

## **Warfarin News You Can Use**

**Information for patients of the Brigham and Women's Hospital  
Anticoagulation Management Service**

**Volume 3, Special Edition**

**Oct 2018**



**WORLD THROMBOSIS DAY**  
**13 OCTOBER**



**Dr. Jean Connors**  
**Medical Co-Director**

“The BWH Anticoagulation Management Service clinicians team up with patients and providers to stop blood clots and save lives”



**Dr. Samuel Z. Goldhaber**  
**Medical Co-Director**

“BWH is at the forefront in raising thrombosis awareness and in innovating new strategies to prevent and treat thrombotic illnesses.”

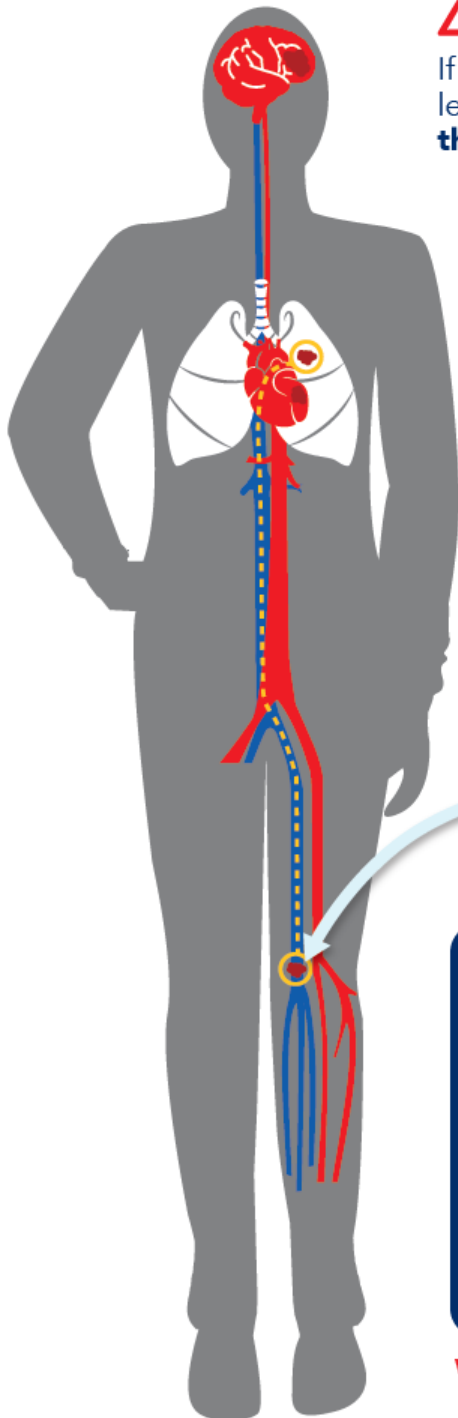
# WHAT IS THROMBOSIS

Thrombosis is the formation of a blood clot in a blood vessel. Blood clots can develop in either a vein (venous thrombosis) or an artery (arterial thrombosis). A blood clot, otherwise known as thrombus, can reduce or stop normal blood flow, and can break loose and travel to an organ. A clot that travels through the bloodstream to end in a different location within the body is known as an embolism.

## **KNOW THE SIGNS AND SYMPTOMS**

If a blood clot forms in your leg, it is called **"deep vein thrombosis" or DVT.**

If the blood clot in your leg breaks off and travels up to your lungs, it is called a **"pulmonary embolism" or PE.**



### WARNING SIGNS OF DVT IN THE LEG MAY INCLUDE:

- Pain
- Tenderness
- Swelling
- Warmth
- Redness



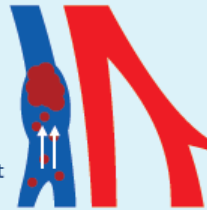
### WARNING SIGNS OF PE MAY INCLUDE:

- Unexplained shortness of breath
- Rapid breathing
- Chest pain (may be worse with deep breaths)
- Rapid heart rate
- Light headedness or passing out



### DVT + PE = VTE

If not prevented or caught early, a deep vein thrombosis (DVT) can progress, with the blood clot breaking away and traveling to your lungs and becoming a potentially deadly pulmonary embolism (PE), which requires immediate medical attention. Together, DVT and PE are known as venous thromboembolism (VTE).



## **BE PROACTIVE**

**A blood clot in the leg or lung can be prevented.**

Take three important action steps:

1. Go to [WorldThrombosisDay.org](http://WorldThrombosisDay.org) to learn the risk factors.
2. Be proactive and if you are at risk, talk to your doctor about prevention.
3. Share this information with your family and friends.

## TYPES OF THROMBOSIS

**Deep Vein Thrombosis (DVT):** Blood clot in the deep veins, usually in the leg

**Pulmonary Embolism (PE):** Blood clot that travels in the blood stream and lodges in the lungs

**Venous thromboembolism (VTE):** General term for thrombosis that includes both DVT and PE

## THROMBOSIS RISK ASSESSMENT & PREVENTION




VTE is a preventable but also life-threatening event. Identifying the signs and symptoms of VTE are critical in preventing the development of these clots in at-risk individuals.

To determine if patients are at-risk, health care professionals perform VTE risk assessments. The goal of an assessment is to gather information about a patient's age, past medical history, list of medications, and certain lifestyle factors. These factors all establish a patient's potential risk of a blood clot, concluding if a patient is at high, moderate or low risk for developing blood clots in the legs or lungs.

If you notice signs and symptoms of a blood clot, it is important to be proactive. If you believe that you are experiencing a blood clot, seek immediate medical attention and ask for an assessment.

Common tests that health care professionals conduct to determine if a patient has a blood clot are a blood test known as a D-Dimer which detects protein fragments in the blood from a previous blood clot, an ultrasound of the arm or leg to identify and locate a clot, and a CAT scan of the chest with an intravenous dye to identify and locate a clot in the lungs.

Patients who are believed to be at-risk should be given appropriate prevention known often as prophylaxis. Prophylaxis may include an anti-clotting medication, otherwise referred to as blood thinners or anticoagulants. An example of anti-clotting medication is warfarin. Other prevention measures include mechanical devices, like compression stockings and compression devices to improve venous circulation in the arms or legs. It is important to move around and do some foot or leg exercises as soon and often as possible to prevent a clot from forming.

 <b>STRONG RISK</b>	 <b>MODERATE RISK</b>	 <b>OTHER FACTORS</b>
<ul style="list-style-type: none"> <li>• Being in the hospital for an extended time</li> <li>• Having surgery (especially hip, knee and cancer-related surgery)</li> <li>• Not moving for long periods of time (e.g., due to bedrest or long travel)</li> </ul>	<ul style="list-style-type: none"> <li>• Age (60+)</li> <li>• Personal or family history of blood clots</li> <li>• Cancer/chemotherapy</li> <li>• Using estrogen-based medication (e.g., oral contraceptives or hormone replacement therapy)</li> </ul>	<ul style="list-style-type: none"> <li>• Obesity</li> <li>• Pregnancy or recent birth</li> <li>• Smoking</li> <li>• Alcohol consumption</li> </ul>

## TREATMENT

Thrombotic events are serious, life-threatening situations that require immediate medical attention. Treatments are aimed at breaking up the existing blood clots and preventing the formation of new clots. Each patient may have specific conditions and require personalized therapy, but in general there are three main types of treatments.

**Anticoagulants:** Anticoagulants are aimed at preventing the formation of clots. Tablets are very commonly used; both the traditional treatment warfarin (Coumadin), as well as the newer "Direct-Acting Oral AntiCoagulants," known as "DOACs," like apixaban (Eliquis), rivaroxaban (Xarelto), edoxaban (Savaysa), and dabigatran (Pradaxa). Warfarin requires management and frequent INR testing, while the newer DOACs can be used more independently. There are also injectable medications like enoxaparin (Lovenox) and heparin to assist in anticoagulation.

**Mechanical Devices:** These include filters placed in veins to prevent clots from travelling towards the brain or compression stockings that improve blood flow as well as decrease swelling and pain.

**Thrombolytic Therapy:** This includes tissue plasminogen activator (tPA), a protein that helps breakdown formed blood clots in the body. Complications may result if thrombotic events go without treatment. These complications include post-thrombotic syndrome, which is impaired blood flow in the body after a DVT, and chronic thromboembolic pulmonary hypertension, which is high blood pressure in the arteries of the lungs. However, early diagnosis and supervised treatment often lead to recovery!



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## THE NUMBERS

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**1** IN **4**

people die from causes related to blood clots

**1-3**

top cardiovascular killers are linked to blood clots

**#1**

cause of preventable death in hospitals is VTE

**60%**

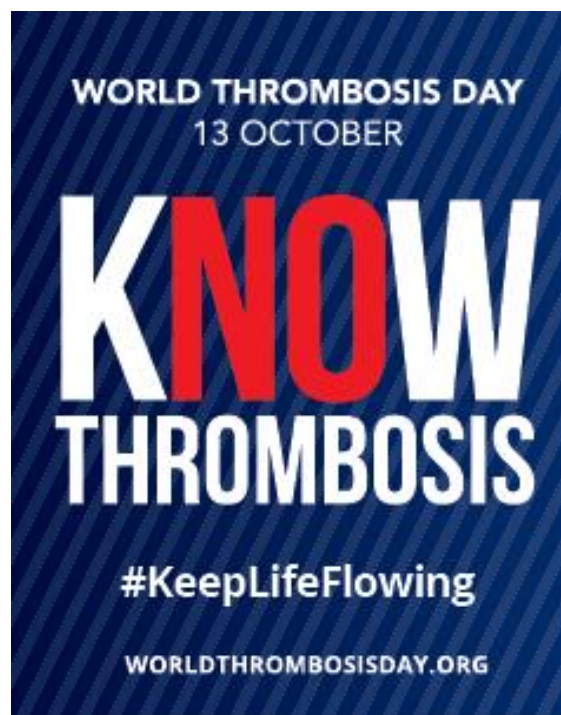
of all VTE cases occur during or following hospitalization

### A GLOBAL PRIORITY

Thrombosis does not discriminate. It affects people of all ages, genders, races/ethnicities, and socioeconomic backgrounds. Every year, there are approximately 10 million cases of VTE worldwide, making it a leading cause of death and disability.

Many VTE cases are preventable, and the best way to protect yourself from a life-threatening clot is to find out if you are at risk. If you experience any warning signs or symptoms such as pain/tenderness, swelling, shortness of breath, chest pain, light headedness, or rapid heart rates, seek immediate medical attention and contact your health care professional.

In 2012, the World Health Assembly (WHA) set a target to reduce deaths from non-infectious diseases by 25% by 2025. To do so, thrombosis must be directly addressed by the WHA, specifically VTE and Atrial Fibrillation. The International Society on Thrombosis and Haemostasis and World Thrombosis Day steering committee continues to call for greater attention to thrombosis. Essential to this effort is the inclusion of VTE as a specific cause of death in the WHO's next Global Burden of Disease study. Will you help?





## Our Staff and Services

### About Us

The Anticoagulation Management Service (AMS) at Brigham and Women's Hospital manages approximately 3000 patients on anticoagulants. We are staffed by ten pharmacists, four advanced practice pharmacy students, and one administrative assistant. Our Supervisor is Katelyn Sylvester, PharmD, and we work in collaboration with our Medical Directors Dr. Jean Connors and Dr. Samuel Goldhaber. Our service has also received the honor of being named a national Anticoagulation Center of Excellence by the Anticoagulation Forum for the past 10 years.

### How to Contact the Clinic

**Phone:** (617) 264-3000

**Fax:** (617) 264-3011

**Email:** [BWHAnticoag@partners.org](mailto:BWHAnticoag@partners.org)

### Clinician Extensions

*For faster service, use your clinician's specific line*

- Katelyn Sylvester: x 1
- Peter Collins & Themio Papadopoulos: x 2
- Gina Dube & Magie Pham: x 3
- Nicole Vincze Irving: x 4
- Andrea Lewin & David Appel: x 5
- Amy Levesque: x 6
- Laura Hill & Sarra Ben Ghorbal: x 7
- General Mailbox: x 8

### Clinic Hours

Monday - Friday: 9:00 - 4:30 (lunch from 12:00 - 1:00)  
 Voicemail is checked throughout the day  
 We are closed on weekends and holidays and will return voicemails on the next business day.

Voicemail is always available for non-emergencies  
 Clinician on-call 24/7 for emergencies

### WHEN TO CONTACT THE CLINIC

- 1** Unusual signs of bleeding or bruising
- 2** If you start, stop, or change any medications
- 3** Any change in diet or alcohol intake
- 4** If you miss a dose of warfarin
- 5** For any illness
- 6** If you schedule a surgery or any type of procedure
- 7** **Report to the ER or call 911 if you experience symptoms of clotting or excessive bleeding**

Many labs do not provide same-day INR test results. If you tested but did not receive a call, please continue your current dose and follow-up with your clinician the next business day.

## THINK PROACTIVELY, KNOW THROMBOSIS!

### QUESTIONS TO ASK YOUR HEALTHCARE PROFESSIONAL ABOUT VTE

Be an active partner in your care and talk to a healthcare professional immediately. Whether you're in a hospital or out living life to the fullest, VTE is a medical emergency.

QUESTIONS	IMPORTANT NOTES
<p><b>1</b> What is my risk of developing a DVT or PE? Please conduct a VTE risk assessment.</p>	
<p><b>2</b> What can be done to lower my risk of developing a DVT or PE?</p>	
<p><b>3</b> Will I be given some type of blood clot prevention while at the hospital?</p>	
<p><b>4</b> Will I be given some type of blood clot prevention when I leave the hospital?</p>	
<p><b>5</b> What are the warning signs or symptoms of a DVT or PE?</p>	
<p><b>6</b> What should I do if I have any warning signs or symptoms?</p>	