

## Dabigatran Etexilate

People who suffer from Atrial Fibrillation are at increased risk of stroke. Thinning the blood can reduce this risk of stroke (See AFA booklet 'Blood Thinning in Atrial Fibrillation'). Medications used to thin the blood are called anti-coagulants. The best-known medication in this group is Warfarin (See AFA information sheet on Warfarin).

The clotting of the blood is a complex process. Blood should clot rapidly when required but remain fluid at other times. The process is often referred to as the 'Clotting Cascade' by clinicians. This term is used to explain how the stimulation to form a clot triggers a series of steps before producing the blood enzyme thrombin. The enzyme thrombin changes the soluble protein fibrinogen to the insoluble protein fibrin. Clots are made of fibrin.

Warfarin has an effect on several steps of the Clotting Cascade. These steps use compounds made with vitamin K by the liver. It is because the function of the liver can vary depending on the demands of the body, and the levels of vitamin K can change depending on what we eat, that Warfarin requires regular monitoring.

Dabigatran is a medication that has a direct effect on the enzyme thrombin. It is called a Direct Thrombin Inhibitor. It has its effects on the final step of the 'clotting cascade' where fibrinogen is converted to fibrin. In this way it thins the blood to reduce the risk of clots forming.

Dabigatran is already used in medical practice to reduce the risk of clots forming after orthopaedic surgery such as a hip or knee replacement.

In September 2009 a medical study was published showing that Dabigatran could potentially also be used in Atrial Fibrillation to reduce the risk of stroke. This study compared the effects of Dabigatran with those of Warfarin. The study concluded that a

dose of Dabigatran of 150mg twice daily was more effective than Warfarin at preventing strokes with the same risks of causing unwanted bleeding as Warfarin. It also looked at Dabigatran at 110mg compared to Warfarin. In this part of the study it showed that Dabigatran 110mg was as effective as Warfarin at preventing stroke but reduced the risk of unwanted bleeding by 20% compared to Warfarin.

Dabigatran requires acidic surroundings to help it to be absorbed. It is due to this that some may find it causes indigestion problems. In common with Warfarin and Aspirin, people on Dabigatran may find they bruise easily and will bleed slightly longer if scratched or cut.

It was noted that MI (heart attack) rates in patients taking warfarin was slightly lower than Dabigatran.

Unlike Warfarin, Dabigatran is rapidly metabolised by the body, requiring a twice daily dose. If a tablet is missed or overlooked then it should be taken as soon as possible after the mistake is noticed, unless it is almost time for your next dose. Double dose or 'extra' doses of Dabigatran should not be taken.

Dabigatran is removed from the body by the kidneys. If a person is known to have poor or impaired kidney function, then the dose of Dabigatran may need to be reduced.

**NB: At the time of going to press, although Dabigatran has been shown to be effective in reducing stroke in Atrial Fibrillation, the medication is not licensed for use in this way. The National Institute of Clinical Excellence (NICE) is yet to publish any advice or guidance on its use for the NHS.**

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