

The contraceptive pill and cancer—a look behind today's headlines

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Women taking the pill may have been alarmed by headlines today linking the oral contraceptive with breast cancer. But for women thinking of chucking their packet in the bin, it might reassure you to know that we don't advise against taking the pill – even though we agree that it slightly raises the risk of breast cancer.

That's because, on balance, [the pill prevents more cases of cancer than it causes](#). On top of this, there are lots of other things to consider when deciding if the pill is the right choice for you. It isn't just about cancer, and nor should it be. While much of today's news focuses on pills containing higher levels of the hormone oestrogen, the study in question didn't conclusively show they led to a higher risk.

It's a complicated business, and stories like this one don't always put new results into context, so let's take a brief look at the bigger picture and what today's study really shows about higher oestrogen pills.

The pill and different types of cancer

There are lots of important aspects to consider when it comes to the pill and cancer, but the main thing is that it reduces the risk of some cancers and increases the risk of others. We've written about this before, but the main effects are:

- Reduced risk of womb and [ovarian cancers](#), which lasts for decades
- Increased risk of breast and cervical cancers, which goes away within about 10 years of stopping the pill
- Because the risk of cancer increases with age, the timing of these effects plays an important role in the number of cancers caused and prevented by the pill.

Women take the pill when they're younger, so although they have a temporarily increased risk of breast and cervical cancers it's when their underlying risk is low. To put it another way, a modest increase in a small risk is still a small risk, so the overall or absolute risk remains low. Our scientists have actually calculated that each year the pill causes around 850 cases of breast and cervical cancers.

On the other hand, the lasting protection against womb and ovarian cancers continues as [women](#) get older and their underlying risk of these of these types of cancer increases. Around 1,400 womb cancers and 600 ovarian cancers are prevented by the pill each year.

So overall, the evidence tells us that the pill prevents more cases of cancer than it causes.

Different formulations of pill

There are two main types of pill:

- The [combined pill](#), containing sources of oestrogen and another hormone called progesterone, is the most common type.
- The progesterone-only pill, also known as the mini-pill or POP, is less popular. Although the evidence is less clear, the POP seems to affect cancer risk in the same way as the combined pill.

Today's study looked at different formulations of the combined pill. Over the years this has changed in various ways, but in particular the oestrogen dose has tended to get lower. So there's a question about whether newer, lower oestrogen formulations affect the risk of different cancers in the same ways as older versions.

The International Agency for Research on Cancer (IARC) is an organisation that evaluates the risk of cancer from various things in our environment (more here). Its [latest look at the evidence](#) on the combined pill and cancer found that there wasn't enough evidence to say whether or not different formulations of the pill have a similar effect on the risk of breast cancer. But they did note there was evidence suggesting that lower-oestrogen formulations might offer even better protection against ovarian cancer.

The new study doesn't show that higher oestrogen pills are riskier

The study [published](#) today in the journal *Cancer Research* set out to investigate the relationship between different formulations of pill and breast cancer. They relied on the fact that, in the US, people often have health insurance - and insurance companies keep detailed information about what drugs people take at different points in their lives, and what diseases they subsequently develop.

The study looked at two groups of women, those who took the pill in the year before they were diagnosed with breast cancer, and those who didn't.

Yet despite the media coverage about high oestrogen pills being riskier, on the whole the researchers showed that the different types of pill had pretty similar effects on the risk of breast cancer. Commenting on their results the authors say they only found one formulation that was 'significantly different' from the others – all the other results were likely to be explained by chance (in technical terms, they weren't 'statistically significant') – including the finding about pills containing high levels of oestrogen.

The advantage of their approach is that they used accurate information on exactly which type of pill women were taking, directly from their prescription records. This helps to get around the problem that women may not accurately remember exactly which pill they were taking at what period in their lives – this can make studies inaccurate or mean that they simply don't have enough reliable information to find answers.

But there were problems with how the study was carried out

It's important to point out that this study did have several problems that mean we can't rely on its results. It didn't fully take things like age or family history of breast cancer into account, nor whether women had recently had breast screening. But, more importantly, it doesn't take account of women's previous use of the pill.

The second group of women – those who didn't take the pill in the year before their breast cancer diagnosis – includes both women who have never used the pill and women who used the pill previously. We don't know about past pill use in any of the women – and this could make an important difference, because we don't know what types of pill the women used in the past. Or in the case of former users, how long ago they stopped taking the pill, which would affect their current risk of breast cancer. On top of this, women who've used the pill for longer are, logically, more likely to be using older formulations.

But the study does make some interesting early observations worthy of further research, such as that relatively recent, low oestrogen pills could have a weaker or even no effect on the risk of [breast cancer](#) – but we'd need to see some longer term better quality research, looking at their use over long periods of time to draw any firm conclusions on this. And it would also be important to check what the effects on other types of cancer were.

So what is our advice on the pill?

This study doesn't change our view on the pill, and it certainly isn't grounds to recommend women stop taking it, or switch to a different type.

If you're worried about the pill, for any reason, or if you're wondering about whether to start or stop taking it, speak to your GP or local family

planning service. As well as being able to give you advice more specific to your own circumstances, they can also discuss alternative options with you.

We don't advise women to avoid taking the pill, and we don't suggest that they should take it either. When it comes to cancer, the [pill](#) has pros and cons and we think that women should have clear information about this along with the other benefits and risks. But at that point, we take a step back – armed with the information, women can make their own choice about what's right for them.

More information: Beaber, E., Buist, D., Barlow, W., Malone, K., Reed, S., & Li, C. (2014). "Recent Oral Contraceptive Use by Formulation and Breast Cancer Risk among Women 20 to 49 Years of Age." *Cancer Research*, 74 (15), 4078-4089 [DOI: 10.1158/0008-5472.CAN-13-3400](#)

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