UNDERSTANDING VENOUS BLOOD CLOTS

FAST FACTS

- Blood clots form to prevent bleeding in response to damage to a blood vessel; they act as a plug at the site of the blood vessel injury
- However, if the blood clotting cascade is inappropriately activated, this can lead to the formation of potentially deadly blood clots
- Venous blood clots (also known as venous thromboembolism, or VTE) can take the form of either:
    - A deep vein thrombosis (DVT) / a blood clot in a deep vein (usually in the leg) that partially or totally blocks the flow of blood
    - A pulmonary embolism (PE) / a blood clot which breaks apart and travels to the lungs, ultimately blocking a blood vessel there
- Venous blood clots kill more people in Europe each year than breast cancer, prostate cancer, HIV/AIDS and road traffic accidents combined
- Blood clots are a potentially deadly but preventable complication of orthopedic surgery
- People at risk of venous blood clots include healthy people undergoing major orthopedic surgery and patients hospitalized for an acute medical illness

What are venous blood clots?

Venous blood clots can either take the form of a DVT, a blood clot in a deep vein that partially or totally blocks the flow of blood; or a PE, a blood clot which breaks apart and travels to the lungs, ultimately blocking a blood vessel there.

Venous blood clots are difficult to diagnose, as up to half of patients have either no symptoms or no specific symptoms. Consequently, avoiding venous blood clots by preventative measures is the most economical and effective approach in current clinical practice.[1]

Deep vein thrombosis (DVT)

- Venous blood clots originate in deep veins, usually in the legs
- Two-thirds of people with symptomatic venous blood clots have DVT alone that does not progress to a PE (see below)[2]
- DVT symptoms include pain and swelling in the legs. Even in the absence of PE, DVT may have serious consequences such as venous hypertension and ulceration and an increased risk of clots recurring

Pulmonary embolism (PE)

- A PE occurs when a blood clot breaks loose and travels to the lungs. Here the blood clot may block the circulation, threatening sudden death or long-term damage to the lungs and other vital organs
- One-third of people with symptomatic venous blood clots have PE[2]
- PE symptoms include acute shortness of breath, chest pain, and rapid heart rate; some people also cough blood
- 10–25% of PEs are rapidly fatal – usually within 2 hours of the onset of symptoms[3,4,5]
- PE can recur after the first event, and, if it does, it is usually fatal[6]
- 10% of all deaths in hospitals can be attributed to PE[7]
- Almost all the hospital deaths resulting from PE are preventable[8]

How common are venous blood clots?

- Venous blood clots are estimated to be the third most common cardiovascular disease after heart disease and stroke[9]
- Each year about 1 in 1,000 people will experience a venous blood clot for the first time[2]
- Every year, venous blood clots kill nearly 1 million people: around 300,000 people in the US[10] and 544,000 in Europe[11]
- PE is a leading cause of in-hospital death[12]

Who is at risk for venous blood clots?

- Healthy patients undergoing elective (planned) major orthopedic surgery, such as total knee or total hip replacement, are at risk of venous blood clots due to factors such as vascular damage and reduced mobility.[13] Such patients may not realize that they are at critical risk of developing a life-threatening blood clot
- Venous blood clots occur in 40–60% of patients undergoing orthopedic surgery who do not receive preventative care[14]
- Up to 30% of general medical patients may develop DVT or PE[15]
- The threat of a blood clot does not go away just because a patient leaves the hospital. A recent study showed that out of a total of 1,897 subjects who experienced a venous blood clot:
    - 74% developed a venous blood clot in the outpatient setting[16]
    - A substantial proportion of these outpatients had undergone surgery (23%) or hospitalization (37%) in the preceding three months[16]

Costs associated with venous blood clots

- Complications associated with VTE and its treatment are frequent and costly
- The main drivers of these VTE costs are initial and recurrent events requiring hospitalization
- In the US, total cumulative inpatient costs related to venous blood clots over 3, 6 and 12 months amount to $4,696,[17,18] $10,072[19] and $33,000,[19,20,21] respectively
- Studies in Europe showed comparatively lower but still significant additional inpatient costs following VTE of €1,804 after 3 months[22] and €3,220 after 12 months[23]
- In light of the high overall costs of treatment, using more effective VTE prevention strategies after major orthopedic surgery could reduce the economic burden of VTE

To learn more about VTE please visit www.thrombosisadviser.com

To learn more about 'Xarelto' please visit www.xarelto.com

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