

Glossary of Terms

- ◆ **Acute coronary syndrome (ACS)**
Acute coronary syndrome (ACS) is a common and life-threatening condition, which occurs when a coronary artery is blocked by a blood clot, known as a thrombosis, reducing blood supply to the heart. ACS is a result of Coronary Heart Disease (CHD), which kills approximately 7.2 million people worldwide each year¹
- ◆ **Acute respiratory insufficiency**
Condition that inhibits gas exchange in the lung
- ◆ **Anticoagulant drugs**
Anticoagulants have been used for more than 70 years to prevent and treat potentially deadly blood clots. Sometimes referred to as 'blood thinners'
- ◆ **Arthroplasty**
Surgical replacement of a joint
- ◆ **Atria**
Upper chambers of the heart
- ◆ **Atrial fibrillation (AF)**
AF is the most common sustained cardiac rhythm disorder and occurs when the upper chambers (atria) of the heart beat irregularly. As a result, the atria do not empty completely and blood does not flow properly, potentially allowing blood clots to form. These blood clots can break loose and travel to the brain, resulting in a stroke²
- ◆ **Cardiac arrhythmia**
Conditions in which there is an abnormal heart beat
- ◆ **Coagulation cascade**
A chain of biochemical reactions that result in clot formation. Anticoagulants work by blocking or regulating a stage, or stages, of the coagulation cascade
- ◆ **Composite endpoint**
A combination of two or more endpoints in a clinical trial
- ◆ **Deep vein thrombosis (DVT)**
A blood clot that forms in a deep vein, usually in the leg, which partially or totally blocks the flow of blood. If all or part of a DVT breaks off, it can travel to the lungs and cause a pulmonary embolism, where it may impact the flow of blood and lead to potentially life-threatening consequences³
- ◆ **Drug–drug interaction**
A modification of the effect of a drug when administered with another drug, usually either an increase or decrease in the action of either substance, or an effect not normally associated with either drug alone
- ◆ **Efficacy**
The ability of a drug to produce the desired effect
- ◆ **Electrocardiogram**
A test that records the electrical activity of the heart, used to detect abnormal rhythms and heart muscle damage
- ◆ **Embolism**
Occurs when an object or foreign substance migrates from one part of the body (through circulation) and causes a blockage (obstruction) of a blood vessel in another part of the body. Blood clots are the most common cause of embolism
- ◆ **Enoxaparin**
A low molecular weight heparin marketed as Lovenox[®] or Clexane[®] and manufactured by Sanofi-Aventis⁴. See 'Low molecular weight heparin' for more details

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- ◆ **Factor Xa**
An enzyme which acts at a pivotal stage in the blood-clotting (coagulation) process, stimulating the production of thrombin
- ◆ **Factor Xa inhibitor**
An anticoagulant drug that acts at a pivotal stage in the blood-clotting (coagulation) process to prevent clot formation by inhibiting the production of thrombin
- ◆ **Fondaparinux**
An anticoagulant medication marketed as Arixtra® by GlaxoSmithKline used for the treatment and prevention of blood clots⁵. Fondaparinux is given subcutaneously, daily
- ◆ **Hemorrhagic stroke**
Stroke caused by rupture of a blood vessel or an abnormal vascular structure which leads to bleeding inside the brain
- ◆ **Heparin**
An anticoagulant (anti-clotting) medication. Heparin is used to prevent and treat thromboembolic complications (clots that travel from their site of origin through the blood stream to clog up another vessel). Heparin is also used in the early treatment of PEs and can be administered subcutaneously or intravenously
- ◆ **International Normalized Ratio (INR)**
A system for assessing the clotting tendency of blood in patients receiving anticoagulant therapy with vitamin K antagonists (VKAs)
- ◆ **Intravenous**
Within or administered into a vein
- ◆ **Ischaemic stroke**
Stroke caused by an interruption of the blood supply due to a blockage (e.g. a blood clot)⁶
- ◆ **Low molecular weight heparin (LMWH)**
An anticoagulant used for the treatment and prevention of blood clots. It is injected subcutaneously, or given intravenously
- ◆ **Major orthopedic surgery**
Major operations on the bones or joints, including total hip or knee replacement surgery
- ◆ **Pooled data analysis**
A statistical tool that combines the results of studies, for which the populations must be similar, that address a set of related principal outcomes. The resultant larger sample size allows less frequent events to be analysed
- ◆ **Prothrombin**
An inactive version of thrombin, the enzyme in the coagulation cascade that promotes the formation of blood clots. Factor Xa stimulates the conversion of prothrombin to thrombin
- ◆ **Pulmonary embolism (PE)**
A blood clot blocking one or more vessels in the lungs. Once in the lung, the blood clot may block the circulation, threatening sudden death or long-term damage to the lungs and other vital organs.

Symptoms of PE include acute shortness of breath, chest pain, and rapid heart rate; some people also cough blood
- ◆ **Stroke**
A stroke is the rapidly developing loss of brain function(s)⁶. Strokes are caused by a lack of blood supply to the brain due to a blockage or haemorrhage, and can cause severely restricted movement paralysis, loss of speech or vision, or even death



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- ◆ **Subcutaneous**
Introduced under the skin
 - ◆ **Systemic embolism**
A clot that blocks blood flow in an artery somewhere in the body
 - ◆ **Thrombin**
An enzyme in the blood clotting cascade that promotes the formation of blood clots
 - ◆ **Thrombosis**
The formation of a clot inside a blood vessel, blocking a vein (venous thrombosis) or artery (arterial thrombosis)
 - ◆ **Thromboprophylaxis**
Measures including pharmacological agents preventing blood clotting
 - ◆ **Transient ischaemic attack (TIA)**
A change in the blood supply to the brain resulting in transient neurologic dysfunction
 - ◆ **Venous thromboembolism (VTE)**
Venous thromboembolism (VTE) encompasses two serious conditions - deep vein thrombosis (DVT) and pulmonary embolism (PE)
 - ◆ **Vitamin K antagonist (VKA)**
VKAs, such as warfarin and acenocoumarol, were the first oral anticoagulants to be developed. VKAs work by blocking the ability of vitamin K to regenerate, which eventually slows the activation of the coagulation cascade and the ultimate formation of blood clots
 - ◆ **Warfarin**
An anticoagulant drug (brand names: Coumadin®, Panwarfin®, Sofarin®) taken to prevent the blood from clotting and to treat blood clots⁷. Warfarin is also used to reduce the risk of clots causing strokes or heart attacks. Warfarin works by slowing the activation of clotting factors





References

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- 4) eMC. Clexane® SPC. Available at: <http://www.medicines.org.uk/EMC/medicine/24345/SPC/Clexane+pre-filled+syringes/> Last accessed November 2011
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- 7) eMC. Warfarin SPC. Available at: <http://www.medicines.org.uk/EMC/medicine/21578/SPC/Warfarin+3+mg+Tablets/> Last accessed November 2011

About Rivaroxaban (Xarelto®)

Rivaroxaban is an oral anticoagulant that was discovered in Bayer HealthCare's Wuppertal laboratories in Germany, and is being jointly developed by Bayer HealthCare and Johnson & Johnson Pharmaceutical Research & Development, L.L.C. It has a rapid onset of action with a predictable dose response and high bioavailability, no requirement for routine coagulation monitoring, and a limited potential for food and drug interactions.

Rivaroxaban is marketed under the brand name Xarelto® for VTE prevention in adult patients following elective hip or knee replacement surgery, and it is the only oral anticoagulant that has consistently demonstrated superior efficacy over enoxaparin in this indication. Rivaroxaban is approved in more than 110 countries worldwide and marketed outside the U.S. by Bayer HealthCare in this indication.

In the U.S., where rivaroxaban has been available since July 2011 for VTE prevention in adult patients following elective hip or knee replacement surgery, Janssen Pharmaceuticals, Inc. (a Johnson & Johnson Company) holds marketing rights. The Bayer HealthCare sales force is supporting Janssen Pharmaceuticals, Inc. in designated hospital accounts. On November 4, Xarelto® received further marketing approval in the U.S. for the prevention of stroke in patients with Atrial Fibrillation.

The extensive clinical trial programme supporting rivaroxaban makes it the most studied and widely published oral, direct Factor Xa inhibitor. The studies, reported and ongoing, involve over 75,000 patients for the prevention and treatment of venous and arterial thromboembolic (VAT) disorders across a broad range of acute and chronic conditions, including stroke prevention in patients with Atrial Fibrillation, DVT treatment and the prevention of recurrent DVT or PE, and the secondary prevention of Acute Coronary Syndrome.

To learn more about thrombosis, please visit www.thrombosisadviser.com

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

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