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Spotlight

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What do *you* know about ovarian cancer?

September is Ovarian Cancer Awareness Month

Ovarian cancer, although much less common than breast cancer, is the eighth most common cancer among women. The American Cancer Society estimates that in 2008, 15,520 women in the United States will die from ovarian cancer and 21,650 more women will be diagnosed with the cancer.¹ Ovarian cancer is usually diagnosed in women over 55. However, about 12% of new cases will be in women younger than 44 years old.²

Ovarian cancer is a rare, but serious condition. Many women don't realize they have the disease until the cancer has spread.³ Only 19 percent of ovarian



Gilda Radner died of ovarian cancer at age 42. Radner was best known for her role in the NBC comedy series "Saturday Night Live." Radner had a cousin and an aunt with ovarian cancer, an aunt with breast cancer, and a grandmother suspected to have had ovarian cancer. Photo courtesy of Gilda's Club Worldwide.

cancers are found before the cancer has spread beyond the ovaries.⁴ Breast exams and mammograms can be used to identify breast cancer early.⁵ Screening tests for ovarian cancer are available, but it is not clear if these tests are beneficial. As a result, routine screening of ovarian cancer is not recommended by any medical organization, including the U.S. Preventive Services Task Force (USPSTF).

Knowing the risk factors for ovarian cancer and the signs and symptoms can help women reduce their risk or improve their chances for survival. The National Cancer Institute's Web site provides a detailed

list of risk factors for ovarian cancer [See sidebar on ovarian cancer resources]. A positive family history is among the risk factors for ovarian cancer.^{6,7} Seven to ten percent of all women diagnosed with ovarian cancer have a family history of the disease.⁸

Women who have a mother, sister or daughter with ovarian cancer are at higher risk, and the younger the relative was when she developed the cancer, the higher the risk. The more relatives you have with ovarian cancer, the higher your risk.

Having a family history of other cancers can also increase your risk of ovarian cancer. For example, women who have breast cancer in their family may have inherited changes in the BRCA1 or BRCA2 genes that are

What is ovarian cancer?

Ovarian cancer develops in the tissues on the ovary or within the egg cells produced in the ovary. An ovary is one of a pair of female reproductive organs in the pelvis. They are located on either side of the uterus.

Ovarian cancer symptoms

You should see your doctor if you experience the following symptoms every day for several weeks, and these are not normal for you:

- severe bloating
- an upset stomach or heartburn
- difficulty in eating
- feeling full quickly
- pelvic, abdominal, or back pain
- urinary problems
- unusual vaginal discharge
- being tired all the time

Resources on ovarian cancer

- Centers for Disease Control and Prevention's Division of Cancer Prevention and Control on Ovarian Cancer: <http://www.cdc.gov/cancer/ovarian/>
- National Cancer Institute's Ovarian Cancer Home Page: <http://www.cancer.gov/cancertopics/types/ovarian>
- Agency for Healthcare Research and Quality's USPSTF recommendations: <http://www.ahrq.gov/clinic/3rduspstf/ovariancan/ovcansr.htm> and <http://www.ahrq.gov/clinic/uspstf05/brcagen/brcagens.pdf>

Ovarian cancer (from front page)

associated with both breast and ovarian cancer [See sidebar below]. Some genes associated with colon cancer can be associated with higher risk of ovarian cancer.⁹ So, knowing your family history is important. Doctors and scientists agree that people with a family history of ovarian cancer and breast cancer should remain vigilant in monitoring their health.¹⁰

Along with knowing your family history, it's also important to recognize the signs and symptoms of the disease. According to a 2006 survey sponsored by the National Ovarian Cancer Coalition, only 15 percent of surveyed women aged 40 years and older could identify the symptoms of

ovarian cancer.¹¹ Recommendations from ovarian cancer experts advise women to see their doctor if they experience the following symptoms every day for several weeks: severe bloating; difficulty in eating; feeling full quickly; pelvic or abdominal pain; or urinary problems (having to go urgently or frequently).¹² The symptoms may be caused by something other than cancer, but if you have these symptoms almost daily for more than a few weeks, you should report them to your health care professional. That's the only way to know for sure.

Take the first step today. Create a family history or make sure your

Family Medical History

Online tools can help make collecting a family history easier. Check out:

- National Office of Public Health Genomics' Family History Resources and Tools: <http://www.cdc.gov/genomics/public/famhist.htm>
- The Surgeon General's "My Family Portrait:" <http://www.hhs.gov/familyhistory/>

family history is up-to-date. Easy-to-use online family-history collection tools are just a few clicks away.

Sources cited:

- American Cancer Society^{1,3,9}
- National Cancer Institute^{2,4,5,7,8}
- CDC, Division of Cancer Prevention and Control⁶
- American College of Obstetricians and Gynecologists¹⁰
- The Gynecologic Cancer Foundation¹¹

Ovarian Cancer & Genetic Testing

Genetic tests analyze human DNA, RNA, chromosomes, and proteins. Some genetic tests can be used to detect variations in genes that increase the risk of developing certain diseases or conditions.

For example, genetic testing can help some women find out if they have a higher risk of breast and ovarian cancer. The test detects variations in two genes related to both breast and ovarian cancer: BRCA1 and BRCA2. However, testing for BRCA1 and BRCA2 is not right for everyone.

The U.S. Preventive Services Task Force (USPSTF) recommends that only certain women with specific family histories should be referred for genetic counseling to determine if BRCA testing is appropriate for them.

When thinking about family history, both maternal and paternal family histories are important. According to the USPSTF, a high-risk family history for BRCA1 or 2 gene mutations includes the following patterns:

- 1) Two first-degree relatives (parents, brothers, sisters or children) with breast cancer, one of whom received the diagnosis at age 50 years or younger;

- 2) A combination of three or more first- or second-degree relatives with breast cancer regardless of age at diagnosis (second-degree relatives include grandparents, grandchildren, aunts, uncles, nieces, nephews, or a half-brother or half-sister);
- 3) A combination of both breast and ovarian cancer among first- and second-degree relatives;
- 4) A first-degree relative with bilateral breast cancer;
- 5) A combination of two or more first- or second-degree relatives with ovarian cancer regardless of age at diagnosis;
- 6) A first- or second-degree relative with both breast and ovarian cancer at any age; and
- 7) A history of breast cancer in a male relative.

Heritage is also important. For women of Ashkenazi Jewish heritage, an increased-risk family history includes the following patterns: 1) any first-degree relative with breast or ovarian cancer; 2) two second-degree relatives on the same side of the family with breast or ovarian cancer.

Only about 2 percent of adult women in the general population have an increased-risk family history as defined above. The following link summarizes the USPSTF's recommendations regarding genetic testing for BRCA1 and BRCA2: <http://www.ahrq.gov/clinic/uspstf05/brcagen/brcagenrs.pdf>. Importantly, not all women with a BRCA mutation will develop breast or ovarian

cancer. For more information, visit: <http://www.ahrq.gov/clinic/uspstf/uspstfbrgen.htm>.

CA-125 is sometimes used to screen women at increased risk for ovarian cancer. This test detects a protein released when cancer is present in the body. However, the U.S. Preventive Services Task Force found that even for women at high risk of ovarian cancer because they had a BRCA mutation, screening with CA-125 was not to be recommended because it was unclear if benefits outweigh the harms for such women. For more information on ovarian cancer screening using CA-125 and for more information on genetic testing for BRCA1 and BRCA2, see the Agency for Healthcare Research and Quality's USPSTF recommendations listed under "Resources for Ovarian Cancer" on the previous page.

An evidence report on Genomic Tests for Ovarian Cancer Detection and Management is available online at: <http://www.ahrq.gov/clinic/tp/genovctp.htm>. The report was commissioned by the Evaluation of Genomic Applications in Practice and Prevention (EGAPP) Working Group (an independent, non-federal panel, supported by Centers for Disease Control and Prevention's National Office of Public Health Genomics), in collaboration with CDC's Division of Cancer Prevention and Control, and prepared by the Duke University Evidence-based Practice Center under contract to the Agency for Healthcare Research and Quality.

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