

# Progesterone vs Medroxyprogesterone

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Progesterone	Medroxyprogesterone
+ Does not negate estrogen's effects on lipids and modestly improves cholesterol [1]	+ Adversely affects lipids and negates estrogen's beneficial influence [1]
+ Has an antihypertensive effect [2]	+ Causes edema and fluid retention; increases risk of coronary heart disease, stroke, and venous thromboembolism [3]
+ Improves sleep and has a calming effect [4]	+ Causes insomnia and anxiety [5]
+ Prevents post partum depression [6]	+ Causes depression [5]
+ Has no effect upon the liver [7], [8]	+ Contraindicated in liver dysfunction [5]
+ Used in the luteal phase to help a woman become pregnant [9] to maintain a pregnancy [10]	+ Contraindicated in pregnancy [5]
+ Protects against breast cancer [11]	+ Increases risk of breast cancer [5]
+ Stimulates osteoblasts, which help to build bone [12]	+ Reduces bone density [13]
+ Works with pancreas to increase the release of insulin [14]	+ Causes deterioration of glucose tolerance [14]

## Sources:

- [1] The Writing Group for the PEPI Trial. Effects of estrogen or estrogen/progestin regimens on heart disease risk factors in postmenopausal women: the Postmenopausal Estrogen/Progestin Interventions (PEPI) Trial. *JAMA*. 1995;273(3):199-208.
- [2] Kristiansson P, Wang JX. Reproductive hormones and blood pressure during pregnancy. *Hum Reprod*. 2001;16(1):13-17.
- [3] PDR Staff. 2016 Physicians' Desk Reference, 70th Edition. PDR Network; 2015.
- [4] Schüssler P, Kluge M, Yassouridis A, et al. Progesterone reduces wakefulness in sleep EEG and has no effect on cognition in healthy postmenopausal women. *Psychoneuroendocrinology*. 2008;33(8):1124-31.
- [5] Provera (medroxyprogesterone acetate) [prescribing information]. New York, NY: Pfizer; May 2015.
- [6] Dalton K. Successful prophylactic progesterone for idiopathic postnatal depression. *Int. J. Prenatal and Perinatal Studies*. 1989:323–327.
- [7] Bolaji II, Grimes H, Mortimer G, Tallon DF, Fottrell PF, O'dwyer EM. Low-dose progesterone therapy in oestrogenised postmenopausal women: effects on plasma lipids, lipoproteins and liver function parameters. *Eur J Obstet Gynecol Reprod Biol*. 1993;48(1):61-8.
- [8] Darj E, Axelsson O, Carlström K, Nilsson S, Von schoultz B. Liver metabolism during treatment with estradiol and natural progesterone. *Gynecol Endocrinol*. 1993;7(2):111-4.
- [9] Cometti B. Pharmaceutical and clinical development of a novel progesterone formulation. *Acta Obstet Gynecol Scand*. 2015;94 Suppl 161:28-37.
- [10] Goodman LS, Gilman AG, Hardman JG et al. Goodman and Gilman's the Pharmacological Basis of Therapeutics, 12th Edition. McGraw-Hill Book Company Limited; 2011.
- [11] Lambrinoudaki I. Progestogens in postmenopausal hormone therapy and the risk of breast cancer. *Maturitas*. 2014;77(4):311-7.
- [12] Compston JE. Sex steroids and bone. *Physiol Rev*. 2001;81(1):419-447.
- [13] Cundy T, Farquhar CM, Cornish J, Reid IR. Short-term effects of high dose oral medroxyprogesterone acetate on bone density in premenopausal women. *J Clin Endocrinol Metab*. 1996;81(3):1014-7.
- [14] Fraser IS. Estrogens and Progestogens in Clinical Practice. London; Churchill Livingstone; 1998.