

## Hormonal Contraceptives in Women Who Are Overweight or Obese

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### Clinical Question

Does excess body weight change the effectiveness of hormonal contraceptive methods?

### Evidence-Based Answer

Hormonal contraceptives (oral contraceptive pills, implants, patches, and rings) are highly effective in women of all weights. (Strength of Recommendation: A, based on a systematic review and cohort studies.) There is no consistently demonstrated increased risk of pregnancy in overweight women using any specific hormonal method of contraception.

### Evidence Summary

A 2013 Cochrane review examined 13 trials of hormonal contraceptives with more than 49,000 sexually active women 18 to 49 years of age, comparing pregnancy rates across a range of body mass index (BMI) and weight strata.<sup>1</sup> The primary outcome was pregnancy rates. In a secondary analysis of one of the randomized controlled trials included in the Cochrane review (n = 6,022) that analyzed two combined oral contraceptives (norethindrone/ethinyl estradiol and norgestimate/ethinyl estradiol), the only statistically significant finding was increased pregnancy risk in women with BMIs of 25 kg per m<sup>2</sup> or greater who were using norethindrone (relative risk = 2.49; 95% confidence interval [CI], 1.01 to 6.13). Other secondary analyses evaluating different weight and BMI thresholds for norgestimate showed no difference in pregnancy risk. A post-hoc analysis of two randomized controlled trials and one observational study included in the review (N = 3,319) examined pregnancy rates in women using the norelgestromin/ethinyl estradiol transdermal patch by body weight deciles. Pregnancy was rare in any

decile except the group with women weighing more than 90 kg (198.4 lb); however, statistical significance was not reported. The quality of evidence varied from very low to moderate because of the lack of adjustment for confounding factors. A prospective cohort study (n = 9,256) included in the Cochrane review examined the efficacy of the single-rod etonogestrel subdermal implant. The only pregnancy in this study occurred in the group of women with BMIs greater than 30 kg per m<sup>2</sup>.

A 2013 prospective cohort study of 7,486 women 14 to 45 years of age compared pregnancy rates in women using oral contraceptives (multiple formulations with ethinyl estradiol dose ranging from 20 to 35 mcg), transdermal patch (norelgestromin, 150 mcg, plus ethinyl estradiol, 20 mcg), or vaginal ring (etonogestrel, 120 mcg, plus ethinyl estradiol, 15 mcg).<sup>2</sup> The authors performed a subanalysis by BMI, reporting pregnancy rates at three months to three years. There was no difference in unintended pregnancy in women who were overweight or obese (BMI 25 to 30 kg per m<sup>2</sup>, or greater than 30 kg per m<sup>2</sup>, respectively) compared with normal-weight women (BMI less than 25 kg per m<sup>2</sup>) for all methods (overweight: hazard ratio = 1.38; 95% CI, 0.91 to 2.10; obese: hazard ratio = 0.97; 95% CI, 0.61 to 1.53).

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### REFERENCES

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