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# Pradaxa (*dabigatran etexilate*)

An overview of Pradaxa and why it is authorised in the EU

## What is Pradaxa and what is it used for?

Pradaxa is an anticoagulant medicine (a medicine that prevents blood clotting) used for:

- preventing the formation of blood clots in the veins of adults who have had an operation to replace a hip or knee;
- preventing stroke (caused by a blood clot in the brain) and systemic embolism (a blood clot in another organ) in adults who have an abnormal heartbeat called 'non-valvular atrial fibrillation' and are considered to be at risk of stroke;
- treating deep vein thrombosis (DVT, a blood clot in a deep vein, usually in the leg) and pulmonary embolism (PE, a clot in a blood vessel supplying the lungs) in adults, and preventing these conditions from occurring again;
- treating blood clots in veins and preventing them from occurring again in children.

Pradaxa contains the active substance dabigatran etexilate.

## How is Pradaxa used?

Pradaxa is taken by mouth and is available as capsules for adults and children above 8 years of age. It is also available as granules for use in children below 12 years of age from the time they are able to swallow soft food. Pradaxa can only be obtained with a prescription.

The dose and duration of treatment depend on the condition Pradaxa is being used to treat, the patient's age and kidney function, and other medicines the patient is taking. For children, the dose also depends on their weight.

All patients at increased risk of bleeding should be monitored closely and the doctor may reduce the dose of Pradaxa.

In all patients, kidney function should also be assessed before starting treatment to exclude patients with severely reduced kidney function, and should be re-assessed during treatment if any worsening is suspected. When Pradaxa is used long term in patients with non-valvular atrial fibrillation, or when it is used in patients with DVT or PE, kidney function should be assessed at least once a year if their kidney function is mildly to moderately reduced or if they are over 75 years old.

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For more information about using Pradaxa, see the package leaflet or contact your doctor or pharmacist.

## How does Pradaxa work?

The active substance in Pradaxa, dabigatran etexilate, is a 'prodrug' of dabigatran. This means that it is converted into dabigatran in the body. Dabigatran is an anticoagulant, meaning that it prevents the blood from coagulating (clotting). It blocks a substance called thrombin, which is central to the process of blood clotting.

## What benefits of Pradaxa have been shown in studies?

### Prevention of blood clots after hip or knee replacement

Pradaxa (220 or 150 mg a day) was as effective as enoxaparin (an anticoagulant given by injection) in preventing formation of blood clots or death in patients who had undergone hip or knee replacement in two main studies.

The first study involved a total of 2,101 patients who had had a knee replacement operation. During the treatment period, blood clots were detected in 36% of the patients taking 220 mg Pradaxa (183 out of 503), compared with 38% of the patients receiving enoxaparin (193 out of 512). There was one death in each group (less than 1%).

The second study involved a total of 3,494 patients who had had a hip replacement. During the treatment period, blood clots were detected in 6% of the patients taking 220 mg Pradaxa (53 out of 880), compared with 7% of the patients receiving enoxaparin (60 out of 897). Three patients in the Pradaxa group died (less than 1%), but two of these deaths were unrelated to blood clots.

In both studies, there was some evidence that a 220 mg dose of Pradaxa may be more effective than a 150 mg dose.

### Prevention of blood clots or stroke in patients at risk of stroke

Pradaxa (110 mg or 150 mg twice a day) was as effective as warfarin (another anticoagulant given by mouth) in preventing stroke or a blood clot blocking blood vessels in a study involving patients with non-valvular atrial fibrillation who were considered to be at risk of stroke.

In the study around 18,000 adults were treated for one to three years. The proportion of patients who had a stroke or other problems caused by blood clots each year was around 1.5% for patients taking 110 mg Pradaxa (183 patients out of 6,015) and 1.1% for patients taking 150 mg Pradaxa (135 out of 6,076), compared with 1.7% for patients taking warfarin (203 out of 6,022).

### Treatment and prevention of DVT and PE

Pradaxa was as effective as warfarin in reducing the formation of blood clots in the veins (DVT) or lungs (PE), or death from a blood clot during treatment.

Two main studies in over 5,100 adults with symptoms of DVT or PE, and who were initially treated with an injectable anticoagulant, compared Pradaxa with warfarin. Blood clots or death from a blood clot occurred in 2.7% (68 out of 2,553) of patients treated with Pradaxa, compared with 2.4% (62 out of 2,554) of patients treated with warfarin.

Another two studies looked at the prevention of DVT or PE in around 4,200 adults with symptoms of recurring blood clots and who were on long-term treatment with anticoagulants. One of these studies

compared Pradaxa with warfarin and the other compared Pradaxa with placebo (a dummy treatment). In the first study, blood clots or death due to a blood clot occurred in 1.8% (26 out of 1,430) of patients treated with Pradaxa, compared with 1.3% (18 out of 1,426) of patients treated with warfarin. In the second study, blood clots or death due to a blood clot occurred in 0.4% (3 out of 681) of patients treated with Pradaxa, compared with 5.6% (37 out of 662) of patients treated with placebo.

In a study in 267 children with confirmed DVT or PE aged from birth to 18 years of age, Pradaxa was compared with standard of care. Treatment with Pradaxa resolved blood clots in 46% of patients compared with 42% of patients treated with standard of care. Blood clots did not reoccur in 96% of patients taking Pradaxa compared with 92% of patients treated with standard of care.

## What are the risks associated with Pradaxa?

For the full list of side effects and restrictions with Pradaxa, see the package leaflet.

The most common side effect with Pradaxa (which may affect more than 1 in 10 people) is bleeding.

Pradaxa must not be used in adults who have severely reduced kidney function, or children with moderately or severely reduced kidney function. It must also not be used in patients who are currently bleeding significantly or who have a condition putting them at significant risk of major bleeding. It must not be used in patients taking any other anticoagulant medicine, except when the patient switches to another anticoagulant medicine or when heparin (another anticoagulant medicine) is being used in specific medical procedures. Pradaxa must also not be used in patients with serious liver problems, in those with artificial heart valves or in patients being treated with certain medicines.

## Why is Pradaxa authorised in the EU?

The effect of Pradaxa in preventing blood clots in adults who have undergone a hip or knee replacement is comparable to that of enoxaparin. Blood clots occur rarely in children and treatment has involved injection of anticoagulant medicines. Pradaxa, which is taken by mouth, is more convenient for adults and children. Pradaxa compared well with warfarin in reducing the risk of strokes in adults with atrial fibrillation without increasing the risk of major bleeding. Since certain patients who take Pradaxa are at increased risk of bleeding, a number of precautions are included in the prescribing information.

In addition, the overall benefit of Pradaxa in the treatment and prevention of DVT and PE is comparable to that of warfarin. However, the number of bleeding events was lower with Pradaxa than with warfarin. Although the studies showed a small higher risk of heart problems with Pradaxa than with warfarin, the number of cases was low and the benefits of Pradaxa were still considered to outweigh its risks. Therefore, the European Medicines Agency decided that Pradaxa's benefits are greater than its risks and it can be authorised for use in the EU.

## What measures are being taken to ensure the safe and effective use of Pradaxa?

The company that makes Pradaxa will provide an educational pack for all doctors who are expected to prescribe the medicine, to increase awareness of the risk of bleeding and provide guidance on how to manage it. Patients will also receive an alert card summarising key safety information on the medicine.

Recommendations and precautions to be followed by healthcare professionals and patients for the safe and effective use of Pradaxa have also been included in the summary of product characteristics and the package leaflet.

As for all medicines, data on the use of Pradaxa are continuously monitored. Side effects reported with Pradaxa are carefully evaluated and any necessary action taken to protect patients.

## Other information about Pradaxa

Pradaxa received a marketing authorisation valid throughout the EU on 18 March 2008.

Further information on Pradaxa can be found on the Agency's website: ema.europa.eu/medicines/human/EPAR/pradaxa.

This overview was last updated in 02-2024.