



# What Is Venous Thromboembolism?

Venous thromboembolism (VTE) is a blood clot that starts in a vein. VTEs affect up to 600,000 people in the United States each year. There are two types:

- **Deep vein thrombosis (DVT)** — A clot in a deep vein, usually in the leg, but sometimes in the arm or other veins
- **Pulmonary embolism (PE)** — When a DVT clot breaks free from a vein wall, travels to the lungs and blocks some or all of the blood supply



## What causes VTE?

### CHANGES IN BLOOD FLOW

DVTs form in the legs when something slows or changes the blood flow. Blood clots in the thigh are the most likely to break off and travel to the lungs, causing a pulmonary embolism.

Health care professionals can determine your risk of VTE by gathering information about your medical history, age, weight, medications and lifestyle factors. The most common triggers for VTE are:

- Major surgery
- Serious infection, such as COVID-19
- Inflammation
- Long periods of restricted or limited movement
- Cancer

### AGE

Clotting is more likely to happen in people who are older. After age 40, the chance of VTE nearly doubles every 10 years.

### SEX

Things such as pregnancy and use of hormones, including birth control pills and estrogen therapy for menopause, increase the risk of blood clotting, which increases women's risk for VTE.

### FAMILY HISTORY

Genetic mutations can increase VTE risk by making blood clotting more likely. This trait can be inherited from parents.

### MEDICAL HISTORY

Medical conditions that increase the risk of VTE include:

- Previous VTE
- Recent surgery
- Major trauma
- Immobility
- Pregnancy
- Cancer
- Blood clotting disorders
- Heart conditions such as heart failure
- Kidney disease
- Obesity
- Inflammatory disorders

## How is VTE diagnosed?

Your health care team will diagnose VTE by reviewing your medical history and doing a physical exam and imaging or blood tests to detect clotting activity. For DVT, tests might include checking for a blood-clotting marker and oxygen levels in your blood. For PE, tests might include:

- **CT pulmonary angiography (CTPA)** — Takes pictures of your blood vessels in your lungs
- **Pulmonary angiography** — Creates a video of blood flow to your lungs using X-rays to identify blood clots
- **Ventilation-perfusion (V/Q) scan** — Measures air and blood flow in your lungs

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### How can I avoid a VTE?

Here's what you can do to help prevent blood clots:

- Move around and stretch as soon as possible after surgery.
- Wear compression stockings or use a sleeve/boot that fills with air to promote blood flow to your feet and legs.
- Take anticoagulants (blood thinners) as prescribed.
- When traveling:
  - Stand up and walk around every 1-2 hours.
  - Wear loose clothing.
  - Move your knees and ankles often.
  - Change positions often while sitting.
  - Wear compression stockings.
  - Avoid drinking alcohol and stay hydrated.



### How is VTE treated?

Your health care team might prescribe medication or a surgical procedure to treat your VTE.

#### MEDICATIONS

- **Blood thinners** prevent blood clots from growing or forming. Your health care team will choose the best one for you based on your medical history. You may take them as a shot, pill or through an IV. How long you need to take blood thinners will depend on the type of blood thinner and the cause of your blood clot.
- **Thrombolytics** are used to dissolve large or life-threatening blood clots, such as those causing a severe pulmonary embolism. They are given through an IV and dissolve the blood clot(s).

#### SURGICAL PROCEDURES

- **Catheter-assisted blood clot removal** is for emergencies. Your health care professional uses a flexible tube to remove a clot from your lung or leg. You will be given anesthesia for this procedure.
- **Vena cava filter** is a device for people who can't take blood thinners. While it does not stop new blood clots from forming, it filters the blood and catches blood clots before they travel to the lungs.

### HOW CAN I LEARN MORE?

- 1 Call 1-800-AHA-USA1 (1-800-242-8721) or visit [heart.org](https://heart.org) to learn more about heart disease and stroke.
- 2 Sign up for our monthly *Heart Insight* e-news for heart patients and their families at [HeartInsight.org](https://HeartInsight.org).
- 3 Connect with others sharing similar journeys with heart disease and stroke by joining our Support Network at [heart.org/SupportNetwork](https://heart.org/SupportNetwork).

#### Do you have questions for your doctor or nurse?

Take a few minutes to write down questions for the next time you see your health care professional.

For example:

**Am I at risk for VTE?**

**What changes can I make to prevent it?**

### MY QUESTIONS:

We have many other fact sheets to help you make healthier choices to reduce your risk for heart disease, manage your condition or care for a loved one. Visit [heart.org/AnswersByHeart](https://heart.org/AnswersByHeart) to learn more.