

Frequently Asked Questions: COVID-19 and Blood Clots

Many questions surround the recent emergence of the novel coronavirus or COVID-19. One aspect of COVID-19 of greatest interest to the National Blood Clot Alliance, its Medical & Scientific Advisory Board, and the individuals the organization serves in the clotting disorders community involves the recognition of coagulopathies – or different types of blood clotting – being reported among people affected by COVID-19, particularly those who become severely ill after infection with the virus.

Research is ongoing to help better understand this novel virus, the serious complications such as clotting that it can cause, the role of different treatment options effective against the disease, and the pursuit of a safe and effective vaccine to help prevent COVID-19.

While ongoing research in the United States and around the globe will eventually provide the answers we are all seeking today, this document reflects some of the most commonly asked questions that surround the specific matter of COVID-19 and potential blood clotting, and it includes the most current information available at this time.

The information provided below is not intended to serve as a substitute for professional medical advice. Please talk to your physician or medical team about any questions you have concerning your health or COVID-19 and clotting.

Q1: Is a person at increased risk for getting infected with the coronavirus if they previously had a blood clot?

No. Experts indicate that the virus that causes COVID-19 spreads from person to person, in close contact (within about six feet), and mainly through respiratory droplets produced when an infected person coughs, sneezes, or talks. These droplets can land in the mouths or noses of people who are nearby and possibly be inhaled into the lungs. Also, some studies suggest that COVID-19 can be spread by people who are not showing any symptoms. However, a prior history of blood clots does not increase the chances of getting infected with the novel coronavirus.

Q2: Why are people getting clots or experiencing clotting with COVID-19?

Many questions remain about the serious clotting that can be seen with COVID-19, but ongoing research indicates that, as with other viral infections, people will have an immune reaction to this infection, which helps the body fight the virus. Any immune reaction like this also can cause inflammation. Inflammation is the immune system's response to a harmful infection. However, in patients with COVID-19, researchers are reporting a major inflammatory response among people critically ill with COVID-19 that is resulting in a high incidence of clotting. The highest rate of clotting is seen among people affected by COVID-19 who are hospitalized with moderate and severe COVID-19 illness, including people who require supportive oxygen or ventilation.

Q3: Why is the clotting seen with COVID-19 more severe than with other viral infections like the flu?

Researchers suggest that the clotting seen with COVID-19 is not central or basic to the virus itself. Rather, one theory holds that the clotting seen with COVID-19 can be very pronounced because there is no prior exposure to this new virus. For example, many people who get sick with the traditional flu or influenza have had some exposure in the past or some acquired immunity, whereas with the novel coronavirus there has been no prior exposure in anyone. This is one theory for why some people may experience such a severe reaction or severe illness with COVID-19. Other theories or potential factors also may be involved and are being investigated.

Q4: Who is at increased risk for clotting when infected with the coronavirus?

Most people, or about eight in 10 people infected with the new coronavirus will experience mild or moderate illness and recover. Currently, researchers and clinicians are tracking infections through data derived from confirmed cases among people who have been tested and received a positive test result. At this time, these data indicate that the overall COVID-19 recovery rate in the United States ranges from 97% to 99%.

Much remains to be learned about the novel coronavirus, particularly because, in some people, it causes very serious complications, including serious blood clotting. Researchers and medical experts have reported that people affected by COVID-19, particularly if they are hospitalized and require oxygen or if they require a ventilator or have severe pneumonia, have a higher risk of developing dangerous blood clots than people with less severe disease. However, the range of reported rates of blood clots in critically ill patients varies widely. Some studies report the incidence as less than 10% while others report it to be over 50%. Patients with mild disease or even those who are asymptomatic or unaware that they are infected with the coronavirus are also at risk of developing blood clots but it appears to be at a much lesser degree.

Q5: I have a clotting disorder and personal history with clotting, does this place me at greater risk of serious complications, like clotting, if I get infected with the coronavirus?

Many questions about the new coronavirus exist, and this is a crucial question for people affected by genetic or acquired clotting disorders. We anticipate that ongoing research will provide the answers we are all seeking, but at this time there is no evidence that people with a clotting disorder are at increased risk for serious illness if infected with COVID-19.

Medical experts do indicate that people with the following underlying conditions may be at higher risk for severe illness with COVID 19:

- Older adults: The greatest risk for severe illness with COVID-19 is among people aged 85 or older, but the risk for serious illness increases with age so you are at greater risk if you are in your sixties, for example, than if you are in your fifties.
- Underlying health conditions: Cancer, chronic kidney disease, chronic obstructive pulmonary disease, weakened immune system or immunocompromised individuals, obesity or body mass index of 30 or higher, serious heart conditions such as heart failure, coronary artery disease, or cardiomyopathies, sickle cell disease, Type 2 diabetes.

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Researchers and medical experts in this field have reported that people affected by COVID-19, particularly if they are hospitalized and require oxygen or if they require a ventilator, have a higher incidence of clotting than those with less severe disease.

If you have been diagnosed previously with a clotting disorder, speak with your healthcare provider about your concerns related to COVID-19 and continue to follow their directions related to any anticoagulant therapy you may already be prescribed.

Q6: I had several thrombectomies and then an inferior vena cava (IVC) filter put in place. The filter was later removed and I am worried about getting COVID-19 and being at higher risk of getting blood clots. Am I at higher risk?

Many questions about the new coronavirus exist. We anticipate that ongoing research will provide the answers we are all seeking, including additional information about a person's previous personal history with clotting. At this time, there is no evidence that people who have previously experienced a clot, undergone a thrombectomy, or had a previous IVC filter are at higher risk for clotting with COVID-19.

Medical experts do indicate that people with the following underlying conditions may be at higher risk for severe illness with COVID 19:

- Older adults: The greatest risk for severe illness with COVID-19 is among people aged 85 or older, but the risk for serious illness increases with age so you are at greater risk if you are in your sixties, for example, than if you are in your fifties.
- Underlying health conditions: Cancer, chronic kidney disease, chronic obstructive pulmonary disease, weakened immune system or immunocompromised individuals, obesity or body mass index of 30 or higher, serious heart conditions such as heart failure, coronary artery disease, or cardiomyopathies, sickle cell disease, Type 2 diabetes.

Your physician is your best resource for questions about your health history and risks for the development of serious illness should they be affected by COVID-19.

Q7: There have been reports that some people affected by COVID-19 and clotting also show the presence of antiphospholipid antibodies in lab evaluations of their blood samples. What does this mean to someone already diagnosed with antiphospholipid syndrome?

It is not uncommon that antiphospholipid antibodies may be seen with acute infection, inflammation, or blood clots or clotting. Currently, there is extremely little data about antiphospholipid antibodies seen among people affected by COVID-19. However, experts stress that the presence of these antiphospholipid antibodies does not mean that these individuals have antiphospholipid syndrome (APS), an immune disorder that causes an increased risk for blood clots. More research is required to answer questions about COVID-19 and antiphospholipid antibodies, including what considerations, if any, need to be given to the treatment of people with APS who become infected with COVID-19. If you have been diagnosed previously with APS, speak to your healthcare provider about your concerns related to COVID-19 and continue to follow their directions related to any anticoagulant therapy you may already be prescribed.

Q8: What should I do to prevent clotting if I get infected with the coronavirus?

It's important to talk with your healthcare provider about any concerns you might have about clotting if you are affected by COVID-19, and review all of your potential risk factors for clotting. Experts suggest that people who are hospitalized with COVID-19 be evaluated for clotting risks and administered anticoagulation therapies accordingly.

If you have mild or moderate symptoms and do not require hospitalization, talk to your healthcare provider about your concerns and the best way to protect your health as you are treated and recover. Simple steps that can help to prevent blood clots include: Get up and move around every two hours, drink plenty of fluids to stay hydrated. Contact your healthcare provider if you experience any of the symptoms of a blood clot in your limbs or lungs, which include: Swelling, pain or tenderness not caused by injury, skin that is warm to the touch, redness or discoloration of the skin. Alert your healthcare provider if you experience any of these signs or symptoms. If you experience the symptoms of a blood clot in your lung, including difficulty breathing (at rest or with exertion), chest pain that worsens with a deep breath, coughing or coughing up blood, and a faster than normal or irregular heartbeat, seek immediate medical attention or call 911.

Q9: I take a blood thinner routinely, will this prevent me from experiencing the dangerous clotting being seen in people with COVID-19?

It is not known whether the routine use of previously prescribed anticoagulants will prevent or protect anyone from developing serious illness if they become infected with COVID-19. Longer-term research will likely reveal important information about this question. All people who currently are prescribed an anticoagulation therapy should continue their medication as prescribed by their healthcare provider. Speak with your healthcare provider about any questions you have about your anticoagulant therapy.

Q10: I had a blood clot previously and was prescribed a blood thinner for a few months or a short period of time. I am no longer taking it. Should I start taking a blood thinner again so I don't experience another clot if I happen to get infected with COVID-19?

You should talk to your healthcare provider about any questions you might have about your healthcare and your medications. Anticoagulation therapies save lives, but as with all prescription medications they do also pose risks, including the risk for serious bleeding. Never start or stop taking any prescription medication without consulting with your physician.

Q11: Should all people be taking blood thinners now to make sure that they don't experience the dangerous clotting that is being seen in people with COVID-19?

No. Blood thinners or anticoagulation therapies can be life-saving, but like all prescription medications, they do pose risks, including the risk for serious bleeding. Anticoagulation therapies are prescribed to prevent and treat blood clots among people who have risk factors for clotting or who have experienced a blood clot. Experts stress that the risks associated with these therapies, such as serious or life-threatening bleeding, outweigh the benefits of prescribing them for people who do not have any risk factors for blood clots or who have never experienced a blood clot. Never start or stop taking any prescription medication without consulting with your physician.

Q12: I have an autoimmune disease. I am not on a blood thinner, but concerned about getting COVID-19. I have read that autopsies performed among people who died due to COVID-19 show that many of these individuals had blood clots throughout their body or most of their organs. Should I be taking a blood thinner now in the event that I get COVID-19?

Many questions remain about COVID-19 and research in this field is ongoing, but medical experts do indicate that, among others, people with a weakened immune system or immunocompromised individuals may be at higher risk for severe illness with COVID 19. Blood thinners or anticoagulation therapies can be life-saving, but like all prescription medications, they do pose risks, including the risk for serious bleeding. People should speak with their healthcare providers about any questions they have about their specific health history, any underlying medical conditions they have, and their potential risk for severe complications if they become ill with COVID-19.

Q13. Can I still get a clot if I get infected with coronavirus but am taking a blood thinner now due to my clotting history?

There is no research available that demonstrates if someone who routinely takes an anticoagulant will or will not experience clotting should they become infected with the coronavirus. Experts are recommending that most people who are hospitalized with COVID-19 be provided with anticoagulation treatment in preventive doses (unless there is a contraindication) to help address potential clotting, since people who get seriously ill with COVID-19 are at increased risk for clotting. Anticoagulation therapy is commonly used to prevent and treat blood clots. These treatments are very effective and are considered life-saving medications. However, people who take these medications can experience a recurrent clot, so the risk for recurrence, although very low, does remain.

Speak with your healthcare provider about any questions you have about your anticoagulant therapy.

Q14 I don't want to go to the doctor's office or lab to get my INR tested during the pandemic. Do I have to get my INR tested?

People prescribed the blood thinner or anticoagulant warfarin routinely have their blood checked to ensure its effectiveness, and these tests are important for the successful management of the medication to reduce both blood clotting and bleeding risks. Experts in anticoagulation management have suggested several options for people who are reluctant to leave their homes or go out to be tested during the COVID-19 pandemic. These options include:

- Getting INR checked at a time when fewer people might be scheduled or in the clinic or office
- Scheduling INR tests to minimize the number of times you need to visit the doctor's office or lab
- Exploring the option for at-home INR testing
- Exploring treatment options with your physician that do not require INR testing

Your healthcare provider is your best resource and you should discuss these options with them to determine what is best for you.

Q15: How can I get an INR home testing device so I don't have to leave my home for routine testing and increase my risk for being infected with COVID-19 during this pandemic?

Given the current COVID-19 pandemic, many people who take the blood thinner or anticoagulant warfarin may be looking for options to test their INR without having to leave their home, particularly if they have underlying conditions that may place them at greater risk for severe illness with COVID-19. If you would like to determine if INR self-testing is right for you, it's important to work together with your healthcare provider to come up with the best plan to monitor your INR and adjust your warfarin dose, as needed. You will also need to obtain a prescription for the home testing device itself, learn how to use the machine, and learn how to report your results to your healthcare provider.

It can take some time to get set up with a system for at-home monitoring. You can read more about the process here: <https://www.stoptheclot.org/about-clots/blood-clot-treatment/warfarin/inr-self-testing>.

Q16: What can I do to make sure that I don't get infected with the coronavirus...I just can't because of my clotting disorder and other underlying health conditions.

Public health experts stress the importance of prevention, and recommend that everyone take the following steps to help minimize the spread of COVID-19:

- Wash your hands often with soap and water for at least 20 seconds
- Avoid close contact – and practice social distancing – by staying at least six feet away from people
- Wear a cloth mask over your mouth and nose
- Cover coughs and sneezes with a tissue or use the inside of your elbow
- Clean and disinfect frequently touched surfaces
- If possible, particularly if you have underlying medical conditions, stay home as much as you can

Q17. I take birth control pills and understand that this can increase my risk for blood clots, in general, but does this now mean that I might also be at increased risk for clotting if I get infected with the coronavirus? Should I stop taking my birth control pill?

Experts confirm that birth control pills are safe and effective for most women to use, but they can increase a woman's risk for dangerous blood clots, particularly if she has other risk factors for clotting, such as an underlying clotting disorder. Some experts have suggested that hormonal birth control (including the pill, patch, or ring), as well as hormone therapies used to treat the symptoms of menopause, could increase clotting risk among women affected by COVID-19. However, much more research is needed to provide the answers needed in this regard.

There are several options you can consider for birth control. You should discuss these options, as well as all of your risk factors for blood clots, with your OB/GYN or healthcare provider. You can learn more about birth control and blood clot risks, and also download a risk assessment tool to review with your healthcare provider at www.womenandbloodclots.org/birth-control.

Q18: Is it true that your blood type may put you at increased risk for severe illness with COVID-19.

When COVID-19 first emerged, researchers and scientists around the world set out to determine why some people experience very mild symptoms with COVID-19, while others develop much more serious disease. This caused a number of different and, at times, conflicting reports to be shared.

Some studies have shown some correlation between blood type and the likelihood that a person might progress to serious illness with COVID-19. More recent studies have dispelled this idea. As with many other questions that surround COVID-19, ongoing research should provide more definitive information about this question in the future.

Q19: Is it true that taking supplements like Vitamin D can lessen how sick you get with COVID-19?

Vitamin D helps the body absorb calcium and strengthen bones, and there have been some reports that suggest it might help to prevent or make COVID-19 disease less severe. These reports are preliminary and have not been peer reviewed or evaluated carefully by experts in this field. Talk to your healthcare provider about any questions you might have about vitamin D.

Q20: Isn't this a problem, like the flu, that only causes serious health problems among a small number of people? Why all the fuss?

The coronavirus or COVID-19 is a novel virus that has never been seen before in humans. COVID-19 is not the flu. No one has any immunity to COVID-19, because it has never circulated in any population anywhere in the world before. As we are seeing around in the United States and countries around the globe, this virus is very infectious, and spreads rapidly and at very high rates of infection when no mitigation efforts are taken in our communities.

COVID-19 also poses clinical challenges unlike any the medical community has had to address before. COVID-19 affects people in a very broad spectrum of ways: Some people only experience mild or moderate illness, some people get seriously ill and require hospitalization, and others go on to become critically ill and die. Presently, there is neither a vaccine to prevent COVID-19 nor a treatment that works successfully in all cases of the disease. The medical community has no clear understanding of the long-range health consequences that may occur among the millions of people worldwide who have been infected with COVID-19.

Q21: I'm already taking a blood thinner and I'm not supposed to take things like aspirin or ibuprofen when I get sick or have a fever. What should I do if I get sick with COVID-19 or have symptoms?

If you are taking a blood thinner or anticoagulant, get sick with COVID-19, and have questions about the appropriate treatment of your symptoms, such as fever, you should contact your healthcare provider and get their guidance about the best remedies you can use. Your healthcare provider is always your best resource when it comes to questions like these, and should you become infected with COVID-19 you should remain in close contact with them to ensure you are getting the care you need.

Q22: What should I do if I think I might have a blood clot? I don't want to go to the doctor or the hospital during the pandemic and risk exposure to COVID-19?

Hospitals, clinics, and medical offices routinely take precautions to prevent the spread of infectious disease, and during this pandemic infection prevention measures have increased substantially and are being rigorously reinforced. Experts stress that it is crucial that people continue now to seek the medical care they need, particularly if it might involve something dangerous or life-threatening like a blood clot. You can talk to your doctor or call the hospital directly in advance of your visit to address your concerns, but it is important, now more than ever, to maintain your good health.

Q23: I had a clot earlier this year, and I *think* it was COVID-related but really don't know for sure. What should I do?

Speak to your physician, continue to take any medication as directed or prescribed by your healthcare provider, and address all of your questions/concerns with them. If you have no other known risk factors for clotting, and you and your doctor think it might have been the result of COVID-19, but you're not sure if you were infected, you can ask your doctor to arrange an antibody test for you. This test, which involves a simple blood sample, will tell you if you have antibodies to COVID-19. If you do, then you were infected with the coronavirus.

Q24: I tested positive for COVID-19 and suffered a blood clot. My doctor says my clot was caused by the virus. What should I do?

It is important for you to continue to work closely with your medical team as you recover from COVID-19 and your blood clot. Take all medications as prescribed, keep your follow-up medical appointments, and contact your doctor if you experience any symptoms of additional clotting, which include:

- The signs and symptoms of a blood clot in your leg or arm can include: Swelling, pain or tenderness not caused by injury, skin that is warm to the touch, redness or discoloration of the skin. Alert your healthcare provider if you experience any of these signs or symptoms.
- The signs symptoms of a blood clot in your lung can include: Difficulty breathing (at rest or with exertion, chest pain that worsens with a deep breath, coughing or coughing up blood, and a faster than normal or irregular heartbeat. Seek immediate medical attention or call 911 if you experience any of these signs of symptoms.

Q25: I had COVID-19 and a blood clot. The doctor said I had to take a blood thinner for 3 months. I am scared when I stop I will get another blood clot. What should I do?

It is important for you to continue to work closely with your medical team as you recover from COVID-19 and your blood clot. Share all of your questions with them, including any concerns about your treatment. Take all medications as prescribed, keep all of your follow-up medical appointments, and contact your doctor if you experience any symptoms of additional clotting, which include:

- The signs and symptoms of a blood clot in your leg or arm can include: Swelling, pain or tenderness not caused by injury, skin that is warm to the touch, redness or discoloration of the skin. Alert your healthcare provider if you experience any of these signs or symptoms.
- The signs symptoms of a blood clot in your lung can include: Difficulty breathing (at rest or with exertion), chest pain that worsens with a deep breath, coughing or coughing up blood, and a faster

than normal or irregular heartbeat. Seek immediate medical attention or call 911 if you experience any of these signs of symptoms.

Q26: I had/have COVID-19 and am afraid I will get a clot. What should I do?

Clotting is most commonly seen in the elderly and/or people critically ill with COVID-19, and the risk for clotting with COVID-19 seems to mirror the risk for the progression of serious illness with this novel virus. Specifically, medical experts indicate that people with the following underlying conditions may be at higher risk for severe illness with COVID 19:

- Older adults: The greatest risk for severe illness with COVID-19 is among people aged 85 or older, but the risk for serious illness increases with age so you are at greater risk if you are in your sixties, for example, than if you are in your fifties.
- Underlying health conditions: Cancer, chronic kidney disease, chronic obstructive pulmonary disease, weakened immune system or immunocompromised individuals, obesity or body mass index of 30 or higher, serious heart conditions such as heart failure, coronary artery disease, or cardiomyopathies, sickle cell disease, Type 2 diabetes.

Speak to your healthcare provider about your concerns and determine if there are any other steps that might be important in your case.

Q27: What is NBCA doing to address this problem?

NBCA, a nonprofit patient advocacy organization, has been sharing information on its website since the medical community in the United States first began reporting on this issue in mid-March 2020. In addition, the Medical & Scientific Advisory Board of NBCA is collecting data from some of the leading medical institutions nationwide to help create a registry of information specific to the coagulopathies – or different types of clotting – being seen among hospitalized patients affected by COVID-19. This NBCA research, funded as a sub award of a cooperative agreement between the Association of University Centers on Disabilities and the Centers for Disease Control and Prevention, will illuminate some key information to help researchers and clinicians better understand the connections between COVID-19 and clotting. NBCA and its Medical & Scientific Advisory Board will continue to share information, including updates stemming from this important research work.

Q28: Where can I get more information?

The National Blood Clot Alliance will continue to expand resources on its website (www.stoptheclot.org) and across its social media channels (@stoptheclot). Also, the Anticoagulation Forum (www.acforum.org) has resources specific to the management of anticoagulation therapy in light of COVID-19, ranging from at-home INR testing to anticoagulation management of patients hospitalized with COVID-19. The American Society of Hematology (www.hematology.org) offers important insights and guidance for hematologists and other experts in this field. The Centers for Disease Control and Prevention (cdc.gov) also is a key resource, providing a broad spectrum of resources related to COVID-19.

Your healthcare provider is your best resource for information that impacts your health. Contact them with questions you have about COVID-19, clotting, or any other health issues that interest or concern you.

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