

Doctor, I have finished 6 months of anticoagulant treatment for my unexplained blood clot. Is it safe for me to stop taking it now?

Men: You have a high risk of developing a new blood clot. You should consider remaining on anticoagulants to protect you.

Women: You may be able to stop your anticoagulant. We can use a score based on your age, height, weight, appearance of the skin on your legs, and the results of a blood test to estimate your risk of having a new blood clot if you stop anticoagulants.

What's the evidence?

Understanding the problem

Anticoagulants protect people who have deep vein thrombosis (DVT) or pulmonary embolism (PE) from forming new blood clots while their body works on breaking down the old blood clots. How long people with DVT or PE should take an anticoagulant is not based on when the clot is gone. Instead, it is based on when the risk factor that caused the blood clot is gone.

For example, Alice develops a DVT one week after hip replacement surgery. She is treated with anticoagulants for 3 months, and then her doctor tells her she can stop taking them. Alice's risk factor for DVT was surgery.

For many people, the risk factor that caused their DVT or PE is either weak (e.g., travel) or unknown. These people remain at risk for forming new blood clots for the rest of their lives. Some people will decide to continue taking anticoagulants indefinitely to reduce their risk. However, some people will choose to stop.

Scores or checklists have been developed to help doctors guide people with unexplained clots who are *undecided* about whether they should continue or stop anticoagulant treatment. The study described below was performed to find out if one checklist (HERDOO2) is helpful for identifying women who can safely stop anticoagulants after 5 to 12 months of anticoagulation.

The study

Who? This study included 2,747 adults (average age 54; 44% female) who had their first unexplained DVT or PE, had completed 5 to 12 months of anticoagulation, and were undecided about whether to continue or stop anticoagulant treatment.

What? This study used the HERDOO2 score to estimate the risk of having a new blood clot.

HERDOO2 Score	Scoring
H: Hyperpigmentation (brown discolouration around ankle or shin) of either leg E: Edema (swelling) of either leg R: Redness of either leg	1 point (if any present)
D: D-dimer (positive blood test while on anticoagulation)	1 point
O: Obesity (BMI > 30 kg/m ²)	1 point
O: Older (age > 65 years)	1 point
Interpretation of Score: <u>Women</u> Score ≥ 2: high risk of new DVT or PE (should continue anticoagulation) Score 0 or 1: low risk of DVT or PE (may discontinue anticoagulation) <u>Men</u> All men have a high risk of new DVT or PE (should continue anticoagulation)	

What the researchers found

Women with an unexplained DVT or PE and HERDOO2 score of ≥ 2 have a high risk of developing a new DVT or PE and should consider remaining on anticoagulation.

Women with an unexplained DVT or PE and HERDOO2 score of 0 or 1 have a low risk of developing a new DVT or PE and can be offered the option of stopping anticoagulation after a minimum of 5 months of treatment.

All men with an unexplained DVT or PE are at high risk of developing a new DVT or PE therefore they should consider remaining on anticoagulation.

Summary of findings

Risk of developing new DVT or PE in the first year after an unexplained DVT or PE treated for 5 to 12 months

Risk classification based on HERDOO2 score	Discontinued/continued anticoagulation	Number of people (% of study population)	New DVT or PE rate at 1 year
Women at high risk (score ≥ 2) and all men	Continued anticoagulation	1802 (66)	About 2 out of 100 people had a new DVT or PE while taking anticoagulants
	Discontinued anticoagulation	323 (12)	About 8 out of 100 people had a new DVT or PE while off of anticoagulants
Women at low risk (score 0 or 1)	Continued anticoagulation	591 (21)	About 3 out of 100 people had a new DVT or PE while taking anticoagulants
	Discontinued anticoagulation	31 (1)	None had a new DVT or PE while off of anticoagulants

This Evidence Summary is based on the following article:

Rodger MA, Le Gal G, Anderson DR, et al. **Validating the HERDOO2 rule to guide treatment duration for women with unprovoked venous thrombosis: multinational prospective cohort management study.** *BMJ.* 2017 Mar 17;356:j1065. PubMed (<https://www.ncbi.nlm.nih.gov/pubmed/28314711?dopt=Abstract>)

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Glossary

anticoagulant	medications that prevent blood clots from forming or travelling (aka blood thinner)
anticoagulants	medications that prevent blood clots from forming or travelling (aka blood thinner)
anticoagulation	medications that prevent blood clots from forming or travelling (aka blood thinner)
deep vein thrombosis (DVT)	formation of a blood clot within a vein deep within the leg
DVT	formation of a blood clot within a vein deep within the leg
PE	blood clot(s) that cause obstruction of blood vessels within the lungs (pulmonary artery), after travelling from veins, most commonly within the leg or arm or pelvis
pulmonary embolism (PE)	blood clot(s) that cause obstruction of blood vessels within the lungs (pulmonary artery), after travelling from veins, most commonly within the leg or arm or pelvis
risk factor	characteristics that increase the chance that a person will develop a disease or condition or experience a bad outcome