LABRIX Newsletter

Contact us 877.656.9596 newsletter@labrix.com

Myth Busting: BHRT and Cancer Risk

Sorting through the facts relating to hormone replacement can be cumbersome and confusing to patients as well as practitioners. More than a decade has passed since the halting of the CEE/progestin arm of the Women's Health Initiative (WHI), and there has been little clarification on the subject from mainstream medical sources. There are however, several glaring misconceptions relating to bioidentical hormone replacement therapy (BHRT), especially as it relates to cancer risk, which should be cleared up.

1: Mind your 'P's: Progestins, progestagens and progesterone

Progestagen is a very general name for molecules that have a core structure that is similar to progesterone. This category includes progesterone itself, as well as many synthetic variations. The synthetic progestagens are also called progestins. These molecules are most commonly found in contraception and conventional hormone replacement protocols. Many, many, many medical sources including studies published in VERY reputable medical journals will not only use these words interchangeably, but also consider them one and the same. THIS IS NOT TRUE; it is imperative to read the methods section of these studies, and not just the abstract or the headlines. In the infamous WHI study, where an increased risk of breast cancer and cardiovascular disease was found, the study subjects were being given medroxyprogesterone acetate (a progestin), NOT progesterone. Unfortunately, the message extrapolated from that study has lead to many reports of progesterone increasing the risk of breast cancer. In studies where progestins and progesterone have been compared head to head the progestins have repeatedly been found to increase breast cell proliferation while progesterone has not.

- *Murkes D, Conner P, Leifland et al. Effects of percutaneous estradiol-oral progesterone versus oral conjugated equine estrogens-medroxyprogesterone acetate on breast cell proliferation and bcl-2 protein in healthy women. Fertil Steril. 2011 Mar 1;95(3): 1188-91.*
- *Murkes D, Lalitkumar PG, Leifland et al. Percutaneous estradiol/oral micronized progesterone has less-adverse effects and different gene regulations than oral conjugated equine estrogens/medroxyprogesterone acetate in the breasts of healthy women in vivo. Gynecol Endocrinol. 2012 Oct;28 Suppl 2:12-5.*
- *Fournier A, Berrino F, Riboli E et al. Breast cancer risk in relation to different types of hormone replacement therapy in the E3N-EPIC cohort. Int J Cancer. 2005; 114(3): 448-54.*
- *Chang KJ et al. Influences of percutaneous administration of estradiol and progesterone on human breast epithelial cell cycle in vivo. Fertil Steril. 1995; 63(4):785-91.*
- *Wood CE, Register TC, Lees CJ et al. Effects of estradiol with micronized progesterone or medroxyprogesterone acetate on risk markers for breast cancer in postmenopausal monkeys. Breast Cancer Res Treat. 2007 Jan;101(2):125-34.*
- *Campagnoli, C., Abbà, C., Ambroggio, S., & Peris, C. (2005). Pregnancy, progesterone and progestins in relation to breast cancer risk. J Steroid Biochem, 97(5), 441–450.*

2: Oral vs. topical progesterone and the endometrium

Historically, one of the primary reasons for including any progestagen in an HRT prescription is to protect the endometrium from uncontrolled growth that may lead to to endometrial or uterine cancer. Even among prescribers who know to recommend progesterone rather than a progestin, there is a common misconception that only oral progesterone will protect the endometrium. This myth is likely rooted in concern that topical progesterone does not raise serum levels to adequately counteract the proliferative effects of estrogen. When histologic analysis of the endometrium (endometrial biopsy) is used for analysis, both topical and vaginal progesterone provide sufficient protection to the endometrium.

- *Stanczyk FZ, Paulson RJ, Roy S. Percutaneous administration of progesterone: blood levels and endometrial protection. Menopause. 2005 Mar;12(3) 232-7.*
- *Anasti J, Leonetti H, Wilson K. Topical progesterone cream has antiproliferative effect on estrogen-stimulated endometrium. Fertil. Steril. 2003 Jan;79(1):221-2.*
- *Sendag F, Terek MC, Karadadas N. Sequential combined transdermal and oral postmenopausal hormone replacement therapies: effects on bleeding patterns and endometrial histology. Arch Gynecol Obstet. 2001 Nov;265(4):209-13.*
- *Leonetti HB, Landes J, Steinberg D, Anasti JN. Transdermal progesterone cream as an alternative progestin in hormone therapy. Altern Ther Health Med. 2005 Nov-Dec, 11(6):36-8.*

3: Bioidentical hormones are “natural” and “safe”

Bioidentical simply means that the hormone matches the chemical and molecular structure of hormones that are produced by the human body. These products are typically produced by modifying a compound that comes from soy or yam; however, this conversion does not happen in vivo and must be done in a laboratory. Thus, while the sources of the hormone are natural, and its role in the body is natural, the molecule itself is synthesized. Estrogen is a proliferative hormone and a woman’s exposure to it over her lifetime can increase her risk of breast cancer, regardless of whether or not the hormone is produced by her own body, taken in the form of a synthetic estrogen or administered in a bioidentical form. Similarly, exposure to estrogen-like compounds such as those found in some plasticizers and pesticides can increase cancer risk. The relative safety of BHRT vs. conventional HRT is due to the combination of hormones given and the importance of prescribing progesterone instead of a progestin (see #1 above).

- *Holtorf, K. (2009). The bioidentical hormone debate: are bioidentical hormones (estradiol, estriol, and progesterone) safer or more efficacious than commonly used synthetic versions in hormone replacement therapy? Postgrad Med, 121(1), 73–85.*
- *L’hermite M, Simoncini T, Fuller S, Genazzani AR. Could transdermal estradiol + progesterone be a safer postmenopausal HRT? A review. Maturitas. 2008 Jul-Aug;60(3-4):185-201.*
- *Fournier, A., Berrino, F., & Clavel-Chapelon, F. (2008). Unequal risks for breast cancer associated with different hormone replacement therapies: results from the E3N cohort study. Breast Cancer Res Tr, 107(1), 103–111.*
- *Fournier, A., Fabre, A., Mesrine, S., Boutron-Ruault, M.-C., Berrino, F., & Clavel-Chapelon, F. (2008). Use of different postmenopausal hormone therapies and risk of histology- and hormone receptor-defined invasive breast cancer. J Clin Oncol, 26(8), 1260–1268.*
- *Markey, C., Luque, E., Munoz-de-Toro, M., Sonnenschein, C., & Soto, A. (2001). In utero exposure to bisphenol A alters the development and tissue organization of the mouse mammary gland. Biol Reprod, 65, 1215–1223.*
- *Jobling S, Reynolds T, White R, et al. (1995). A variety of environmentally persistent chemicals, including some phthalate plasticizers, are weakly estrogenic. Environ Health Perspect, 103:582-587.*

These are just a few of the common misconceptions surrounding hormone replacement. Patients will have many additional questions and concerns when considering BHRT and it's important to have a clear understanding of the pros and cons as they exist beyond alarmist headlines to answer their questions and ease their concerns.

Important insurance information

Labrix continues to monitor changes in billing and insurance and updates it's policy regularly. Click here to see the current information on Billing and Insurance.