



## Blood Clots

### What are blood clots?

Blood clotting is a normal body process. It is also called **coagulation**. When you get a cut or injury, your body sends blood cells called **platelets** plus other special proteins to the site of the injury and forms a clot. This kind of clot looks like a clump of dried blood and some people call it a scab. Unless the cut or injury is very big, the clot will clog up the area where the injury has happened. This helps stop the bleeding so you don't lose too much blood. These kinds of blood clots are normal, stay in place as you heal, and then they will fall off or dissolve over time when they aren't needed anymore.

### Types of Blood Clots

Sometimes different types of blood clots are named by where they start or the parts of the body they affect:

- Thrombus (single) or thrombi (more than one)
- Thromboembolism: The name for a thrombus that has broken loose and stuck in another blood vessel, or in another part of the body such as the lungs or legs.
- Deep vein thrombosis (or DVT): A blood clot in a deep vein, usually in the leg, and other times in the arm or other deep veins.
- Pulmonary embolus (PE): A blood clot that has started somewhere else, but breaks loose and gets stuck in the lungs. This is a serious, life-threatening condition.
- Venous thromboembolism (VTE): A word used to describe both DVT and PE
- Disseminated intravascular coagulation (DIC): a usually rare but serious condition that is a complication of some cancers, causing severe bleeding and severe clotting at the same time. DIC is life-threatening and should be treated immediately.

Patients with cancer are at a higher risk of developing venous thromboembolism (VTE). Blood clots can be life-threatening, should be taken seriously, and should be treated immediately.

## Blood clots in people with cancer

Cancer itself can increase your risk of getting blood clots. Cancer is known to be a risk factor for having a deep vein thrombosis (DVT). Some experts suggest this is because of tissue damage some cancers can cause that might trigger the blood clotting process.

Any person with cancer can develop a blood clot. But certain kinds of cancer (for example, [lung cancer](#)<sup>1</sup> or [pancreatic cancer](#)<sup>2</sup>), [types of treatment](#)<sup>3</sup>, and other conditions and medications can increase the risk for blood clots. Having [metastatic cancer](#)<sup>4</sup> (cancer that has spread from where it started to other areas of the body) increases the risk of having blood clots.

Other medical conditions have a higher risk for blood clots. If you already have a disorder that increases your risk, having cancer will increase that risk further. Some disorders that already have a risk for blood clots include Factor V Leiden thrombophilia, abnormally high levels of certain clotting proteins, abnormally low levels of proteins that prevent clots, and certain types of gene changes. In rare cases, cancer might be diagnosed by accident during testing when a person has a blood clot.

## Blood clots from medications or treatments

There are some non-cancer medications that have a higher risk for blood clots, or that have a side effect that might cause blood clots. Some vitamins, minerals, and supplements might increase the risk for blood clots, too. It's very important to talk to your doctor about all medications, vitamins, minerals, and supplements you are taking so your risk can be discussed.

Medications given to treat cancer that are known to be linked with blood clots, or have side effects that contribute to clots are:

- Platinum, such as cisplatin
- Vascular endothelial growth factor (VEGF) inhibitors, such as bevacizumab
- VEGF tyrosine kinase receptor inhibitors, such as sorafenib or sunitinib
- L-asparaginase
- Thalidomide
- Lenalidomide

- Tamoxifen

### Other risk factors for blood clots

Besides cancer and other health conditions, other things can put you at risk for getting blood clots, such as:

- Older age (being older than 65 puts you at greater risk)
- Being pregnant
- Smoking
- Sitting or lying in bed for long periods of time or being in bed more than 3 days in a row
- Taking birth control pills or other hormone therapy
- Being overweight
- Having surgery, especially orthopedic surgery, abdominal or pelvis surgery
- Having a family history of blood clots
- Having a central venous catheter in place
- Having a blood transfusion or taking red blood-cell stimulating agents for some types of anemia
- Having an infection.

### Symptoms of blood clots: what to look for

Sometimes a blood clot has no symptoms, but it is important to **get help as soon as** you have any of the symptoms listed here, because some blood clots can be dangerous and become life-threatening:

- Sudden chest pain
- Sudden leg or arm pain
- Swelling in the leg or arm
- Fast heart rate
- Shortness of breath
- A feeling of overwhelming dread or doom
- Sweating or fever
- Coughing up blood.

## Finding and managing blood clots

Blood clots can be found after a patient reports symptoms that suggest a blood clot. Other times, blood clots are found by accident when checking for other things.

In patients without cancer, calculating the chance of getting a blood clot, and having a special blood test (called a D-Dimer test) can often be enough to rule out the presence of a blood clot.

In cancer patients, using these tests alone may not be as accurate and useful. Your health care team will get the information needed to decide if you will need one or more of them, plus additional tests, such as:

- Special blood tests
- A [CT scan](#)<sup>5</sup> or other [imaging \(x-ray\) test](#)<sup>6</sup> to look for blood clots
- A [ultrasound scan](#)<sup>7</sup> (called a Doppler) to look for blood clots

### What can be done about a blood clot?

You and your doctor will decide what the best treatment for your blood clot is. Some of the treatments that you could have include one or more of the following.

- Medication that helps stop your blood from clotting more than normal (these medications are also called anticoagulants). Usually these are given intravenously (IV) drugs, but in some patients, these may be taken by mouth. Because these drugs help prevent clots, they have side effects that can cause bleeding. You and your doctor will weigh the benefits of the drugs against the risks of these side effects.
- Medications that can dissolve clots (given by IV)
- Filters that help stop a clot from traveling into your lungs or heart. These special filters are put into a large vein in your chest during a surgical procedure.

### Can a blood clot be prevented?

If you are at higher risk of having a blood clot, have cancer, and are starting a certain type of cancer treatment, your doctor may give you medication to prevent a blood clot. Sometimes your doctor will decide that the risk of bleeding episodes associated with the drugs used to treat blood clots is worth the benefit of never getting a blood clot to begin

with. In this case, you may be given medications to prevent a blood clot from happening.

If you are having certain surgeries, you might receive anticoagulation medication before, and for weeks after the surgery, to prevent blood clots. After surgery, you might also wear hose, a garment, or a device that helps to compress your legs or other area of your body. Some experts recommend cancer patients receive preventive medication for blood clots any time you are hospitalized or before, during, and for some days after you have surgery. For most patients, taking medications to prevent a blood clot if you are not in the hospital is not necessary. It is important, though, to be checked for your risk of having a blood clot every now and then.

Talk to your doctor about your risk and whether you need to take medications or use other therapies to prevent blood clots. It is also very important to notify your health care team if you think you have any of the symptoms associated with a blood clot.

## **What the patient can do**

If you are concerned about your risk for blood clots, if you have been told you are at risk, or you are being treated for a blood clot, here are some questions to ask your doctor.

- Does having a blood clot put me at risk for having more in the future?
- Is this a life-threatening blood clot?
- What about my cancer or my treatment requires me to be on medicine when I don't have a clot now?
- What activities should I avoid while I am on this medicine?
- How long do I have to be on this medicine?
- What other side effects can I expect from this medicine?

It's best to stay away from anti-inflammatory medicines, such as aspirin, naproxen, or ibuprofen (Motrin<sup>®</sup>, Advil<sup>®</sup>, Naprosyn<sup>®</sup>, Aleve<sup>®</sup>, Midol<sup>®</sup>) and medicines like them unless your cancer care team tells you it's safe to use them. Check with your pharmacist if you're not sure whether a medicine is an anti-inflammatory, or if it contains one of them. Do not take any over-the-counter medications such as aspirin or ibuprofen without talking to your doctor first. These, along with medication for blood clots, can thin your blood and make you bleed easily.

If you get medicine to prevent or to treat a blood clot, it is important to take care to not injure yourself, because your blood's ability to clot will be slowed down. This means that

even little injuries can cause you to bleed more than you usually would. Some things you can do to prevent little injuries include:

- Using an electric razor to shave, rather a straight razor
- Using a soft toothbrush and brushing gently to avoid making your gums bleed
- Do not use dental floss unless approved by your doctor
- Avoid blowing your nose forcefully, to avoid a nosebleed
- Avoid falls that could cause bruises; pick up loose throw rugs to avoid tripping
- Eat a healthy diet that includes fiber to avoid constipation. If you get constipated, talk to your cancer care team about using a stool softener. Do not use enemas or suppositories of any kind
- Keep your head level with or above your heart (lie flat or stay upright)

### **Call for help right away if:**

- You notice any symptoms of a blood clot
- You have unusual bleeding
- Bleeding of any kind does not stop

The sooner you get help, the more likely the treatment for a blood clot or clotting problem will be effective.

### **Hyperlinks**

1. [www.cancer.org/cancer/lung-cancer.html](http://www.cancer.org/cancer/lung-cancer.html)
2. [www.cancer.org/cancer/pancreatic-cancer.html](http://www.cancer.org/cancer/pancreatic-cancer.html)
3. [www.cancer.org/treatment/treatments-and-side-effects/treatment-types.html](http://www.cancer.org/treatment/treatments-and-side-effects/treatment-types.html)
4. [www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer.html)
5. [www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-cancer.html)
6. [www.cancer.org/treatment/understanding-your-diagnosis/tests/imaging-radiology-tests-for-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests/imaging-radiology-tests-for-cancer.html)
7. [www.cancer.org/treatment/understanding-your-diagnosis/tests/ultrasound-for-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests/ultrasound-for-cancer.html)

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Last Medical Review: February 1, 2020 Last Revised: February 1, 2020

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