



Strang

Cancer Prevention Institute

Dedicated to Promote Cure by Early Detection and Research to Prevent Cancer since 1933

Prevention

Ovarian Cancer Awareness Month September 2015

RISK FACTORS FOR OVARIAN CANCER

An estimated 21,290 new cases of ovarian cancer are predicted in 2015 in the US, with an estimated 14,180 deaths. Ovarian cancer is the fifth most deadly cancer in women.

Although reproductive, demographic, and lifestyle factors affect risk of ovarian cancer, the single greatest ovarian cancer risk factor is a family history of the disease. An analysis of 15 published studies estimated a three-fold increase in the risk of ovarian cancer is associated with a family history of ovarian cancer.

Ovarian cancer incidence rises in relation to age from 30 years to age 50 years and then continues to increase at a slower rate. Before age 30 years, the risk of developing ovarian cancer is remote, even in hereditary cancer families.

Never having been pregnant is consistently associated with an increased risk of ovarian cancer, including among *BRCA1/BRCA2* mutation carriers. Analysis of multiple studies showed that having four or more live births is associated with a reduced risk.

Risk may also be increased among women who have used fertility drugs, especially those who do not become pregnant.

There is growing evidence that the use of menopausal hormone replacement therapy is associated with an increased risk of ovarian cancer, particularly in long-time users and users of sequential estrogen-progesterone schedules.

Bilateral tubal ligation and hysterectomy are associated with reduced ovarian cancer risk, including in *BRCA1* and *BRCA2* mutation carriers.

Ovarian cancer risk is reduced more than 90% in women with *BRCA1* or *BRCA2* mutations who chose risk-reducing surgery (usually done laparoscopically) of the tubes and ovaries (salpingo-oophorectomy). In this same population with *BRCA* gene mutations, prophylactic removal of the ovaries also resulted in a nearly 50% reduction in the risk of subsequent breast cancer.

The use of oral contraceptives (OC) for 4 or more years is associated with an approximately 50% reduction in ovarian cancer risk in the general population.

A majority of, but not all, studies also support OCs being protective among *BRCA1/BRCA2* mutation carriers. Analysis of 18 studies, including 13,627 *BRCA* mutation carriers, reported a fifty percent risk reduction of ovarian cancer.

Inheritance of Ovarian Cancer Predisposition

Autosomal dominant inheritance of a gene predisposing to breast and gynecologic cancers is characterized by transmission of cancer generation to generation, through either the mother's or the father's side of the family, with the following characteristics:

When a parent carries an autosomal dominant genetic predisposition, each child has a 50:50 chance of inheriting the predisposition.

Although the risk of inheriting the predisposition is 50%, not everyone with the predisposition will develop cancer because of incomplete penetrance and/or gender-restricted or gender-related expression.

Both males and females can inherit and transmit an autosomal dominant cancer predisposition. A male who inherits a cancer predisposition can still pass the altered gene on to his sons and daughters.

Breast and ovarian cancer are components of several autosomal dominant cancer syndromes.

The syndromes most strongly associated with both cancers are the *BRCA1* or *BRCA2* mutation syndromes. Breast cancer is also a feature of a number of other rare genetic disorders.

The family characteristics that suggest hereditary cancer predisposition include the following: Multiple cancers within a family, cancers typically occur at an earlier age than in sporadic cases (defined as cases not associated with genetic risk), two or more primary cancers in a single individual.

These could be multiple primary cancers of the same type (e.g., bilateral breast cancer) or primary cancer of different types (e.g., breast cancer and ovarian cancer in the same individual or endometrial and colon cancer in the same individual) and cases of male breast cancer.

PREVENTION OF OVARIAN and FALLOPIAN TUBE CANCER

Avoiding Risk Factors and Increasing Protective Factors may Help Prevent Cancer.

The Following are Risk Factors for Ovarian and Fallopian Tube Cancer

Family History of Ovarian, Fallopian Tube, and Primary Peritoneal Cancer

Inherited Risk

Hormone Replacement Therapy

Weight and Height

The Following are Protective Factors for Ovarian and Fallopian Tube Cancer

Oral Contraceptives

Tubal Ligation

Breastfeeding

Risk-reducing Removal of the Ovaries and Fallopian Tubes (salpingo-oophorectomy)

Removal of the ovaries and fallopian tubes are the single most effective way of reducing the risk of cancer. This procedure is better than 95% effective and is recommended to those women carrying a *BRCA 1* or *BRCA 2* mutation. In addition, women with a family history of ovarian cancer without a *BRCA* gene mutation may consider this risk reducing surgery.

SCREENING FOR OVARIAN CANCER

Blood tumor markers (CA-125) or trans-vaginal ultrasound (sonography) are not effective ways of screening for ovarian cancer. Recent research suggests that using these two tests in combination when sequential blood CA-125 levels rise may result in early detection, but the results of a large study in the UK are not yet available.

Currently there are no screening tests effective for the early detection of ovarian cancer. As the ovaries lie within the abdominal (peritoneal) cavity, cancer cells from ovarian cancer are easily spread within the cavity early on.

A novel new method of early detection of ovarian cancer utilizes the Pap test, developed by [Strang](#) in the 1950s, where fluid from the cervix is analyzed for DNA found in ovarian cancer. Currently this method is used only in research protocols and not available for general use.

Sources: National Institutes of Health National Cancer Institute, Johns Hopkins University Medical Center.

For further information visit www.strang.org

The Strang Cancer Prevention Cookbook

Reduce your Risk for Cancer by Eating a Healthy Diet!

Sautéed Spinach with Garlic

This cooking method can be applied to other leafy greens such as Swiss chard, escarole, broccoli rabe, and beet or turnip greens

1 1/4 pounds fresh spinach
1 tablespoon extra -virgin olive oil
4 garlic cloves, peeled, lightly crushed, and quartered lengthwise
Pinch of hot red pepper flakes (optional)
Salt and freshly ground black pepper



Remove the stems from the spinach and tear any large leaves into bite –size pieces.

Rinse thoroughly and drain.

Heat the olive oil in a large skillet. Add the garlic and red pepper flakes if using, and cook over medium heat until the garlic is light gold; don't let the garlic get too brown or it will be bitter.

Remove the garlic and set aside.

Reserve the oil in the skillet and increase the heat to medium high.

Add the spinach and season with salt and pepper to taste. Sauté, turning the spinach with tongs to cook evenly. When the spinach is just wilted and tender, 2 to 3 minutes, remove the skillet from the heat. Using a slotted spoon or tongs, lift the spinach from the skillet leaving behind excess liquid. Transfer to individual plates or a platter. Top with garlic and serve.

Spinach is exceptionally high in beta –carotene (110 percent of the DV for Vitamin A per serving of this recipe) as well as other carotenoids, folate (more than 80% of the DV), vitamin C (more than 80% of the DV) and minerals such as calcium, iron, magnesium, and potassium. It is also high in protein when compared to other vegetables. A good source of fiber.

Calories 82, protein 5 g, carbs 7 g, fat 4g, cholesterol 0 mg, dietary fiber 4 g, saturated fat 1 g

MAJOR SOURCES OF POTENTIAL CANCER FIGHTERS.

Phytochemicals: allium compounds, terpenes (carotenoids).

Recipe by Laura Pensiero, R.D. Owner Gigi Trattoria, Rhinebeck, New York

This Newsletter is Dedicated to Dianne Tashman Zola



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