

# Cancer and the Risk of Blood Clots

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(also called Cancer Associated Thrombosis or CAT)

Cancer patients may be more at risk of developing blood clots, also called Cancer Associated Thrombosis or CAT.

Ask your Oncologist (also called Cancer doctor) if your cancer or your treatment increases your risk of developing CAT.

This booklet provides information for cancer patients and families about CAT.

## Terms Used in this Booklet

**Anemia:** Low Hemoglobin. Hemoglobin carries oxygen to the tissues in your body. When you have low hemoglobin your body's tissues do not get enough oxygen, this can make you very tired and short of breath.

**Anticoagulants:** Drugs that thin your blood to reduce the risk of blood clots.

**Blood Clots:** A blood clot is a clump of blood that has changed from a liquid to a semisolid. Clotting is helpful and can prevent you from losing too much blood when you are injured or cut. When a clot forms inside a vein, it will not always dissolve on its own. This can be a dangerous, life-threatening situation.

**CAT:** Cancer Associated Thrombosis (also called blood clots)

**Cancer Related Fatigue:** Feeling very tired after cancer treatment or from cancer itself.

**Catheter Lines:** Intravenous tubes (also called fixed catheter lines) that are in place for weeks or months (such as PICC lines, Central Lines or Portacaths).

**Clotting Factors:** Proteins made by the body. They combine with platelets to make blood clots and stop bleeding.

**Coagulation:** When cells can release matter that causes more blood clotting.

**Comorbidities:** Additional health conditions.

**DVT:** Deep Vein Thrombosis (also called blood clots)

**Edema:** Swelling

**Hemoptysis:** Coughing up blood

What are your questions? Please ask.

We are here to help you.

**Peripheral Arterial Disease:** Narrowing of the blood vessels going to the legs

**Peripheral Neuropathy:** Tingling or numbness in your fingers or toes

**Immobile:** Not able to move around easily

**Obese:** Very overweight

**Platelets:** Blood cells that help your blood clot. They group together to stop bleeding and give off chemicals to help the blood clot and fix leaking blood vessels.

**Pulmonary Embolism:** A blood clot in the lung (also called PE).

**Pulmonary Edema:** Fluid on the lungs.

**Stage:**How far your cancer has spread from the original organ affected.

## **What are Blood Clots?**

A blood clot is a clump of blood that has changed from a liquid to a semisolid. Clotting is helpful and can prevent you from losing too much blood when you are injured or cut.

When a clot forms inside a vein, it will not always dissolve on its own. This can be a dangerous, life-threatening situation.

A blood clot that stays in one place will usually not harm you. However, if it moves, it could become dangerous. If a blood clot breaks free and travels through your veins to your lungs, it can get stuck and stop normal blood flow.

**This is an emergency situation.**

## **When are Cancer Patients at the Highest Risk for Blood Clots (CAT)?**

Patients have the highest risk of CAT within the first three months of their cancer diagnosis.

## **Which Cancer Patients are at Higher Risk for Blood Clots (CAT)?**

Cancer patients who are:

- Older
- Immobile (also called not able to move around easily)
- Obese (also called very overweight)

Cancer patients may have other risk factors that make CAT more likely, such as:

- Certain other medical conditions, also called co-morbidities
- Certain types of cancer that make CAT more likely to happen
- Stage 3 or 4 cancer
- A history of blood clots
- A recent bad major surgery
- Some cancer treatments make CAT more likely to happen
- Intravenous tubes (also called fixed catheter lines) that are in place for weeks or months (such as PICC lines, Central Lines or Portacaths)

### **Which Types of Cancer have a Higher CAT Risk?**

Cancers of the brain, ovary, pancreas, colon, stomach, lung, liver, kidney lymphomas, leukemia and uterus have the highest risk of blood clots (CAT).

### **Which Cancer Treatments have a Higher Risk for CAT?**

- Some chemotherapy
- Major surgery
- Hormonal treatment
- Treatment for low hemoglobin (also called anemia)

### **What Conditions does CAT Cause?**

Blood clots can lead to:

- Deep vein thrombosis (also called DVT)
- Pulmonary Embolism (also called PE)

Without proper treatment, CAT can slow down or stop a patient's cancer treatment.

### **What is Deep Vein Thrombosis (also called DVT)?**

A DVT is a blood clot that forms in the body's deep veins.

Clots are most likely to form in the thigh, lower leg or in the pelvis. A blood clot can block the flow of blood in the veins. The veins normally carry blood from the body back to the heart.

A blood clot can be very serious if it starts to move through your body. It can cause a blockage in your lungs (pulmonary embolism).

Most clots can be treated so it is important that you report any symptoms to your cancer care team right away.

### **What are the Signs of a DVT?**

The common signs of a DVT are:

- pain, redness and swelling in one of your limbs
- the area around the clot may feel warm

### **What is a Pulmonary Embolism (also called PE)?**

- PE is a blockage in a lung artery, caused by a blood clot that travels to the lung from a vein in the leg
- The blockage prevents oxygen from reaching the heart
- A PE can be life-threatening

### **What are the Signs of PE?**

The common symptoms of a PE are:

- Shortness of breath
- Chest pain
- Pain in the upper back
- Fainting
- Cough
- Coughing up blood, also called hemoptysis

### **Who is at Risk for developing a DVT and Pulmonary embolus (PE)?**

If you have cancer you may be at higher risk of developing a DVT because of:

- Your Cancer and it's Treatment

Cancer patients often have more platelets and clotting factors in their blood. Cancer cells produce chemicals that make the body form more platelets.

Platelets are blood cells that help your blood clot. They group together to stop bleeding and give off chemicals to help the blood clot and fix leaking blood vessels.

Clotting factors are proteins made by the body. They combine with platelets to make blood clots and stop bleeding.

When chemotherapy kills cancer cells, the cells can release matter that cause more blood clotting (also called coagulation). Some chemotherapy drugs cause this more than others. Your doctor will explain if the drugs you are taking increase this risk.

### **Damage to the Blood Vessel Walls**

- Surgery and chemotherapy can damage blood vessel walls. This increases your risk of developing a blood clot.

### **Having Less Proteins that Thin the Blood**

- Anticoagulants are proteins in the blood that help to thin it. Cancer patients may have less of these proteins. This is more common in liver cancer patients.

### **Your Type of Cancer**

- If you have cancer of the pancreas, bowel, lung, stomach, ovary or uterus, you are at a slightly higher risk of developing a blood clot.

### **Being Less Active**

- Sometimes your cancer or your treatment can make you feel very tired (also called cancer related fatigue). You could feel too tired and weak to be as active as you usually are.
- Not being active increases the risk of DVT. The normal movement of the leg muscles helps to pump blood back to the heart.
- Right after surgery you may not be able to move around much. Your nurse may give you a pair of stockings to wear. These help to prevent DVT. You need to wear these until you are moving around normally. This may be for a few weeks after your surgery.

### **Other Risks**

- Taking the birth control pill
- Smoking
- Diabetes
- Heart disease

## **How Can I Lower My Risk of a DVT and PE while in hospital?**

Before surgery your doctor will check your risk of developing DVT and PE. They may tell you to stop taking some of your drugs before your surgery.

You will be given lots of fluids so you do not get dehydrated after your surgery. Your nurses and physiotherapists will get you out of bed and moving around as soon as possible.

If you are in the hospital, your nurse may give you stockings to wear until you are moving around as you usually would. These are tight stockings that squeeze your feet and legs, helping the blood to circulate more quickly.

You cannot usually wear these stockings if you have:

- Fragile skin, eczema or recently had a skin graft
- Narrowing of the blood vessels leading to your legs (also called peripheral arterial disease)
- Fluid in your lungs due to heart failure
- Recently had a stroke
- Tingling or numbness in your fingers or toes (also called peripheral neuropathy)
- Very swollen legs

Your doctor may give you blood thinning drugs, called anticoagulants, to help prevent blood clots. You may be given these drugs by mouth or by a needle. Ask your Nurse about financial assistance for your anticoagulants.

Your health care team will tell you if you need to wear your stockings. Your team can tell you about local suppliers of stockings and how much they cost.

## **How can I Prevent a DVT/PE?**

- Take short walks as often as possible
- If you can't move around much do leg exercises, like bending and straightening your toes every hour
- Drink lots of water
- Stop smoking
- Report any symptoms to your doctor or nurse right away

## **Where Can I Learn More?**

- Thrombosis Canada, <http://thrombosiscanada.ca>

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