

# 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 Cervical Health and Normal Pap Tests**

Certain strains of the Human Papilloma Virus (HPV) are the acknowledged cause of chronic infection of the Uterine Cervix in sexually active women. Persistent HPV infection leads to abnormal Papanicolaou Smears (Pap Tests) on gynecologic exam. Without intervention, HPV infection can progress to Cervical Dysplasia, a precursor to Cervical Cancer. The recent introduction of an HPV vaccine will serve to prevent initial HPV infection in young women, but does not eliminate existing HPV infection or established Cervical Dysplasia. Recognition of the importance of unfavorable estrogen metabolism as a risk factor for Cervical Dysplasia, together with newly discovered anti-viral properties of cruciferous vegetable indoles<sup>2</sup>, provides a new basis for nutritional intervention to promote uterine cervical health in women.

### **The Human Papilloma Virus (HPV) Meets Anti-viral Nutrition**

Epidemic spread of the HPV among sexually active young women has been identified as the cause of abnormal Pap Tests. Presence of high risk strains of the HPV on direct testing for HPV virus has revealed Cervical Dysplasia and Cervical Cancer to be sexually transmitted diseases. Study of uterine cervical tissue has shown that unfavorable estrogen metabolism in the tissue is associated with persistent viral infection and survival of abnormal cells<sup>3</sup>. Early clinical studies of cruciferous vegetable Diindolylmethane (DIM) showed

absorbable DIM to promote the selective elimination of HPV infected cells in a variety of HPV-related conditions<sup>4</sup>. Confirmation of this benefit of microencapsulated DIM has been observed in clinical studies where supplementation leads to the resolution of HPV-related warts on hands and feet<sup>5</sup> and resolution of HPV-related lesions on the vocal cords<sup>6</sup>. Selective promotion of programmed cell death (apoptosis) in HPV transformed cells by DIM provides an explanation for the observed anti-viral nutritional effects of DIM<sup>7</sup>. Absorption-enhanced DIM is now used to supplement the diets of women with documented HPV infection and Abnormal Pap Tests. In addition DIM supplementation is an option for male sexual contacts, now known to harbor genital HPV<sup>8</sup>.

### **Immune Support for Cervical Health**

The importance of healthy mucosal immunity for cervical health has been established by the increased occurrence Cervical Dysplasia in association with immune deficiency. Protection from HPV infection occurs through mucosal immunity and elimination of infected cervical cells via apoptosis. Apoptosis is supported through dietary supplementation with vitamins A and D which increase the sensitivity of infected cells to cellular signals for apoptosis. DIM has recently been shown to specifically increase cellular production of interferon, a specific product from immune and

epithelial cells that supports the elimination of virally infected cells<sup>9</sup>. Since DIM provides direct anti-HPV activity, promoting apoptosis in HPV infected cells, it is one of a unique group of natural phytonutrients useful as anti-viral compounds.

Microencapsulated DIM is in use in clinical studies for Cervical Dysplasia<sup>10</sup>. Also relevant for cervical health, mucosal immunity is further increased using nutritional supplements supporting non-specific immune response including probiotic concentrates of “friendly bacteria”, aloe vera leaf extracts, mushroom extracts, and dried brewer’s yeast supplements.

### **Nutritional Supplement Approaches to Normal Pap Tests and Uterine Cervical Health**

A healthy diet for Uterine Cervical Health includes raw or lightly cooked cruciferous vegetables and supplemental Vitamin A and Vitamin D.

Use of absorbable DIM supplements (450 mg) taken twice daily for 2-3 months has proven of benefit in women with HPV infection, Cervical Dysplasia (CIN I, CIN II) and Vaginal Dysplasia<sup>4,6</sup>.

Use of absorbable DIM supplements (300-450 mg) taken twice daily for 1-2 months

by asymptomatic sexual partners may increase the benefits of absorbable DIM supplementation in women with cervical health concerns.

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