

FACT SHEET Factors Which Increase and Decrease Breast Cancer Risk

Factors Which INCREASE Breast Cancer Risk	
Factor	Mechanism
Alcohol	Increases estrogen exposure by impairing liver function
Benign proliferative breast disease	Result of increased estrogen exposure
BRCA genes	Inherited defects in cancer defense genes
Cigarette smoking	Benzopyrenes damage DNA
Contraceptive steroids (in pills, patches, vaginal rings, IUDs or injectable forms)	Increases estrogen exposure
Early menarche (age at which menstruation starts)	Increases estrogen exposure
Female sex	Increased estrogen exposure
High socio-economic group	Delayed childbearing
Higher education	Delayed childbearing
Hormone replacement therapy (HRT)	Increases estrogen exposure
Increasing age	Premenopausal: Increases estrogen exposure Postmenopausal: Impairs immune function
Induced abortion	Leaves increased number of immature breast lobules and increases risk of premature births Increases estrogen exposure
Late childbirth (over 30 years old)	Increases exposure of Type 1 & 2 lobules to estrogen before first birth; long susceptibility window
Late menopause	Increases estrogen exposure
Nulliparity (never bearing children)	Maturity of breast lobules does not occur
Premature birth before 32 weeks	Leaves increased number of immature breast lobules Increases estrogen exposure
Postmenopausal obesity	Increases estrogen exposure
Radiation	Damages DNA
2nd trimester miscarriage	Leaves increased number of immature breast lobules

Factors Which DECREASE Breast Cancer Risk	
Factor	Mechanism
Breast feeding	Decreases estrogen by decreasing number of menstrual cycles and/or ovulation
Cruciferous vegetables (e.g., broccoli, Brussels sprouts or DIM supplements)	Indole-3-carbinol decreases estrogen exposure by causing estrogen to be changed to an inactive metabolite of estrogen
Early menopause	Decreases estrogen exposure
Exercise	Decreases estrogen exposure
Having children (especially starting at a young age)	Decreases number of immature breast lobules
Late menarche	Decreases estrogen exposure
Omega-3 fatty acids (e.g., olive, flax seed, walnut oils)	Unknown
Oophorectomy (removal of ovaries) before menopause	Decreases estrogen production
Soy isoflavonoids (phytoestrogens)	May block estrogen receptors

Factors Which HAVE NO EFFECT on Breast Cancer Risk	
Factor	Reason
Saturated fat	Saturated fat intake not related to obesity
Spontaneous abortions (miscarriages) in the first trimester	No increased levels of estrogen as found in healthy pregnancies

This information is taken from Breast Cancer Risks and Prevention, 4th Edition, (Chapter 15), by Angela Lanfranchi, MD.FACS & Joel Brind, PhD. (©2007 Breast Cancer Prevention Institute)

The Breast Cancer Prevention, Risks and Prevention 4th Edition booklet and this Fact Sheet are available to view online: www.bcpinstitute.org

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