



# No Evidence that Contraceptive Pills and Patches Lead to Weight Gain

- *The belief that contraceptive pills and patches cause women to gain significant weight is not supported by the evidence.*
- *Counseling could reduce misperceptions about weight gain and decrease the number of women who discontinue the use of these effective contraceptives.*

## Background

Many women and clinicians believe that the use of combination contraceptives—typically pills or patches that contain an estrogen and a progestin—may cause weight gain. Such concerns may prevent some women from starting combination contraceptives or perhaps lead to early discontinuation. These women may turn to less effective methods or use none at all.

Until 2003, no one had reviewed the scientific literature on the relation between combination contraceptives and weight gain. A Cochrane review remedied the situation with an exhaustive analysis of English-language publications on the subject. That 2003 review has now been updated by the authors.<sup>1</sup> One strength of the review is that it is limited to randomized controlled trials—the “gold standard” of trial designs for reducing the potential for bias.

## The Weight of Evidence

The Cochrane review, published in the *Cochrane Database of Systematic Reviews* 2006, Issue 1, includes two additional studies beyond those originally published in 2003 by scientists at Family Health International (FHI). The updated review examines 44 hormonal-contraceptive trials that contain information about weight changes experienced by participants in the studies. Most participants were users of oral contraceptives.

Three of the trials compared weight changes in women using either oral contraceptives or a skin patch versus weight changes in women taking placebos. None of the three placebo-controlled trials showed an association between these contraceptives and weight gain.

The remaining trials compared weight changes between women taking different regimens of combination contraceptives. Although some women gained weight and some lost weight, the overall differences between the groups were minimal—the largest difference in weight change between the groups was less than five pounds.

If estrogen causes weight gain, as some have suggested, then women who take a contraceptive with more estrogen should gain more weight. The review found no evidence that this occurs. However, the studies may not have been designed to detect subtle weight changes in response to different doses.

Most trials did not use careful methods to measure a woman’s weight; indeed, only one trial identified “weight gain” as a primary outcome. Weight measurements can be affected by poorly calibrated scales, the amount of clothing a woman wears, and the time of day the woman is



weighed. These factors could dilute differences between groups, and so mask minor changes caused by the treatments.

Also, some trials included in the Cochrane review did not provide information about weight changes for women who did not complete the study. These studies would have been more informative if weight changes were reported for all of the participants, regardless of whether they finished the trial.

The Cochrane review does not eliminate the possibility that the use of combination contraceptives is associated with minor changes in weight. Unraveling a potential association is complicated by several factors. For one thing, it is difficult to compare the results from many oral contraceptive regimens. In addition, many people gain weight over time, regardless of whether they use contraception. A well-designed study would need to include a nonhormonal placebo group to control for other factors like an increase in weight over time.

### Programmatic Implications

Providers should be informed that the evidence does not support a causal association between the use of combination contraceptives and weight gain. Providers should discuss the effect that eating habits and a sedentary lifestyle can have on weight. Adolescents should also be counseled about the natural increases in weight associated with growth and development. Appropriate counseling may help to reduce misperceptions about weight gain and decrease the number of women who discontinue the use of these effective contraceptives.

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<sup>1</sup> Gallo MF, Lopez LM, Grimes DA, Schulz KF, Helmerhorst FM. Combination contraceptives: effects on weight. *Cochrane Database of Systematic Reviews* 2006, Issue 1. Art. No.: CD003987. DOI: 10.1002/14651858.CD003987.pub2.

The review was first published in 2003. An update in 2005 was published in 2006. The Cochrane Collaboration is an international organization that promotes and provides up-to-date information about the effects of healthcare practices. Systematic reviews of clinical trials are published electronically in the Cochrane Library. For more information about the Cochrane Collaboration and Library, see <http://www.cochrane.org/index.htm>.

**Where to get more information:** [www.maqweb.org](http://www.maqweb.org)

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