

# Doctor, do I have to stop taking birth control pills because I have a blood clot?

No, not if you are taking anticoagulants. However, when it is time for you to stop taking anticoagulants, you will need to think carefully about the risks versus benefits of taking hormone therapy because you will no longer be protected.

## What's the evidence?

### Understanding the problem

Taking hormones in the form of the oral contraceptive pill (birth control pill) or as hormone replacement therapy increases the risk of developing deep vein thrombosis (DVT) and pulmonary embolism (PE). When a woman is diagnosed with a DVT or PE, she is commonly told by her doctor or pharmacist that she should stop taking hormones immediately. This causes problems because women take hormones for important reasons, including to control heavy periods, prevent pregnancy, and control severe symptoms due to menopause.

Because anticoagulants stop blood from clotting, taking an anticoagulant would be expected to cancel out the increased risk of clotting caused by hormones. This should mean that a woman with a blood clot who is taking hormones can continue to take them safely as long as she is also taking anticoagulants at the same time.

Researchers looked at the results of a recent clinical trial to see if women who continued to take hormones or started taking hormones after they were diagnosed with a DVT or PE had a higher risk of developing a new blood clot than women who were not taking hormones.

## The study

**Who?** The study included 1888 women who were treated for a new DVT or PE with enoxaparin (injection) plus a vitamin K antagonist (e.g., warfarin) or rivaroxaban (one of the newer anticoagulant pills).

**What?** The study compared the risk of developing a new DVT or PE in women who were taking hormone therapy or started hormone therapy versus those who were not taking hormone therapy.

<b>Hormone therapy plus anticoagulants</b>	<b>vs</b>	<b>Anticoagulants alone</b>
Hormone therapy included estrogen-only pills, combined estrogen–progesterone contraceptives, and progestin-only contraceptives (including pills, implants, injectables, and intrauterine devices).		No hormone therapy

## What the researchers found

**Women who continued or started hormone therapy after being diagnosed with a DVT or PE were not more likely to develop a new DVT or PE than women who were not taking hormone therapy.**

**It is important to note that once anticoagulant therapy is stopped, continuing or starting hormone therapy will increase the risk of clotting in the future.**

## Summary of findings

**Hormone therapy vs no hormone therapy in women who are taking anticoagulants for DVT or PE**

<b>Outcomes at 3 to 12 months</b>	<b>Rate of events with hormone therapy</b>	<b>Rate of events without hormone therapy</b>	<b>Result</b>
Recurrent DVT or PE	4 out of 100 women per year	5 out of 100 women per year	No evidence of an increase in the rate of new DVT or PE in women taking hormone therapy*

\*Although the rates for the 2 groups look different, the differences were not statistically significant—this means that the difference could simply be due to chance rather than due to the different treatments.

*This Evidence Summary is based on the following article:*

*Martinelli I, Lensing AW, Middeldorp S, et al. **Recurrent venous thromboembolism and abnormal uterine bleeding with anticoagulant and hormone therapy use.** Blood. 2016 Mar 17;127(11):1417-25. PubMed (<https://www.ncbi.nlm.nih.gov/pubmed/26696010?dopt=Abstract>)*

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## Glossary

<b>anticoagulant</b>	medications that prevent blood clots from forming or travelling (aka blood thinner)
<b>anticoagulants</b>	medications that prevent blood clots from forming or travelling (aka blood thinner)
<b>deep vein thrombosis (DVT)</b>	formation of a blood clot within a vein deep within the leg
<b>DVT</b>	formation of a blood clot within a vein deep within the leg
<b>PE</b>	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
<b>pulmonary embolism (PE)</b>	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
<b>rivaroxaban</b>	Xarelto® (aka DOAC)
<b>warfarin</b>	anticoagulant pill that blocks the liver from making normal clotting proteins (the proteins are still made but they don't work); requires blood tests to monitor the effect (aka Coumadin®)