

**COVID-19 Q&A**  
**with**  
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**Pulmonologist and Critical Care Specialist**  
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LUNGevity spoke with Pierre Massion, MD, who answered eight questions about COVID-19 and lung cancer from his perspective as a pulmonologist (a doctor who specializes in diagnosing and treating diseases of the lungs) and critical care specialist at Vanderbilt-Ingram Cancer Center. Dr. Massion also directs the Early Cancer Detection and Prevention Initiative at Vanderbilt. It is important to note that the conversation took place on March 19, as issues around the COVID-19 pandemic can change rapidly.

Below are the answers to the questions discussed in the accompanying video:

**1. As a pulmonologist, what are the top 5 things you would tell a lung cancer patient about COVID-19?**

**Our primary responsibility is to take care of our health.** Basic rules of prevention apply to patients with lung cancer. We are talking about simple things. Wash your hands frequently and thoroughly for 20 seconds, including your thumbs, elbows, and grooves. Target droplets because transmission is by droplets. Try to sneeze and cough into a tissue. If you do not have one, use the corner of your arm. Use social distancing. That is known to work. Keep a six-foot (two-meter) distance from others. Limit the number of people with whom you are in contact. Do not travel. Avoid going out if you can.

**If you are a lung cancer patient and are symptomatic, do not panic.** Get in touch with your doctor on the phone to find out your next steps. Shortness of breath is a concern, especially if there is a change for the worse. Know that the COVID-19 test to confirm a COVID-19 diagnosis is not offered to everyone, so do not be surprised if you are turned down if you only have a cough and a sore throat or runny nose.

**We do not truly have a treatment for COVID-19 as of yet.** We are basically relying on quarantine, isolation, and control of the infection. That works, which is the good news. People who are infected with the disease may be approached to engage in clinical research to determine whether any of the drugs that are being considered as potential inhibitors of the virus would be effective; be open to that if it is offered to you.

**For people with lung cancer, true risk factors for severe illness are not really known.** We know that people with heart disease, diabetes, lung diseases, COPD, and immunosuppression are at greatest risk for severe disease, but it is not just those. We do not understand fully why children seem to typically get mild disease and why young adults seem to be somewhat, although not entirely, protected. We are learning with time, on a daily basis.

**Finally, pay attention, take good care of yourself, and pay attention to your caregivers.**

## **2. What are some of the signs and symptoms of COVID-19?**

Typical symptoms are fever, cough and shortness of breath. However, symptoms vary tremendously from patient to patient. Most patients have mild disease: a cough, then a fever, and then nothing more. Some get short of breath. Some get so short of breath that they realize they need some medical attention and go to the hospital. A small percentage of these people eventually end up in the ICU. The worst symptoms are the shorter breath, panting, and the lips becoming bluish. These patients need the supplementary oxygen that is provided at the hospital. A few end up intubated. That is the scale; COVID-19 can range from very mild to very severe and deadly.

Some people have also presented with GI abnormalities, such as abdominal pain, and other types of symptoms, including headaches: the full spectrum of the disease is still being described.

Remember that the symptoms and the signs that you get have some delay in onset. Before you contract the virus to the time you get symptomatic may take up to two weeks, then you may be sick for a week or two before the virus shuts off and you become clear.

The point to emphasize here is that there is huge variability. We do not really understand the details of that, but I would say to patients with lung cancer that you are not at high risk of getting the virus. That is an important concept. You are actually at high risk for complications from the virus, but you are not more susceptible than another person.

## **3. What is the impact of COVID-19 on the lungs?**

COVID-19 is a virus, and viruses get into cells. Viruses are dependent on cells to survive. When they get into a cell, they use the cell to divide and grow and shed. The lungs are a very good home for these viruses. They like the airways; they like the environment. Unfortunately, the virus causes tissue damage. It basically causes the epithelial cells to be infected and eventually die from the virus. At the time the virus takes over the machinery of the cells, the cells die from it; the virus will then replicate and shed and infect the next cells over.

The virus eventually can cause major mucosal damage in the lung—not just the airway, the nose, the throat, the windpipe, but also the alveolar space. We are seeing pneumonia with this virus. Pneumonia is an infection of the airway epithelial cells associated with a strong immune response; the immune response brings a lot of cells to fight the infection on site. The damage can be limited. Again, it varies tremendously. We do not fully understand this, and it is a big area of research at the moment. What we see in recent publications is that the pneumonia can be very, very mild or very, very severe. If severe, it can progress into something called ARDS, acute respiratory distress syndrome. This comes with a low oxygen level, and so requires the patient to receive a lot of oxygen and sometimes be put on a mechanical ventilator. That is the spectrum of how COVID-19 affects the lungs. It is hard to predict who is going to get to the worst-case scenario. The infection is one thing. What kills people can be complications from ARDS and a superinfection.

## **4. Why are lung cancer patients especially susceptible to COVID-19?**

***I want to make this clear. Our understanding is that lung cancer patients are not more susceptible to the virus, but if they get it, they are more likely to get complications from it because of the underlying***

**disease.** Most of those with lung cancer have had some lung disease in the past. This is COPD primarily, smoking-related injury. These patients are typically older, and they may have heart disease, as well as diabetes, or kidney disease, or have been put on immune suppression because of the treatment for lung cancer. So, they are high risk for complications from COVID-19, but not, strictly speaking, more susceptible.

However, because of their risk of suffering from complications, lung cancer patients should be more vigilant about preventing the disease, using the same prevention methods already discussed. Wash your hands, practice social distance, watch out for droplets, do not sneeze in the air but into a tissue and discard the tissue immediately, wash your hands, and be anal about it; this becomes a routine. Prevention, prevention, prevention!

### **5. How can patients maintain lung health while at home? What are some resources that they can avail themselves of?**

This is where access to the Internet and social media are going to help a lot. We are all suffering from social distancing and being confined in an environment; I think that we have to start a routine of exercise and lung health. I recommend that people take regular time for exercise at home. Core exercise, upper extremity exercise, and breathing exercises, such as those you may have learned in your pulmonary rehabilitation program. Have a dedicated area in your house where you do this every day. Keep walking around. Do not stay sedentary. Do your exercise program once, twice, or three times a day if you can; do this systematically.

Also, get a healthcare point of contact you can rely on, so that you are prepared for something that could happen to you and will not panic if it does. Be conscientious of your health, and if you need help, just call for it. You will get the appropriate mechanism to be seen eventually.

### **6. What is the impact of different cancer treatments on lung health? How do different treatments affect a patient who is infected with SARS-CoV-2?**

I do not have a good answer to this at the moment. It is very early on. We are starting a registry of patients with lung cancer who get the coronavirus to understand this better. Are immune checkpoint inhibitors putting people at greater risk for profound immune response, an overwhelming response to the viral infection? It is too early to tell, but it is a concern. Is it a concern that justifies interruption of the treatment? I would say no, not at the moment.

Many patients have had concerns, such as, "Do I need to stop my steroids?" or "Do I need to stop taking immunotherapy?" I think as we know more about this disease, we will get better information, but there is no evidence that we should stop those at the moment. In fact, we should try to keep a steady pace and be aware of the information coming to us. There are many different treatments that affect patient immunity, and it affects your immunity differently if you get immunotherapy, systemic treatment, radiation therapy, or surgery. All the relative immune deficiencies associated with these treatments are very different from each other, so there is no one simple rule here.

**7. This is an incredibly stressful and isolating time for the lung cancer community. Any advice on how to manage stress and anxiety?**

The world has gone through a series of epidemics and pandemics, and they were quite deadlier in the past than they are now. But still, we are very concerned now. We see a lot of difficult outcomes. I think patience is a virtue, and it will get better. We know that in the United States, probably within three months, we will be much better off, and we will have passed the peak of the epidemic.

Antiviral agents and immunomodulator agents are being tested in a rational way. There are many other strategies that are being used as well. A vaccine will come, but probably not earlier than a year from now.

There is a fast track for clinical testing that is being implemented and supported by regulatory agencies in the United States, including the FDA. I expect that we will get our answers as fast as possible. In the meantime, prevention is key. We know that quarantine works. Social isolation works. Washing your hands works. Coughing into tissues and not in the air works. Let us use what we know works. Solidarity is essential, and we have seen a lot of examples of solidarity already. This needs to be extended not only to our own communities, but also worldwide, and we see that happening. We will go through this, and we will go through this together.

**8. What is your message of hope for our community?**

The message of hope is that time is on our side and the measures that we are taking in prevention are on our side. We know that we can help prevent the spread of COVID-19. That is a very good sign. We know what is happening in China now. They are starting slowly to reopen public sites, and the social context is improving a little bit right now. We know that we have seen this with other epidemics and pandemics. We have seen this with Ebola, we have seen this with the Spanish Flu, SARS, and MERS, so we know what we are dealing with. While it has been difficult to deal with because of the huge impact on healthcare, on families, and on the economy, I think that the good news is that preventive measures work. So let's work on that, and let's work together.

We will come up with a treatment, and we will come up with a vaccine; it is just a matter of time. COVID-19 will also teach us something important for future infections. We will have other COVIDs, we will have other flus, and we will have other infections, and I think that the global pandemic aspect of this particular infection will make us a better-prepared society for the future.