



## *About Venous Thromboembolism*

### What is Venous Thromboembolism or “VTE”?

Venous thromboembolism or “VTE” is a common, potentially life-threatening, but treatable and largely preventable disorder that includes two related conditions:

- 1) Deep vein thrombosis (DVT) - Abnormal clotting of the blood in one or more veins, most commonly the veins of the leg; and
- 2) Pulmonary embolism (PE) - Occurs when a DVT breaks free from its original site in a vein and then travels through the heart and then into the lungs.

### How Common is VTE?

VTE is very common.

- VTE is the 3rd most common vascular disorder after heart disease and stroke
- Few Americans have any knowledge about VTE or how to prevent it
- VTE occurs in nearly 1 million Americans every year, many of whom are hospitalized due to these conditions.
- Approximately 300,000 Americans die from PE every year
- Death from VTE is five times more common than all deaths from breast cancer, car crashes and AIDS combined
- In more than 90% of fatal cases of PE, there was no use of therapy to prevent death
- VTE can affect men and women of all ages, including newborns and pregnant women
- The risk of VTE increases as we get older
- Among hospitalized patients, who receive no intervention to prevent VTE, the risk of developing a DVT is approximately:
  - 10-20% in patients admitted with an acute medical illness (such as pneumonia or heart failure)
  - 20-40% after a major general or gynecologic procedure
  - 40-60% after hip or knee replacement surgery
  - 60-80% after a spinal cord injury

### Who's at Risk?

- VTE may affect people who have recently had surgery or who are admitted to hospital for a medical illness
- Pregnancy, the birth control pill, hormone replacement therapy, leg injury or major injury elsewhere, certain cancers, many cancer treatments, and reduced mobility
- Approximately 1/3 of patients who suffer VTE have no identifiable risk factors
- Approximately 1 in 10 healthy people have a disorder of their blood clotting system which increases their chances of developing VTE in the future – many of these blood clotting disorders are inherited

### What about Varicose Veins?

Varicose veins also very commonly affect the leg veins. A predisposition to develop varicose veins is often inherited. Varicose veins may also occur after a DVT. They may not produce any symptoms although they often produce chronic leg swelling and discomfort (heaviness, tiredness) as well as localized pain over the varicosities, itching, skin infection, discoloration of the skin and skin ulcers. Varicose veins may also clot (thrombophlebitis). The symptoms of mild varicose veins can generally be controlled by wearing support stockings. More severe varicose veins may be managed by sclerotherapy, local ablation techniques or minor surgical procedures.

## What are the Consequences of VTE

### DVT:

- Leg swelling and/or leg pain
- Some people with a DVT have no leg symptoms or signs and their DVT is “silent”
- DVT can result in pulmonary embolism; in fact, when DVT is diagnosed, at least ½ of the patients already have PE
- Chronic leg swelling, discomfort, skin discoloration, or leg ulcers are frequent long-term consequences of DVT, and are referred to as post-thrombotic syndrome (PTS). PTS occurs in 1/3 to 1/2 of patients with DVT and results in significant disability and discomfort that may affect patients for many years.
- In some cases, abnormal blood clotting occurs in pregnancy and this can lead to DVT or PE, or to other complications of pregnancy such as high blood pressure, miscarriage, stillbirth, or delivery of small babies. PE is the number one cause of death in pregnancy.

### PE:

- May produce chest pain, shortness of breath, a feeling of apprehension, coughing up of blood, or fainting
- Can lead to sudden death
- In some cases, the pulmonary emboli do not resolve and the patients develop chronic shortness of breath and reduced exercise tolerance

## Treatment

The main therapy for VTE is the use of an anticoagulant medication such as heparin, a low molecular weight heparin, fondaparinux, and/or an oral anticoagulant such as warfarin. Over the past several years, a number of exciting new diagnostic and treatment strategies for DVT and PE have been developed. These include the use of catheter-directed interventions to rapidly reduce the clot burden, the availability of new anticoagulants, the outpatient treatment of VTE, and improvements in our understanding of the risks and benefits of anticoagulation after a thromboembolic event. However, despite major advances in knowledge related to the management of VTE, many patients receive care that is inadequate or inappropriate. Furthermore, physicians still face uncertainty about many practical aspects of VTE care. For example, how long should a patient with a single episode of VTE be treated with anticoagulants? Additional basic science and clinical research will provide important information about which patients are at highest risk for VTE and how they can best be treated.

## Prevention

- About 2/3 of VTE occur as a result of hospitalization for surgery or a medical illness
- With proper use of anticoagulant medication, most hospital-acquired VTE can be prevented
- PE is the most common preventable cause of hospital death
- There are hundreds of randomized trials that demonstrate the effectiveness of thromboprophylaxis and more than 20 evidence-based guidelines recommending the routine use of thromboprophylaxis. Despite the overwhelming evidence, most hospitals do not routinely assess patients for their risk of VTE or provide thromboprophylaxis.

The Venous Disease Coalition is a consortium of 19 different health organizations and numerous volunteer health professionals with a common purpose to reduce death and disability from venous disease. It is a program of the Vascular Disease Foundation.