

# Breast cancer risk in postmenopausal women using estrogen-only therapy

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Affiliations

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## Abstract

**Objective:** To evaluate whether the risk of estrogen-only therapy on breast cancer varies by dose, constituent, and route of administration.

**Methods:** All Finnish women older than age 50 years using oral or transdermal estradiol (n=84,729), oral estriol (n=7,941), or vaginal estrogens (n=18,314) for at least 6 months during 1994-2001 were identified from the national medical reimbursement register. They were followed for breast cancer with the aid of the Finnish Cancer Registry to the end of 2002.

**Results:** Altogether, 2,171 women with breast cancer were identified. The standardized incidence ratio of breast cancer with systemic estradiol for less than 5 years was 0.93 (95% confidence interval 0.80-1.04), and for estradiol use for 5 years or more, 1.44 (1.29-1.59). Oral and transdermal estradiol was accompanied by a similar risk of breast cancer. The risk was most prominent with the dose greater than 1.9 mg/d orally; whereas the risk associated with transdermal route was not dose-dependent. The standardized incidence ratio for the lobular type of breast cancer (1.58) was slightly higher than that for the ductal type (1.36). The use of estradiol was associated with both localized breast cancer (1.45; 1.26-1.66) and cancer spread to regional nodes (1.35; 1.09-1.65). The incidence of carcinoma in situ (n=32) was increased (2.43; 1.66-3.42) among estradiol users.

**Conclusion:** Estradiol for 5 years or more, either orally or transdermally, means 2-3 extra cases of breast cancer per 1,000 women who are followed for 10 years. Oral estradiol use for less than 5 years, oral estriol, or vaginal estrogens were not associated with a risk of breast cancer.

**Level of evidence:** II-2.

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Collins J.

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