

Are Your Birth Control Pills Making You Fat?

When the hormones affecting your hunger are the ones you put in your mouth.

How many of you have ever taken synthetic reproductive hormones (e.g., birth control pills)? I was on them for a good 20 years and never thought anything of it—until the horror stories about hormone replacement therapy started leaking to the press a decade ago. I think any woman who had ever taken a synthetic reproductive hormone ran to her doctor for reassurance upon hearing this news. Then the question became: should I or shouldn't I?

Before we can answer that question, we need to discuss the role of female reproductive hormone supplementation and what happens in a woman's body when she's on synthetic reproductive hormones of any kind.

Estrogen

Estrogen is the primary female reproductive hormone. There are actually three types of estrogen in the female body: estrone (E1), estradiol (E2), and estriol (E3). During the reproductive years, estradiol is the most prominent type of estrogen. It's what triggers ovulation and menstruation and is the estrogen involved in keeping your bones strong and healthy. When women become pregnant, estriol (the weakest of the three estrogens) takes over as its role is to help your baby grow. Finally, during menopause, estrone is the predominant estrogen. It is produced by fat cells—predominantly belly fat - and helps build and maintain bone cells.

As women move out of their reproductive years, estradiol falls. With it, baseline levels of ghrelin ("I'm hungry" hormone) also fall. Yet, many peri-menopausal, menopausal, and post-menopausal women report weight gain. But if you're less hungry, why are you gaining weight?

Your hormone replacement therapy might have something to do with it. There are three things that occur when women start taking synthetic hormones. First, estrogen supplementation increases ghrelin ("I'm hungry" hormone) levels—although there is conflicting evidence regarding whether this effect is more pronounced in women who take the hormone transdermally rather than orally or vice versa. This is also true for women on low-dose estrogen birth control pills. Second, estrogen supplementation makes your brain more sensitive to ghrelin. So once again, you feel hungrier. Finally, hormone supplementation appears to decrease leptin levels ("I'm full" hormone), which can leave you feeling unsatisfied after you eat a usual meal.

Progesterone

Progesterone is reproductive hormone that for menstruating women is cyclical in nature: levels are low in between your period and ovulation, rise after ovulation, and remain elevated until your next period, as progesterone is a primary hormone involved in pregnancy. If you are not pregnant, progesterone levels fall, signaling your body to release the uterine lining that it had built in preparation for pregnancy. Thus, menstruation is caused by the withdrawal of progesterone.

But back to our hormone supplementation question. What happens when you introduce progesterone to the hormonal cocktail? There may be some modulating effect. Women who supplement with a combination of estrogen and progesterone show lower levels of ghrelin ("I'm hungry" hormone) and higher levels of leptin ("I'm full" hormone) than do women who have a history of supplementing with estrogen alone. There is also some indication that women who supplement with a combination of estrogen and progesterone are less likely to have naturally occurring fluctuations in leptin levels during their cycles as their artificial hormone levels keep leptin fluctuations at bay. This may also explain why women taking progesterone-only birth control pills do not experience the weight gain of those on more estrogen-dominant pills.

FSH

Follicle Stimulating Hormone (FSH) does just what the name indicates: it stimulates growth of the ovarian follicle (egg and the fluid and cells surrounding the egg needed to support a pregnancy). As women approach menopause, their bodies stop responding to FSH. The body responds by upping its production of FSH—to no avail. Thus, one hallmark of menopause is an elevated FSH level.

Although FSH supplementation is rare outside of in vitro fertilization, high levels of FSH appear to relate to low levels of leptin (“I’m full” hormone),⁶ indicating that menopausal women may find it more difficult to achieve fullness after eating a normal meal. Interestingly, higher FSH levels are also associated with lower ghrelin (“I’m hungry” hormone) levels, though it is unclear whether this has any effect on hunger.

Thyroid Hormone

When you hear people complaining about their thyroid, they are usually referring to low levels of Thyroid Stimulating Hormones (TSH), but the thyroid gland actually produces two hormones - triiodothyronine (T3) and thyroxine (T4)—which play an important role in your physical and psychological well-being. Your thyroid hormones play an important role in regulating your metabolism (including protein, fat, and carbohydrate metabolism as well as vitamin metabolism), affect protein

While very few people suffer from hypothyroidism or hyperthyroidism, there is some evidence to indicate that higher levels of thyroid stimulating hormone are associated with higher levels of leptin (“I’m full” hormone).

Weight Loss Tip: Watch Those Synthetic Hormones

If you are taking birth control pills, patches, or are using any form of hormone replacement therapy and are experiencing weight gain, your answer may be in the pill you’re taking. As progesterone-only pills seem to not have the adverse weight gain effects of estrogen-only pills, you may wish to ask your doctor about getting on a progesterone supplement rather than estrogen if that will help your symptomology. In addition, you may wish to investigate whether bio-identical or plant-based hormones have less of an influence on your weight than do synthetic hormone as women on bio-identical hormones tend to report fewer side effects than do women on synthetic hormones.