Health MOMENTUM CENTRE FOR THERAPEUTIC MEDICINE

Is Bio Identical Hormone Replacement Therapy **Right for You?**

APRIL 9, 2013 *By* DR. AKIKO KATO

The benefits and risks of bioidentical hormone replacement therapy (BHRT) must be weighed in every patient. To reduce the risks of BHRT the treatment must be customized to the unique needs and health history of each patient.

Guiding principles:

- *Treat the cause* – There is always an underlying cause behind every Symptom. Treating the root cause of the illness leads to a more efficacious and longterm solution.
- *Treat the whole person* – helping you balance nutrition and lifestyle to support your body's needs
- *Honor the healing powers of nature* – help the body heal itself by balancing your hormones and supporting your body's functions
- *Prevention* – weigh risks and benefits of deficiencies of key health problems in the future (ie osteoporosis and breast cancer)
- *Doctor as teacher* – we spend time with our patients to help guide them through the process of hormone balance and aging

The 8 Keys to Vitality After Menopause

1. Balance stress in your life and practice mindfulness – read "The Power of Now" by Eckhart Tolle.
2. Eat a balanced diet and improve your blood sugar regulation – read "Nourishing Traditions" by Sally Fallon & Mary G. Enig, PhD.
3. Exercise regularly– read "PACE: Rediscover Your Native Fitness" by Al Sears, MD.
4. Sleep well – read "Brain Fitness: Anti-Aging to Fight Alzheimer's Disease, Supercharge Your Memory, Sharpen Your Intelligence, De-Stress Your Mind, Control Mood Swings, and Much More" by Robert Goldman, MD, Lisa Berger, and Ronald Klatz, MD, DO, PhD.
5. Avoid toxins and promote detoxification.
6. Do regular screening tests such as pap smears and breast thermography
7. Monitor salivary and blood levels of key hormones and other markers to help improve your health and prevent disease.

ADDRESS 275 LANCASTER ST W • KITCHENER, ON • N2H 4V2
PHONE (519) 885-5290 • **FAX** (519) 954-7719 • **EMAIL** INFO@HEALTHMOMENTUM.CA
WWW.HEALTHMOMENTUM.CA

Benefits of Bio identical Hormone Replacement Therapy (BHRT)

Humans are unique in that we live a large part of our lives without the ability to reproduce. While we may be living longer our quality of life in later years can be very low when hormones are not in balance. Bio-identical hormone therapy can help reduce the following symptoms of menopause:

- Fatigue
- Weight gain
- Poor sleep quality
- Vaginal atrophy
- Low libido
- Osteoporosis
- Low mood
- Diabetes
- Anxiety
- Headaches
- Heart disease
- Dementia

Bio-identical hormones are molecularly identical to the hormones made within your body. These hormones are derived from natural sources such as soy or wild yam. Bio-identical hormones are associated with less health risks and more health benefits than synthetic hormones.

In the 1990's, there was much controversy surrounding Premarin®, a synthetic estrogen given to women to help reduce the symptoms of menopause. Unlike bio identical hormones, Premarin was structurally very different from natural human hormones, in that it was made up of estrogen derived from the urine of a pregnant horse. These forms of synthetic hormones are associated with much higher health risks such as blood clots and cancer.

Certain hormones are considered to increase cancer risks and other hormones are related to decreased cancer risks. Some hormones promote bone health while others improve mental health. Although it is clear that the combination of bio-identical estrogen with bio-identical progesterone had the least risk compared to other conventional forms of synthetic hormones on cancer rates, more research is needed to determine the conclusive effects on cancer and general health.

Natural Hormone Alternatives

The Risks and Benefits of Progesterone Replacement

Bio-identical progesterone can be taken by mouth in a capsule or in the form of a topical cream or gel. Progesterone taken as a pill is often used to help with sleep.

One of the main actions of progesterone is to balance the effects of estrogen in your cells. During your menstrual cycle progesterone helps maintain your uterine lining to prevent bleeding. Estrogen causes growth of the uterine lining and progesterone prevents uncontrolled growth of these tissues. This is why if you have a uterus most doctors agree that progesterone is needed when you take estrogen during hormone replacement.

While balancing your hormones you may have some hormonal symptoms such bloating, breakthrough bleeding, missed menstrual cycles, breast swelling and tenderness, fluid retention changes, weight gain, sedation, and mood changes. If you experience any of these symptoms it is important to report them to us so we can adjust your hormone doses and do lab testing if necessary.

The Risks and Benefits of Estrogen Replacement

To maximize safety, bio-identical estrogen taken as a topical cream or gel is considered much safer than in oral form. This is to prevent the estrogen from going through your liver when it first enters your system. These hormones absorb very well through a mucosal membrane so only a small amount is needed to get a whole body effect.

There are several different types of estrogen that can be combined. Estradiol and estriol is the most common combination, with 70-80% estriol and 20-30% estradiol. Estradiol helps reduce many of the symptoms of menopause and estriol helps reduce cancer risks due to its ability to activate special estrogen receptors (estrogen receptor beta) known for their anti-cancer effects.

During hormone balancing with topical estrogen adverse reactions may occur, such as bloating, breakthrough bleeding, breast swelling and tenderness, fluid retention, weight gain, and mood changes. High potency conjugated estrogens (e.g. Premarin), and possibly even estradiol, have been associated with an increased risk of breast cancer and blood clots (the latter especially in smokers). **Estriol may carry a lower risk of breast cancer and may even protect against breast cancer. Nonetheless, the whole area of estrogen replacement is undergoing further evaluation. It is not recommended to take estrogen if you have a history of breast cancer.**

A review published in the prestigious *Maturitas* journal in 2008 pointed out the differences between bio-identical hormone replacement using topical estrogen and conventional HRT which uses oral estrogen and progesterone in altered forms.[4] Many of the side effects associated with estrogen replacement, such as increased stroke and breast cancer risks, are from studies that used oral estrogen, often in an altered synthetic form. **The authors concluded after reviewing the available literature, "there is good observational data to suggest that HRT combining micronized progesterone to estrogens will not result in any increased incidence of breast cancer,** in contrast to most synthetic progestins. Overall very long-term use of unopposed estrogens might still induce a very slight increase in breast cancer risk."[4]

Using progesterone with estrogen replacement appears to reduce the risks of breast cancer significantly. For some reason many doctors still think that progesterone is only necessary, in combination with estrogen replacement after menopause, if you have a uterus. This outdated view may put patients at increased risk for breast cancer if their doctor prescribe them estrogen only. Some patients may desire oral estrogen because they tried topical creams and didn't notice any difference. The reason the cream didn't help is likely because it didn't absorb. Often, changing the base of the cream or gel will improve this and allow a patient to get the reduced risks of topical estrogen (compared to oral estrogen).

"Topical estrogens, minimize the induction of clotting factors in the liver and others proteins associated with the first-pass effect. This reduction in clotting factors is associated with potential advantages on the cardiovascular system. In particular, the risk of developing deep vein thrombosis or pulmonary thromboembolism is reduced in comparison to that associated with oral estrogens. In addition, recent indications suggest potential advantages for blood pressure control with topical estrogens. [4]

Bio-identical hormones appear to have less risks than synthetic altered hormones and more benefits. This is likely because our bodies know what to do with bioidentical hormones because they're identical to the ones our bodies make naturally.

"Recent evidence shows that natural progesterone displays a favorable action on the vessels and on the brain, while this might not be true for some synthetic progestins. Compelling evidence also points to a possible reduction in the risk of developing breast cancer, with recent trials indicating that the association of natural progesterone with estrogens confers less or even no risk of breast cancer as opposed to the use of other synthetic progestins."[4]

The Risks and Benefits of Testosterone Therapy in Women

Bio-identical testosterone therapy for women at low doses can be a safe and effective treatment for many post-menopausal symptoms such as low libido and loss of muscle mass.

Side effects from testosterone therapy are generally mild when they occur. Possible but rare side effects of testosterone therapy in women include acne, change in libido, angina, hirsutism (facial hair growth) and scalp hair loss (or growth), clitoral enlargement, voice changes, or water retention.

In general, available safety data for testosterone, although not conclusive, were reassuring with respect to cardiovascular, breast, and endometrial outcomes. Interim data from a long-term phase III safety trial of a testosterone gel demonstrate a continued low rate of cardiovascular events and breast cancer in postmenopausal women at increased cardiovascular risk. [5]

A 2012 review of the current research on testosterone therapy for women with low libido, published in the Journal of Sexual Medicine, concluded that testosterone therapy is safe for postmenopausal women using a low daily topical dose. Testosterone therapy appears to have important effects on other aspects of your health as well and may reduce the risks of estrogen replacement further. [5]

The Risks and Benefits of DHEA Therapy in Women

Known as the hormone of "anti-aging", Dehydroepiandrosterone (DHEA) is a precursor to testosterone, estrogen and progesterone. DHEA is a powerful hormone that can help increase libido, improve immunity, increase energy, and improve mood and memory. DHEA supplementation may also help with weight loss.

A 2012 study, in the Journal of Clinical Endocrinology, found that an "oral dose of DHEA-S is useful for weight loss. In obese postmenopausal women, the hormone significantly improves plasma biochemical levels and anthropometric characteristics, leading to a better metabolic profile, which highlights the usefulness of this therapy against metabolic syndrome in this group of women."[45]

Side effects are rare and if present, tend to be mild. Side effects may include acne, increased libido, aggression, and abnormal hair growth. These symptoms will usually disappear quickly after discontinuing use of the DHEA.

How to avoid transfer of the topical hormone creams to others

Make sure to wash your hands well with warm water and soap after applying your hormone creams. It is important to avoid transfer of the creams to your spouse, children, pets and others you may touch. Avoid using estrogen and other hormone creams during sexual intercourse. Breast enlargement can occur in men regularly exposed to estrogen.

When will your symptoms resolve?

Every patient responds differently to BHRT. Certain symptoms, like night sweats and hot flashes, can disappear in a few weeks. Decreased sex drive (low libido) can be due to a variety of problems, such as fatigue, and may take several months to improve significantly. For example, thyroid hormone replacement takes 7-8 weeks just to achieve stable blood levels.

To ensure your safety during BHRT it is advised to have re-testing 6-9 months after the onset of your BHRT prescription. This will allow us to determine your optimal hormone dose and supplementation. Once balance is achieved annual or bi-annual lab testing may be needed in some cases.

Allergic reactions to BHRT

Allergic reactions to topical hormone creams are rare. If you notice a rash, itching, or redness please contact us so we can determine the cause. Severe allergic reactions are very rare. Symptoms of severe allergic reactions can include difficulty breathing. If you experience shortness of breath or wheezing seek medical attention immediately.

References

1. Unequal risks for breast cancer associated with different hormone replacement therapies: results from the E3N cohort study. Agnès Fournier, Franco Berrino, and Françoise Clavel-Chapelon. Breast Cancer Res Treat. 2008 January; 107(1): 103–111.
2. Effects of Progesterone on Sleep: A Possible Pharmacological Treatment for Sleep-Breathing Disorders? Andersen, M. L.; A. Bittencourt, L. R.; Antunes, I. B.; Tufik, S. Source: Current Medicinal Chemistry, Volume 13, Number 29, December 2006 , pp. 3575-3582(8).
3. Effects of topical estradiol on the facial skin collagen of postmenopausal women under oral hormone therapy: a pilot study. Patriarca MT, Goldman KZ, Dos Santos JM, Petri V, Simões RS, Soares JM Jr, Simões MJ, Baracat EC. Eur J Obstet Gynecol Reprod Biol. 2007 Feb;130(2):202-5. Epub 2006 Jun 23.
4. Could transdermal estradiol + progesterone be a safer postmenopausal HRT? A review. L'hermite M, Simoncini T, Fuller S, Genazzani AR. Maturitas. 2008 Jul-Aug;60(3-4):185-201. doi: 10.1016/j.maturitas.2008.07.007. Epub 2008 Sep 5.
5. Efficacy and safety of testosterone in the management of hypoactive sexual desire disorder in postmenopausal women. Davis SR, Braunstein GD. J Sex Med. 2012 Apr;9(4):1134-48. doi: 10.1111/j.1743-6109.2011.02634.x. Epub 2012 Feb 3.
6. Carmichael MS, Warburton VL, Dixen J, Davidson JM. Relationships among cardiovascular, muscular, and oxytocin responses during human sexual activity. Arch Sex Behav 1994;23(1):59-79.
7. Carmichael MS, Warburton VL, Dixen J, Davidson JM. Relationships among cardiovascular, muscular, and oxytocin responses during human sexual activity. Arch Sex Behav 1994;23(1):59-79.
8. Amico JA, Seif SM, Robinson AG. Oxytocin in human plasma: correlation with neurophysin and stimulation with estrogen. J Clin Endocrinol Metab 1981;52(5):988-993.
9. Kalin NH, Gibbs DM, Barkskdale CM, Shelton SE, Carnes M. Behavorial Stress Decreases Plasma Oxytocin Concentrations in Primates. Life Sciences 1985;36:1267-1280.
10. Argiolas A, Gessa GL, Melis MR, Stancampiano R, VACCARI A. Effects of Neonatal and Adult Thyroid Dysfunction on Thymic Oxytocin. Neuroendocrinology 1990;52:556-559.
11. Evans JJ. Oxytocin in the human–regulation of derivations and destinations. Eur J Endocrinol 1997;137(6):559-571.
12. Purba JS, Hofman MA, Portegies P, Troost D, Swaab DF. Decreased Number of Oxytocin Neurons in the Paraventricular Nucleus of the Human Hypothalamus in AIDS. Brain 1993;116:795-809.
13. Oxytocin could be new social-phobic treatment. Health News 2006;12(3):10-11.
14. Moller A, Hansen BL, Hansen GN, Hagen C. Autoantibodies in sera from patients with multiple sclerosis directed against antigenic determinants in pituitary growth hormone-producing cells and in structures containing vasopressin/oxytocin. J Neuroimmunol 1985;8(2-3):177-184.
15. Anderberg UM, Uvnas-Moberg K. Plasma oxytocin levels in female fibromyalgia syndrome patients. Z Rheumatol 2000;59(6):373-379.
16. Evans JJ. Oxytocin in the human–regulation of derivations and destinations. Eur J

Endocrinol 1997;137(6):559-571.
17. van Wimersma Greidanus TB, van de Heijning BJ. Opioid control of vasopressin and oxytocin release. Regul Pept 1993;45(1-2):183-186.
18. Martin A, State M, Anderson GM et al. Cerebrospinal fluid levels of oxytocin in Prader-Willi syndrome: a preliminary report. Biol Psychiatry 1998;44(12):1349-1352.
19. Swaab DF. Prader-Willi syndrome and the hypothalamus. Acta Paediatr Suppl 1997;423:50-54.
20. Swaab DF, Purba JS, Hofman MA. Alterations in the hypothalamic paraventricular nucleus and its oxytocin neurons (putative satiety cells) in Prader-Willi syndrome: a study of five cases. J Clin Endocrinol Metab 1995;80(2):573-579.
21. Lucht MJ, Barnow S, Sonnenfeld C et al. Associations between the oxytocin receptor gene (OXTR) and affect, loneliness and intelligence in normal subjects. Prog Neuropsychopharmacol Biol Psychiatry 2009;33(5):860-866.
22. Scantamburlo G, Hansenne M, Fuchs S et al. Plasma oxytocin levels and anxiety in patients with major depression. Psychoneuroendocrinology 2007;32(4):407-410.
23. Goldman M, Marlow-O'Connor M, Torres I, Carter CS. Diminished plasma oxytocin in schizophrenic patients with neuroendocrine dysfunction and emotional deficits. Schizophr Res 2008;98(1-3):247-255.
24. Panksepp J. Commentary on the Possible Role of Oxytocin in Autism. Journal of Autism and Developmental Disorders 1993;23(3):567-569.
25. Elevated Salivary Levels of Oxytocin Persist More than 7 h after Intranasal Administration. van Ijzendoorn MH, Bhandari R, van der Veen R, Grewen KM, Bakermans-Kranenburg MJ. Front Neurosci. 2012;6:174. doi: 10.3389/fnins.2012.00174. Epub 2012 Dec 7.
26. Effects of Oxytocin Outside Pregnancy. Lippert TH, Mueck AO, Seeger H, Pfaff A. Horm Res 2003;60:262–271 (DOI: 10.1159/000074243)
27. Oxytocin and vasopressin in the human brain: social neuropeptides for translational medicine. Meyer-Lindenberg A, Domes G, Kirsch P, Heinrichs M. Nat Rev Neurosci. 2011 Aug 19;12(9):524-38. doi: 10.1038/nrn3044.
28. A sniff of trust: meta-analysis of the effects of intranasal oxytocin administration on face recognition, trust to in-group, and trust to out-group. Van IJzendoorn MH, Bakermans-Kranenburg MJ. Psychoneuroendocrinology. 2012 Mar;37(3):438-43. doi: 10.1016/j.psyneuen.2011.07.008. Epub 2011 Jul 29.
29. A review of safety, side-effects and subjective reactions to intranasal oxytocin in human research. MacDonald E, Dadds MR, Brennan JL, Williams K, Levy F, Cauchi AJ. Psychoneuroendocrinology. 2011 Sep;36(8):1114-26. doi: 10.1016/j.psyneuen.2011.02.015. Epub 2011 Mar 23.
30. Social support and oxytocin interact to suppress cortisol and subjective responses to psychosocial stress. Heinrichs M, Baumgartner T, Kirschbaum C, Ehlert U. Biol Psychiatry. 2003 Dec 15;54(12):1389-98.
31. Intranasal oxytocin attenuates the cortisol response to physical stress: A dose-response study. Cardoso C, Ellenbogen MA, Orlando MA, Bacon SL, Joober R. Psychoneuroendocrinology. 2013 Mar;38(3):399-407. doi: 10.1016/j.psyneuen.2012.07.013. Epub 2012 Aug 11.
32. TSH may not be a good marker for adequate thyroid hormone replacement therapy.

Alevizaki M, Mantzou E, Cimponeriu AT, Alevizaki CC, Koutras DA. Wien Klin Wochenschr. 2005 Sep;117(18):636-40.
33. Metabolic effects of liothyronine therapy in hypothyroidism: a randomized, double-blind, crossover trial of liothyronine versus levothyroxine. Celi FS, Zemskova M, Linderman JD, Smith S, Drinkard B, Sachdev V, Skarulis MC, Kozlosky M, Csako G, Costello R, Pucino F. J Clin Endocrinol Metab. 2011 Nov;96(11):3466-74. doi: 10.1210/jc.2011-1329. Epub 2011 Aug 24.
34. Thyroid Disorders in Elderly Patients Shakaib U. Rehman MD, Dennis W. Cope MD, Anna D. Senseney MD, Walter Brzezinski MD. http://www.medscape.com/viewarticle/504978_5 (last accessed on 4/8/13). Southern Medical Journal
35. Altered intestinal absorption of L-thyroxine caused by coffee. Benvenga S, Bartolone L, Pappalardo MA, Russo A, Lapa D, Giorgianni G, Saraceno G, Trimarchi F. Thyroid. 2008 Mar;18(3):293-301. doi: 10.1089/thy.2007.0222.
36. Abnormal circadian rhythm and cortisol excretion in autistic children: a clinical study. Lakshmi Priya MD, Geetha A, Suganya V, Sujatha S. Croat Med J. 2013 Feb 15;54(1):33-41.
37. Aging, health behaviors, and the diurnal rhythm and awakening response of salivary cortisol. Heaney JL, Phillips AC, Carroll D. Exp Aging Res. 2012;38(3):295-314. doi: 10.1080/0361073X.2012.672134.
38. Comparison of salivary versus serum testosterone levels in postmenopausal women receiving transdermal testosterone supplementation versus placebo. Flyckt RL, Liu J, Frasure H, Wekselman K, Buch A, Kingsberg SA. Menopause. 2009 Jul-Aug;16(4):680-8. doi: 10.1097/gme.0b013e318199d5c4.
39. Salivary steroid assays – research or routine? Wood P. Ann Clin Biochem. 2009 May;46(Pt 3):183-96. doi: 10.1258/acb.2008.008208. Epub 2009 Jan 28.
40. The potential role of hypocortisolism in the pathophysiology of stress-related bodily disorders. Heim C, Ehlert U, Hellhammer DH. Psychoneuroendocrinology. 2000 Jan;25(1):1-35.
41. Stress-induced hypocortisolemia diagnosed as psychiatric disorders responsive to hydrocortisone replacement. Schuder SE. Ann N Y Acad Sci. 2005 Dec;1057:466-78.
42. Prolonged hypocortisolemia in hydrocortisone replacement regimens in adrenocorticotrophic hormone deficiency. Maguire AM, Ambler GR, Moore B, McLean M, Falleti MG, Cowell CT. Pediatrics. 2007 Jul;120(1):e164-71. Epub 2007 Jun 18.
43. Anxiolytic-antidepressant activity of Withania somnifera glycowithanolides: an experimental study. Bhattacharya SK, Bhattacharya A, Sairam K, Ghosal S. Phytomedicine. 2000 Dec;7(6):463-9.
44. Stimulating effect of adaptogens: an overview with particular reference to their efficacy following single dose administration. Panossian A, Wagner H. Phytother Res. 2005 Oct;19(10):819-38.
45. Differential effect of oral dehydroepiandrosterone-sulphate on metabolic syndrome features in pre- and postmenopausal obese women. Gómez-Santos C, Hernández-Morante JJ, Tébar FJ, Granero E, Garaulet M. Clin Endocrinol (Oxf). 2012 Oct;77(4):548-54. doi: 10.1111/j.1365-2265.2011.04306.x.