

## **UCSF Multiple Sclerosis and Neuroinflammation Center COVID-19 Townhall #1 Q&A | April 22, 2020, 5:30 PM (PST)**

### **MINIMIZING POTENTIAL RISK FOR EXPOSURE/PREVENTATIVE MEASURES**

#### **If I am immunosuppressed, is it safe to go outside the house and when can I return to work?**

For most people continuing to have time outside for exercise and wellness is still allowed even during shelter-in-place orders. If you do go outside, we would recommend that you wear a mask, maintain at least 6 feet apart from others, minimize the amount of time you are outside, and wash your hands when you get home.

The timing of when to return to work will depend on multiple factors—the specifics of your condition and immunosuppressive therapy, the nature of your work, and your other health conditions. For example, if you work in a position that requires close interactions with others and you're on a potentially higher-risk immunosuppressive therapy then it may be reasonable to not return to work just yet. We recommend that you speak with your physician and employer about specific timing of returning to work. In general from a public health standpoint, continuing maximum physical distancing measures at work and having as much of the work force telecommute as possible is likely to be beneficial.

#### **Is there more I can be doing to protect myself other than the general recommendations by the CDC? Should I be taking immune boosting supplements?**

Social distancing and good hand hygiene are still the best recommended measures for COVID-19 prevention at this time, especially without more robust measures of contact tracing for infected individuals, more available and effective COVID-19 treatments, and a vaccine.

Evidence of benefit from immune boosting supplements such as Vitamin C, zinc, and elderberry is limited in COVID-19. These supplements generally do not cause harm as standard doses, but we would recommend against taking too much of any supplement (zinc in particular can actually cause a secondary copper deficiency when taken in high doses). Please check with your physician prior to starting any new medications/supplements.

#### **What are your recommendations for individuals with MS who are also health care workers?**

If you are working in a department at higher risk for SARS-CoV2 exposure, such as the emergency department, and you are on a higher risk treatment, such as fingolimod or ocrelizumab, you may consider modifying your work under the guidance of your MS provider and employer. You may also consider asking to be re-

deployed to a lower risk department or a position where you will not have as high of patient contact. If you are continuing to work, make sure your employer is able to supply adequate personal protective equipment. If you feel that your safety is not adequately protected at your work, you can consider taking time off or even applying for short-term disability (our office can help with the needed documentation).

### **What are your recommendations on cleaning packages and groceries?**

For non-perishable deliveries and groceries, consider leaving them in the garage or separated from other household items for 24-48 hours before use and leave packaging outside the home if possible after removing the purchased items. When bringing items into the home from outside designate an area for cleaning items, wipe down item surfaces with a disinfectant wipe, and keep all cleaned items in a separate pile. For all produce items that cannot be cleaned with a disinfectant wipe, rinse items under cold water and dry prior to storage. Make sure to wash your hands before and after this process.

### **Can individuals with multiple sclerosis receive vaccinations? I have generally avoided the flu vaccine every year.**

Yes, people with MS and most neuroinflammatory diseases generally should get all recommended vaccines. However, people on immunosuppressive treatment should avoid LIVE attenuated vaccines (such as MMR, yellow fever, primary chicken pox) if on immunosuppressive treatment, but recombinant and inactivated vaccines are considered safe on such treatment.

### **Should I get a home O2 monitor?**

Reliability and availability of home pulse oximeters purchased online may vary, but this could be a useful tool to have at home—much like a home thermometer or blood pressure cuff. Keep in mind frontline workers should still have priority access to pulse oximeters, and physicians do not uniformly recommend home pulse oximeters in the absence of respiratory symptoms or conditions. It may be used to track severity of symptoms if you were to develop COVID-19. In general a sustained oxygen saturation < 90% should prompt immediate medical attention. Other clinical markers of poor oxygenation include increase rate of breathing (higher than 12-18 breaths per minute), being unable to complete a full sentence in one breath, dizziness, or confusion.

## **IMMUNOLOGY QUESTIONS**

### **What is the role of the gut in the immune system? Are individuals with “leaky gut” syndrome at higher risk for infection?**

We don't have evidence to date that patients with gastrointestinal problems are at an increased risk of complications from COVID-19.

### **Does blood type affect your risk for COVID-19?**

We don't have evidence that a particular blood type puts people at increased risk for complications from COVID-19. However, there is very active research looking for genetic factors that might help explain why some people have serious complications from COVID-19 while many others do not.

### **Can immunosuppressed individuals produce antibodies to new infections?**

The short answer to this question is “maybe” and “it depends”. The medications we use to treat MS and other neuroinflammatory diseases work in very different ways, and some of the medications have a bigger effect on a person's ability to make antibodies than others. B-cell depleting therapies like ocrelizumab (Ocrevus) and rituximab (Rituxan) do have an impact on this function, making some vaccines given while on these therapies less effective. However, it is important to remember that there are a number of other critical parts of the immune system that fight viral infections, including T-cells and the innate immune system, which helps explain why patients on ocrelizumab and rituximab are still able to fight many infections. These drugs also don't deplete the most mature antibody-producing cells (plasma cells) so patients continue to make antibodies to infections their immune systems have seen previously.

### **What absolute lymphocyte count level do you become more concerned for increased risk for infections?**

There is no absolute cutoff for when decreasing lymphocyte counts become concerning vs not concerning for infection, but certainly the lower the count, the more increased risk of infection. Lymphocyte numbers that fall into the moderate to severe categories of low lymphocyte counts are certainly concerning though it is important to know what the cause of the lymphopenia is. For example, patients who are on fingolimod (Gilenya) still retain all their lymphocytes, but these cells don't circulate in the blood easily. Since the cells aren't circulating as much, the lymphocyte count we measure in their blood is not reflective of the numbers of lymphocytes in the body. This is contrasted with some patients on dimethyl fumarate (Tecfidera) who do truly have low levels of lymphocytes both in the blood and elsewhere. Sometimes this drop in lymphocytes can be significant enough that your neurologist may recommend switching to a different treatment.

### **Can the COVID-19 infection cause an MS exacerbation? What other neurologic complications should I be concerned about?**

Infections, including upper respiratory infections, can sometimes trigger MS relapses, but there is not yet clear published evidence to date that COVID-19 does this at a higher rate though it remains theoretically possible. Pseudorelapses – transient worsening of prior neurological symptoms in the context of infection that is not due to true relapse or acute inflammation – are the most common neurological manifestation of a respiratory infection in people with MS and presumably can also occur with COVID-19 infection.

**Are individuals also being treated for LTBI at higher risk for developing COVID-19?**

Risk of more severe COVID-19 disease if get infected likely depends most on other factors such as age, comorbid illness or lung disease, obesity, diabetes, hypertension, and may also depend on immunosuppression. Treatment for latent tuberculosis infection (which is different from active pulmonary TB) is unlikely to contribute to COVID-19 severity in either direction and should be continued as indicated.

**Is there a relationship between having positive JCV antibodies and antibodies to SARS-CoV-2 antibodies?**

We think of these things separately as JC virus and SARS-coronavirus-2 are very different viruses so making antibodies to one virus doesn't imply making antibodies to the other virus.

**Is an immunosuppressed person more contagious if they contract COVID-19 because they have trouble clearing the infection?**

We don't have enough data on this yet, but early indications are that patients on the medications we use to treat MS and other neuroinflammatory conditions are largely able to clear the infection. It is possible that when immunosuppressed patients are infected, the virus might be able to make more copies of itself than it would in someone with a fully intact immune system. This could make the person temporarily more contagious, but more work needs to be done on this.

**Are individuals with progressive multiple sclerosis more at risk than those with relapsing multiple sclerosis? Would they be treated differently if they were to contract COVID-19?**

We don't think that patients with progressive MS have less effective immune systems than patients with relapsing MS. However, patients with progressive MS tend to be older and have more disability than patients with relapsing MS, and those factors (i.e., advanced age, decreased mobility, other medical problems like high blood pressure and diabetes that are more common as people age) could account for some early data that patients with progressive MS who are older or have greater levels of disability may be more susceptible to complications from COVID-19.

## **DISEASE-MODIFYING THERAPY SPECIFIC QUESTIONS**

**Please explain the different mechanisms of action for each MS therapy and effects on the immune system.**

- **Rituxan/Ocrevus** – deplete or kill B-cells (i.e. B-lymphocytes) that are circulating in the blood stream. B-cells help your body create antibodies in response to infection. Antibodies you have developed will still circulate and can protect you from infections your body has seen before. B-cells living in the bone marrow and your lymph nodes are less affected by Rituxan & Ocrevus and may be able to create antibodies in response to new infections, although not as effectively. Patients on these medications are at an increased risk for respiratory, skin and herpes virus related infections.
- **Gilenya/Mayzent** –prevent some B-cells and T-cells (i.e. lymphocytes) from leaving the lymph nodes leading to fewer B & T cells circulating in the blood stream. This usually shows up as a low lymphocyte level on a lab test. Patients on these medications have a reduced ability to create antibodies against vaccines and new infections. They are also at increased risk for viral, bacterial and fungal infections.
- **Lemtrada** – depletes or kills B & T cells (i.e. lymphocytes) that are circulating in the blood stream. This leads to a reduced ability to create antibodies against or respond to new infections. This can include risk for serious bacterial, viral and fungal infections. If your lymphocytes go too low you may need medications to prevent infection.
- **Tecfidera** – activates enzymes within the body which promote protection of cells from stress and reduce inflammation. May increase risk for serious viral, bacterial and fungal infections although risk for most infections was not higher than placebo. Between 2-6% of patients develop lower B & T cells (i.e. lymphocytes) over time. Patients with low lymphocytes are at an increased risk for infections.
- **Aubagio** – reduces the ability of white blood cells to become activated and reproduce. In about 5% of patients, may cause lower levels of white blood cells circulating in the blood stream. While a relatively mild immune suppressant, Aubagio may increase the risk for infection.
- **Tysabri** – blocks the ability for T & B cells (i.e. lymphocytes) to enter the central nervous system (i.e. the brain and spinal cord). This leads to an increased risk for a very rare but serious infection of the central nervous system known as PML. However, there does not appear to be an increased risk for other types of infections.
- **Interferons (Rebif, Avonex, Betaseron, Extavia, Plegridy)** – similar to naturally produced proteins used by our bodies to signal a viral infection. Interferons may promote an anti-viral response in the body, thus the “flu-like” symptoms common immediately after injection. They are not expected to increase your risk for infection.
- **Copaxone** – is a random mixture of small protein fragments that mimics a component of the myelin sheath called myelin basic protein. It is thought that this interferes and deactivates the specific group of T-cells (i.e. T-lymphocytes) that can become activated against myelin. Copaxone does not have any effect on the broader immune system and does not increase your risk for infection.

**Can I receive a vaccination for COVID-19 once it is developed and will it be as effective?**

Yes! Currently all vaccines in development (nearly all of which to date are not live vaccines) would be considered safe for patients on any of the disease modifying treatments including strongly immune suppressing medications. The efficacy of the vaccine may be reduced with certain immunosuppressive medications (particularly, Lemtrada, Rituxan, Ocrevus, Gilenya and Mayzent). However, vaccine efficacy can be tested by looking for antibodies within the blood against the novel coronavirus. Those that do not respond to an initial vaccination could have the vaccine repeated.

**Am I more susceptible to infections around the time of my infusion (ocrelizumab)?**

In clinical trials, Ocrevus lead to an increased risk for respiratory infections, skin infections, and herpes-virus related infections. These trials did not examine how this risk changes over time. In studies that looked at total drug exposure, they did not show any increased risk for infection in patients with higher drug exposure. Based on that we generally assume that infection risk stays relatively the same with regular 6 month treatments of Ocrevus. As the drug wears off after 6 months, your infection risk should decrease as well.

**Can I receive home infusions (ocrelizumab/natalizumab)?**

Given the risk for serious infusion reactions we don't recommend home infusions for most patients on Ocrevus (ocrelizumab). It could be considered in discussion with your provider if you have received several infusions without reaction.

Tysabri (natalizumab) is usually much better tolerated and could be considered for home infusion in patients that have tolerated one or more infusions.

**Should I delay my second year cladribine treatment?**

Whether or not to delay any MS treatments should be a careful discussion between you and your provider. Your B & T cells (i.e. lymphocytes) usually drop lowest around 2 months after your cladribine (Mavenclad) treatment and should recover by 6 months after. Your risk for infection is highest during this period. It's not known how long you would be protected from MS relapse with a single treatment of Mavenclad.

**If I am on an oral therapy, should I stop treatment? When can I restart if I have?**

Please check with your provider before stopping any MS medication. The decision to halt MS treatment should be carefully discussed with your provider as the answer depends on your personal level of risk (both risk of relapse and risk for infection) and your comfort with these risks. Stopping some MS medications may increase your risk for a severe relapse.

### **What should I do with treatment if I think I have been exposed?**

Contact your neurology and primary care provider if you think you have been exposed. Anyone exposed to COVID19 infection should be carefully monitored for new symptoms. Depending on the risk, your provider may recommend you hold your medication or self-isolate. If you develop any symptoms of infection you should be tested for COVID19 and inform your provider, so you can consider holding treatment when appropriate.

### **Will there be a shortage of medications?**

We don't expect there will be a shortage of most medications but we continue to monitor this closely. Even in countries heavily hit by COVID19 medication production facilities have been able to stay open. There will likely be some shortages of specific medications used to treat COVID19. This includes hydroxychloroquine, albuterol inhalers and other medications. Hospitals and pharmacies are already working to reserve these medications for patients that really need them.

### **Are MS treatments potentially protective against ARDS if one was to develop COVID-19?**

So far no MS medications have been shown in clinical trials to be protective against ARDS due to COVID19 disease but some immunosuppressant therapies are being proposed for study in trials for COVID-19 disease.

### **Do people on DMT have a higher likelihood of a false negative COVID-19 test?**

There are two types of test that can be used to diagnose COVID19 infection. The first test developed looks for viral RNA being shed from the nose and throat. This test is most accurate during the first 1-2 weeks after a patient develops symptoms of COVID19. More recently they have developed COVID19 antibody or serology tests. These look for antibodies in the blood that the body creates against the virus. These tests are most accurate after a patient that has been infected for two to three weeks and their bodies have time to develop antibodies. Some MS DMTs interfere with the body's ability to create antibodies against new infections and could increase the risk for a false negative to COVID19 serology testing. However, MS DMTs are not expected to interfere with COVID19 tests that look for viral RNA.

### **Could any of the drugs being tested to treat COVID-19 have an interaction with my MS therapy?**

There are some potential interactions between MS DMTs and proposed COVID19 treatments including increased immune suppression and rare cardiac arrhythmias. However, these potential interactions are not usually clinically significant and should be easily managed in the event that you did require treatment for severe COVID19 disease.

## **CLINIC SPECIFIC QUESTIONS**

### **Who should I call if I develop COVID-19 symptoms?**

We recommend contacting both your primary care and your neurology providers. Your primary care provider can help determine the severity of your symptoms and whether you should seek further testing or self-isolate at home. If you live outside of the San Francisco Bay area, your primary care provider will have more information regarding locations for obtaining COVID-19 testing locally.

Your neurology provider can help with management of potentially worsened neurological symptoms due to infection (like in the case of pseudo-relapse symptoms) and how to manage your immunosuppressive therapy if you become sick. In a situation where you cannot reach your primary care office, we may be able to help assess COVID-19 symptoms and assist with obtaining testing within the UCSF system.

### **What should I do if I have worsening of MS symptoms due to delayed infusions?**

If symptoms are mild to moderate, contact our office via MyChart (preferred) or telephone, and you should expect a response within 24 hours. Your MS provider will determine if further testing or treatment is needed. If your MS is active, you and your MS provider may decide to proceed with your infusion to ensure that your MS is adequately treated.

### **When should I go to the ED instead of calling the clinic for new MS or respiratory symptoms?**

If you are rapidly developing symptoms that significantly impair function and safety at home, we would recommend going to the emergency department. Some of these examples in neurology/MS include worsening vision, weakness to the point of being unable to walk, intolerable pain, new confusion, or inability to urinate.

From a respiratory standpoint, you should seek emergency care if you develop continuous and worsening chest pain, difficulty breathing/shortness of breath, and other signs that you are not getting enough oxygen to the lungs/brain (dizziness, confusion, increasing fatigue).

### **Who should I contact regarding my ocrelizumab infusions?**

If you have a question about insurance authorization or whether you can schedule your infusion, please route a MyChart message to your provider. All the messages are screened by the nursing staff and will be routed to the ocrelizumab administrative team if appropriate. If you have concerns about whether you should proceed with or delay your infusion, please make an appointment to speak to your provider regarding your concerns.

### **Will the clinic offer antibody testing for COVID-19?**

UCSF does offer antibody testing, but currently the main clinical indication is to test for active infection in individuals who present late in the course of illness (7-14 days after start of symptoms) with negative COVID-19 nasopharyngeal swab but still high suspicion for infection. It is still unknown whether presence of antibodies indicates immunity, so the antibody testing is not currently recommended for individuals who are not having ongoing cold and flu symptoms. This will likely change as we develop more reliable tests and have a better understanding of whether presence of antibodies to SARS-CoV2 is a marker of immunity. Please discuss with your provider if antibody testing is appropriate in your case.

### **What do I do if I need an urgent appointment?**

Contact our office via MyChart (preferred) or telephone, and you should expect a response within 24 hours. Depending on your symptoms we will determine if an urgent telemedicine or in person appointment is appropriate.

### **Can I delay my MRIs?**

We currently recommend that non-urgent/surveillance imaging be delayed until after mid-June. The UCSF radiology facilities are currently operating on COVID-19 protocols with reduced numbers of studies performed daily in order to reduce potential patient and employee exposure and to comply with physical distancing guidelines. Medically time-sensitive imaging should proceed as indicated and in discussion with your treating physician, and UCSF remains committed to providing outpatient imaging services with appropriate safety protocols during the acute periods of the pandemic.

### **Can I request not to have a medical student/trainee join my telemedicine visit?**

UCSF Medical Center is one of the country's top academic hospitals, and one of our missions is providing quality education to health-care trainees (generally students from the schools of medicine, pharmacy, and nursing in our practice). Part of the experience we offer patients is the opportunity to participate in the educational process of our trainees. Many find this rewarding and mutually beneficial. You are always welcome to decline student participation in your visit, whether telemedicine or in-person.

### **Is UCSF collaborating with other clinics in the U.S. and abroad with regards to best COVID-19 practices?**

Our colleagues around the world have been gathering and sharing information on COVID-19 clinical outcomes. Many institutions have developed registries like ours to give patients the opportunities to share their experiences with their doctors. This information is being shared within the medical community in both formal and informal outlets. Please consider helping this effort by participating in our center's COVID-19 registry.

## **Please provide information on the current COVID-19 treatments being investigated.**

The NIH keeps an updated list of treatments under investigation for COVID-19 treatment: <https://www.covid19treatmentguidelines.nih.gov/therapeutic-options-under-investigation/>

### **GENERAL**

#### **How do I best prepare for my telemedicine (video) visit?**

1. **Set the stage.** Find a quiet space and sit close to your router. The closer you are to your wifi signal, the better. If possible, sit in front of a solid colored wall rather than a patterned or cluttered background or window. More complicated or shifting background patterns can slow down or interrupt your connection. Turn off TV's and noisy devices such as air conditioning units, ceiling fans, etc. Keep pets away.
2. **Control the lighting.** Position any light source in front or to your side so your clinician can get a good look at you. If you are using a phone or laptop, place it in a stable position or lean it against something heavy rather than holding it. Position your camera so the clinician can see your face and upper body. Make sure your camera can be moved so the clinician can look at your legs or feet or watch you walk if needed.
3. **Don't go it alone.** Having a care partner with you is always a good idea. During a video visit, a care partner can help adjust a screen or camera while you focus on sharing your concerns with your provider. Your provider may ask your care partner to assist in the exam if appropriate.
4. **Write down your questions.** Write down your concerns or questions and place them in the spot where you will have your video visit. Your provider may have questions too, so you may not get through your whole list, but identifying two to four main concerns will help focus your visit and make it more productive and helpful.
5. **Have your medications handy.** Either draft a list of your medications, vitamins or supplements or gather them up and have them handy for the video visit. For every visit, you will want to confirm what, when and how you are taking everything.
6. **Know the parameters.** Ask how long your visit will be and what supplies you might need. Your provider may ask you to measure your weight, temperature or blood pressure if you have the equipment at home to do so. Your provider may ask you to stand, walk or perform certain movements. It is recommended that you wear shorts and a tank top or loose fitting short sleeve shirt so the provider can see the muscles in your arms and legs.
7. **Be prepared with supplies.** In addition to a blood pressure cuff, thermometer and scale, your provider may ask you to have a safety pin, tissue or Q-tip, pen

and paper, cup or glass, and a flashlight. These items can help your provider test sensation, measure dexterity or tremor or better illuminate parts of your body.

8. **Allay fears.** If you or your loved one has cognitive problems, dementia, hallucinations or delusions, telemedicine visits can be confusing and unsettling. Some patients with delusions may fear they are being recorded or that someone has else has been allowed in the home. Telemedicine visits are not recorded, they simply allow the health care provider to see the patient only during the visit from a remote location without having to meet in the clinic.
9. **Welcome our learners.** There may be a trainee (medical student or resident) who will be joining the visit, similar to an in person visit at UCSF. Your provider will explain their role at the time of the visit.

### **What can I expect when I go to the UCSF infusion center?**

1. **Screening.** All patients are being contacted by phone several days ahead of their infusion center appointment to screen for symptoms that may be concerning for infection with COVID 19. If any concerning symptoms are identified, your provider will be contacted for further guidance. Upon arrival at the infusion center on the day of your appointment, you will be asked again if you have developed any new symptoms that would be concerning for infection.
2. **Visitors.** Visitors to the infusion center are limited to those patients who are under 21 years of age, conserved patients and to visitors who are the legal representative of the patient. Providing transportation or physical assistance to the patient does not provide access for the visitor to the infusion center. There is a visitor holding area where visitors can drop off and pick up patients.
3. **Personal protective equipment (PPE) and other safety measures.** Every patient will be provided with a surgical mask and hand sanitizer upon entry to the infusion center. Patients are asked not to bring their own PPE. This request is based on guidance from UCSF infection control. Also, some PPE can interfere with the nurse's ability to make needed assessments before, during and after your infusion. Patients are seated at minimum six feet apart. All infusion center staff are wearing masks. All high touch surface areas in the infusion center are being sanitized several times a day.

### **What can I expect when I go to the lab?**

1. **UCSF outpatient labs.** UCSF labs are walk-in only. Patients will be asked questions to screen for symptoms concerning for infection with COVID 19 and will be provided with a surgical mask upon entry to the lab. All laboratory staff will also be wearing masks. Space will be provided to ensure there is at least 6 feet distance between patients.
2. **Other major laboratories.**
  - a. Quest Diagnostics is encouraging appointments, although walk-ins are welcome in some locations. They are reserving the first hour of each day to

- serve patients who are over 60 years of age and for those patients who have conditions that put them at increased risk of infection. At many locations when you arrive and check-in, you will be provided with a buzzer so that you can wait in your car or outside until it is your turn.
- b. LabCorp is also encouraging appointments, although walk-ins are welcome in some locations. They are reserving the first hour of each day for patients over 65 years of age and for those patients who have conditions that put them at increased risk of infection. You can make an appointment on-line and provide your cell phone number. Once on site, you can use your mobile device to check in and wait in your vehicle until notified it is your turn.