

# The Human Chorionic Gonadotropin (HCG) Hormone Diet

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## What is it?

The HCG diet is an Internet fad that promotes daily injection of the HCG hormone and limiting energy intake to 500 calories a day. Like many fad diets, the flashy marketing claims and “personal testimonials” about the product’s effectiveness defy scientific evidence and expert opinion.

HCG is a polypeptide hormone produced by the human placenta and obtained from the urine of pregnant women.<sup>1</sup> HCG stimulates production of gonadal steroid hormones by stimulating the testis to produce androgens and the ovaries to produce progesterone. Clinically, it is used to induce spermatogenesis in men and ovulation and pregnancy in women.

## Side Effects and Dosing

At high doses, side effects include edema, depression, fatigue, headache, irritability, restlessness, gynecomastia (proliferation of glandular tissue of the male breast), precocious puberty, migraines and renal impairment. Dosing varies according to treatment regimens.<sup>2</sup> For injection, HCG comes as powder in 10,000 units. For the HTC diet, unregulated homeopathic versions of the hormone became available on the Internet earlier this year.<sup>3</sup>

## Product History and Research

HCG was first touted as a weight-loss aid in the 1950s by a British doctor named Albert Simeons, who claimed that HCG caused the body to preferentially burn fat from the stomach, hips and thighs. Simeons reported that 500 of his patients had used the hormone as a weight treatment. Those that followed the HCG weight-loss plan for 40 days lost 20 to 30 pounds without feelings of hunger or weakness.<sup>4</sup> Randomized controlled trials subsequently used placebo saline injections instead of HCG and concluded that any weight loss was primarily due to caloric restriction. A meta-analysis from 1995 concluded that there is no evidence that HCG is effective in the treatment of obesity; it does not bring about weight-loss or fat-redistribution, nor does it reduce hunger or induce a feeling of well-being.<sup>5</sup>

The Federal Drug Administration also concludes that “HCG has no known effect on fat mobilization, appetite or sense of hunger, or body fat distribution.” Unfortunately, despite the clear evidence against the efficacy HCG as a diet adjunct, the product continues to be marketed on-line as a miracle weight loss drug.

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- <sup>1</sup> Federal Drug Administration: Pregnyl (Chorionic Gonadotropin for Injection, USP). [http://www.accessdata.fda.gov/drugsatfda\\_docs/label/2007/017692s018lbl.pdf](http://www.accessdata.fda.gov/drugsatfda_docs/label/2007/017692s018lbl.pdf) Accessed 7/17/11.
- <sup>2</sup> Marion, DW. Human chorionic gonadotropin: Drug Information. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2011.
- <sup>3</sup> Manning J. A Shot of Willpower? Prevention; Jun 2011, Vol. 63 Issue 6, p 58.
- <sup>4</sup> Robb-Nicholson C, et al. By the Way, doctor. Harvard Women’s Health Watch, 2007. Ecognitive.com
- <sup>5</sup> Lijesen GK, et al. The effect of human chorionic gonadotropin (HCG) in the treatment of obesity by means of the Simeons therapy: a criteria-based meta-analysis. Br J Clin Pharmacol. 1995 September; 40 (3): 237-243.