

The Doctor's RESEARCH UPDATE

Natural Medicine for Women's Health

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Dr. Zeligs earned a Masters degree in stress-physiology from the University of California, Santa Barbara, completed a fellowship in Molecular Immunology, and received his M.D. from the University of California, Irvine, College of Medicine. Dr. Zeligs is a leading authority on diindolylmethane (DIM). He was awarded a patent for his microencapsulated formulation of absorbable DIM and has numerous issued and pending patents for novel uses of DIM in preventive medicine. As a physician-investigator, he has sponsored clinical trials for HPV, cervical dysplasia, uterine, and prostate health. These clinical trials are underway in collaboration with Cornell University, the NYU School of Medicine, Cancer Research UK, Wayne State University, and New York Medical College. The National Cancer Institute, under a clinical trials agreement with Dr. Zeligs, has sponsored additional clinical trials investigating microencapsulated DIM as a natural preventive and therapeutic candidate for cancer.

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Nutritional Support for Breast Health

Women are becoming aware that nutritional intervention can help assure optimal health for their breasts. Anatomically, breasts are complex glandular structures which respond to the hormones estrogen and progesterone, and go through a monthly cycle of cellular growth and swelling. Pregnancy creates further growth, milk production, and lactation. During middle-age and later, breast tissue bears the burden of chronic estrogen-driven growth and inflammatory stimulation from environmental byproducts¹. Such frequent exposure to estrogen raises concerns regarding the risk of breast cancer. Recently, the importance of a healthy estrogen metabolism to support breast health has become known to the greater medical community². In addition to the benefits of a balanced diet and regular exercise, certain nutritional interventions are now known to promote breast health³.

Breast Health Issues

Many pre-menopausal women experience painful, swollen breasts during the premenstrual phase of their menstrual cycle. This condition is called "mastalgia." Scientists have discovered that this recurrent breast pain reflects excess stimulation from estrogen⁴. Women may develop "fibrocystic changes" resulting in nodular "lumpy" breasts which may be painful. Breast health issues range from these symptoms of painful breasts all the way to breast cancer. Cancer risk in both pre- and post-menopausal women is now known to relate to unfavorable estrogen metabolism⁵, exposure to environmental toxins including cigarette smoke⁶, and exposure to synthetic progesterones⁷.

The Estrogen Connection to Breast Health

Healthy estrogen metabolism has been shown in multiple studies to be predictive of a lower risk of future breast cancer⁸. A healthy estrogen

metabolism is maintained by promoting increased 2-hydroxylation of estrogen⁹, which elevates levels of the non-carcinogenic estrogen metabolite, 2-hydroxyestrone. Nutritional factors, particularly the intake of cruciferous vegetables and Vitamin D, are associated with lower breast cancer risk. Cruciferous vegetables provide the indole phytonutrient Diindolylmethane (DIM). DIM is the most effective dietary substance to promote desirable estrogen metabolism. Absorbable DIM supplements have been shown to promote healthy estrogen metabolism in post-menopausal women¹⁰, and help resolve recurrent breast pain in younger women⁵. Similar but less activity is seen with other nutritional substances including lignans from sesame seeds, and isoflavones from soy.

Nutritional Supplement Approaches to Breast Health

In order to maintain breast health and hormonal balance, a healthy diet includes raw or lightly cooked cruciferous vegetables, frequent consumption of sesame and flax seeds, and supplemental Vitamin D. Supplemental elemental iodine has been shown to be of benefit in women with fibrocystic changes¹¹.

In addition, the use of absorbable DIM supplements (75-300 mg) taken once or twice daily has been shown to promote breast comfort and healthy estrogen metabolism in pre- and post-menopausal women^{10,3}. Together, absorbable DIM, regular exercise, and the suggested diet provides an effective avenue for hormonal balance and maintaining healthy breasts.

References:

1. Mukherjee S, Koner BC, Ray S, Ray A. **Environmental contaminants in pathogenesis of breast cancer.** *Indian J Exp Biol.* 2006 Aug;44(8):597-617.
2. Kabat GC, O'Leary ES, Gammon MD, Sepkovic DW, Teitelbaum SL, Britton JA, Terry MB, Neugut AI, Bradlow HL. **Estrogen metabolism and breast cancer.** *Epidemiology.* 2006 Jan;17(1):80-8.
3. Zeligs MA, Brownstone PK, Sharp ME, Westerlind KC, Wilson SM, and Johs SM. **Managing Cyclical Mastalgia with Absorbable Diindolymethane: A Randomized, Placebo-controlled Trial.** *JANA.* 2005. 8(1): 5-15
4. Gong C, Song E, Jia W, Qin L, Guo J, Jia H, Hu X, Su F. **A double-blind randomized controlled trial of toremifene therapy for mastalgia.** *Arch Surg.* 2006 Jan;141(1):43-7.
5. Okobia MN, Bunker CH. **Estrogen metabolism and breast cancer risk—a review.** *Afr J Reprod Health.* 2006 Apr;10(1):13-25.
6. Sainot M, Malaveille C, Hautefeuille A, Gerber M. **Interactions between genetic polymorphism of cytochrome P450-1B1, sulfotransferase 1A1, catechol-o methyltransferase and tobacco exposure in breast cancer risk.** *Int J Cancer.* 2003 Nov 20;107(4):652-7.
7. Anderson GL, Chlebowski RT, Rossouw JE, Rodabough RJ, McTiernan A, Margolis KL, Aggerwal A, David Curb J, Hendrix SL, Allan Hubbell F, Khandekar J, Lane DS, Lasser N, Lopez AM, Potter J, Ritenbaugh C. **Prior hormone therapy and breast cancer risk in the Women's Health Initiative randomized trial of estrogen plus progestin.** *Maturitas.* 2006 Sep 20;55(2):103-15.
8. Muti P, Bradlow HL, Micheli A, Krogh V, Freudenheim JL, Schunemann HJ, Stanulla M, Yang J, Sepkovic DW, Trevisan M, Berrino F. **Estrogen metabolism and risk of breast cancer: a prospective study of the 2:16alpha-hydroxyestrone ratio in premenopausal and postmenopausal women.** *Epidemiology.* 2000 Nov;11(6):635-40.
9. Bradlow HL, Telang NT, Sepkovic DW, Osborne MP. **2-hydroxyestrone: the 'good' estrogen.** *J Endocrinol.* 1996 Sep;150 Suppl:S259-65.
10. Dalessandri KM, Firestone GL, Fitch MD, Bradlow HL, Bjeldanes LF. **Pilot study: effect of 3,3'-diindolylmethane supplements on urinary hormone metabolites in postmenopausal women with a history of early-stage breast cancer.** *Nutr Cancer.* 2004;50(2):161-7.
11. Ghent WR, Eskin BA, Low DA, Hill LP. **Iodine replacement in fibrocystic disease of the breast.** *Can J Surg.* 1993 Oct;36(5):453-60