, Pastick KA, Engen NW. Hydroxychloroquine in nonhospitalized adults with early COVID-19. Ann Intern Med 2020.

40. Shittu MO, Afolami OI. Improving the efficacy of chloroquine and hydroxychloroquine against SARS-CoV-2 may require zinc additives - A better synergy for future COVID-19 clinical trials. Le Infezioni in Medicine 2020; 2:192-97.

41. Carlucci PM, Ahuja T, Petrilli C et al. Hydroxychloroquine and azithromycin plus zinc vs hydroxychloroquine and azithromycin alone: outcomes in hospitalized COVID-19 patients. medRxiv 2020.

42. MacGowan A, Hamilton F, Bayliss M et al. Hydroxychloroquine serum concentrations in non-critical care patients infected with SARS-CoV-2. medRxiv 2020.

43. Tett SE, Cutler DJ, Day RO et al. Bioavailability of hydroxychloroquine tablets in healthy volunteers. Br J Clin Pharmac 1989; 27:771-79.



44. Nicol MR, Joshi A, Rizk ML et al. Pharmacokinetic and pharmacological properties of chloroquine and hydroxychloroquine in the context of COVID-19 infection. medRxiv 2020.