COVID Information and Resources

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Model of a coronavirus. The red 'spikes' bind the virus to target cells. Image from the CDC.

The rapid spread of the coronavirus (SARS-CoV-2) and the disease it causes (COVID-19) impacts all of us. On this page we provide some basic information about the virus and the disease with a focus on how it potentially impacts cancer patients.

What is a virus?

Viruses can be thought of as seeds. The virus particles are extremely small. Much too small to be seen with the naked eye, viruses can only be seen with electron microscopes. All viruses are contain proteins and genetic material (DNA or RNA). Some also surrounded by a fatty (lipid) layer.

When a virus particle - called a virion - lands on a target cell, the virus binds tightly and enters the cell. Once inside, the virus undergoes a change in shape and begins to hijack the machinery of the infected cell. After infection, the host cell becomes a virus producing factory, releasing more viruses to repeat the cycle.

Different viruses infect different kinds of cells and different kinds of hosts. Some only infect a single species (i.e. only cats or only humans) and some can infect several different kinds of host. Even bacteria have viruses that attack them.

What is a coronavirus?

Coronaviruses are viruses that are known to infect several kinds of animals and to cause disease in humans and animal hosts. The virus' genetic material is RNA and the protein core is surrounded by a double lipid layer (called a bilayer). Sticking out of the lipid layer are proteins that act like magnets to bind the virus to target proteins on host cells.\[1\]

Different coronaviruses can cause human diseases ranging from mild to very severe. Previous outbreaks of severe disease caused by coronaviruses include SARS and MERS.

The current global outbreak (pandemic) is being caused by a coronavirus that has been named SARS-CoV-2. The name reflects the close relatedness between the current virus and the one that caused the SARS and MERS outbreaks.\[2\]-\[3\]

What is COVID-19?

The SARS-CoV-2 virus is spread by droplets released when infected people cough, sneeze, or just breathe out. Those droplets can be inhaled by nearby people or can land on surfaces and then get onto the skin of other people. If the virus-containing droplets come in contact with mucous membranes, the viruses can enter the body and start a new infection in that person.

The virus causes fever, pain and difficulty breathing. The breathing problems can be severe enough to require patients to be put on a ventilator to assist their breathing. In the US (as of 4/6/20) about 2.5% of confirmed cases (1 in 40 COVID\[4\] patients), the infections are lethal.\[5\] The actual percentage of infected people who die is almost certainly lower because many people are not tested for the virus and it is thought that about 1 in 4 infected people do not show any symptoms.\[6\]-\[7\]-\[8\]

Are cancer patients at higher risk of getting very ill or dying from COVID-19?

The pandemic is ongoing and there has not been time to do any large studies on the role of cancer as a condition (also called a co-morbidity) that leads to increased severity of disease or death from COVID. Because cancer patients very often have weakened immune systems, they are at greater risk of becoming seriously ill and/or dying from other types of infections and with the information on hand, that appears to be the true for COVID. It is still not certain.\[9\]-\[10\]-\[11\]

The COVID-19 situation is rapidly changing and guidelines are being developed as quickly as possible.
Should I skip my cancer treatment because of COVID-19?

As described above, it is possible that cancer patients may be at higher risk of getting seriously ill from COVID-19. That said, skipping cancer treatments (including chemotherapy, immunotherapy or radiation) could reduce the positive effect of the treatment.

It is possible to have some appointments via video or telephone. Many cancer organizations are using telemedicine to reduce the number of contacts for their patients and clinical workers.

It is important for all cancer patients to be in touch with their medical team about any scheduled appointments or treatments.

Another good idea to check the website of the treatment facility, as many have COVID-19 statements for their patients. This is a rapidly changing situation, so check back before going to any in-person office visits.

How can cancer patients deal with COVID-related stress?

The COVID pandemic has affected everyone. Cancer patients have ongoing health concerns that can be made worse by the pandemic. Below is an interview with Dr. Wendy Baer, a psychiatrist at the Winship Cancer Institute. Dr. Baer discusses coping strategies for cancer patients and others during this stressful time. Additional resources are provided in the list below the video.

Resources for cancer patients and their caregivers during COVID-19

General COVID Information

The Centers for Disease Control and Prevention COVID Information Page.

StatPearls: Features, Evaluation and Treatment Coronavirus (COVID-19)

Johns Hopkins Center For Systems Science And Engineering

Cancer Treatment and COVID

COVID-19 Patient Care Information (American Society for Clinical Oncology)

What people with cancer should know (U.S. National Cancer Institute)

Mental and Spiritual Health

Please visit our page on Psychosocial Effects of Cancer for information and links.


5. Statistics retrieved on the date listed from COVID-19 Map Johns Hopkins Center for System Science and Engineering


