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Parabens and Breast Cancer

Parabens are synthetic chemicals used as a preservative to inhibit the growth of bacteria, yeasts, and molds. Parabens are known to disrupt endocrine (hormone) function. More than 12 research studies (1) show parabens to have estrogenic activity in animals and in tissue culture. Recent research detected five types of intact parabens in human breast tumors (2). Although not a conclusive link between exposure to parabens and breast cancer, this new research signals the need for a precautionary approach to the manufacture and use of these compounds.

The international research community is beginning to question the safety of parabens in consumer products, based on new evidence of their endocrine disrupting effects. These ubiquitous chemicals are used as preservatives in a host of consumer products: food, pharmaceuticals and personal care products, including shampoos and conditioners, sunscreens, and deodorants. Since 2000, 13 research studies have shown that various types of parabens (methyl, ethyl, propyl, benzyol and benzyl) act like estrogen in animals and in tissue culture. However, the estrogenic activity occurs only when parabens are applied to the skin, not when ingested.

The estrogen/breast cancer connection is indisputable, which raises concerns about chemicals such as parabens that behave like estrogen. These concerns include:

- The widespread use of parabens in countless consumer products makes them ubiquitous in the environment and in our bodies through multiple routes of exposure. A report published in the Journal of the American College of Toxicology in 1984 (3) estimated that parabens could be found in over 13,000 cosmetics products.
- Parabens are just one type of xenoestrogen to which women are exposed (xenoestragens are synthetic agents that mimic the actions of estrogen). Consequently, another cause of concern is both the cumulative effect and the interaction of parabens with other xenoestrogens, and with the body's own estrogens – all of which affect endocrine function.
- A 2004 UK study detected traces of five parabens in the breast cancer tumors of 19 out of 20 women studied (4). This small study does not prove a causal relationship between parabens and breast cancer, but it is important because it detected the presence of intact parabens -- unaltered by the body's metabolism -- an indication of the chemicals' ability to penetrate skin and remain in breast tissue.

Daily use of personal care products – especially deodorants and anti-perspirants -- can result in direct, chronic exposure to parabens. A 2003 study published in the European Journal of Cancer Prevention (5) reported, "Frequency and earlier onset of antiperspirant/deodorant usage with underarm shaving were associated with an earlier age of breast cancer diagnosis."

The U.K. study highlights the need for more research on the potential link between products containing parabens and increased breast cancer risk (6). The authors also point out that prenatal exposure to parabens, and the potential effect on adult cancer risk, needs to be studied. Animal studies indicate that parabens also may affect development of the male reproductive system (7).

While research continues, however, the accumulated evidence makes a compelling case for taking a precautionary approach, individually and collectively, to the manufacture and use of parabens.

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