In 2020, there will be an estimated 22,000 new cases of ovarian cancer diagnosed and almost 14,000 deaths in the United States.

For years, ovarian cancer has remained one of the leading causes of death for women with cancer. Unfortunately, we still do not have a screening test for ovarian cancer. That means that by the time many women are diagnosed, they have advanced-stage disease, which is much more challenging to treat.

We have known for quite some time that certain factors protect against ovarian cancer. Oral contraceptive (birth control) pills, when taken for years, reduce the risk of ovarian cancer by as much as 50%. We also know that removing the fallopian...
tubes, either during surgery to tie the tubes for sterilization, or as part of a hysterectomy (removal of the uterus), greatly reduces the risk. Women with the Hereditary Breast and Ovarian Cancer (HBOC) syndrome, which is characterized by mutations in BRCA1 and BRCA2, are at markedly increased risk, too.

**Understanding these protective factors is essential. Evolving research sheds some light on how ovarian cancer starts.**

Many cases of the most common type of ovarian cancer, called high-grade serous carcinoma, are not ovarian at all – they start in the fallopian tube. The fallopian tube is between the ovary and uterus and transports fertilized eggs that are released at the time of ovulation during a women’s cycle to the uterus. The end of the tube, which sits next to the ovary, looks like a bunch of feathery fingers, and is called the fimbria. A pre-cancerous lesion called serous tubal epithelial carcinoma, or STIC, has been identified in women with the HBOC syndrome and women with ovarian cancer. The genes that are mutated and drive the growth of ovarian cancer cells are also mutated in STIC lesions, suggesting that they may come before actual cancer.

**This finding has really changed how we practice gynecologic surgery because we may be able to prevent cancers in many women.**

In 2014, the Society of Gynecologic Oncology (SGO) released a statement recommending that fallopian tubes be removed in all women who had completed childbearing if they are undergoing another pelvic surgery, such as hysterectomy. Older studies from Europe suggest that taking this action may reduce ovarian cancer rates for a large population. We are hopeful that with this recommendation from the SGO, we will see rates of ovarian cancer decline in the United States.

The fallopian tube is one of the main areas of research for Sophia George, Ph.D., a
molecular geneticist. Dr. George has extensively published on the changes that occur within the fallopian tube and how they may contribute to the risk of cancer. There are changes in the tubal environment that occur during and after ovulation during a normal menstrual cycle, as well as changes in the expression of certain genes that usually suppress tumor growth. She has ongoing studies specifically evaluating how genes in apparently normal fallopian tubes mutate in women with the HBOC syndrome, and how female hormones, like estrogen and progesterone, influence the development of cancer.

It is our hope that her ongoing work will lead to new innovations in screening for fallopian tube and ovarian cancers.

Ovarian cancer remains one of the hardest gynecologic cancers for us to cure. With continued research into the causes of this disease, we hope to make early detection and prevention a reality for patients.

READ MORE
Let's talk about sexual health after cancer.

When someone battling cancer is fighting for survival, it may seem inappropriate or unnecessary to worry about their sexual and intimacy issues. Yet, this part of their physical, emotional, and social lives can greatly affect their overall quality of life. Read more.