Celiac disease is a cross-talk reaction between the immune system and small intestine in response to a protein called gluten. The result is inflammation, which causes most of celiac patients' symptoms. There is a strong genetic component to the disease.

The haplotypes associated with celiac are very common, but having these genes present is not an indication of disease state. Celiac patients may experience diarrhea, bloating, skin rash, and pale, oily stool. Your doctor would test your blood for specific antibodies in order to confirm the diagnosis.

If you have it, there is little need to worry--celiac disease is 100% treatable with a gluten-free diet. There are many options available for people following a gluten-free diet using alternative starches such as potatoes and rice. Support communities and gluten-free recipes are readily available online. Millions of people are affected by celiac disease.

Celiac disease likely developed some time after the advent of agriculture in the Neolithic period, when humans began consuming grains. Its symptoms were first documented in 250 CE by the ancient Greek physician Aretaeus of Cappadocia who noted chronic diarrhea and malabsorption in several of his patients. He called the ailment "celiac affection" (celiac from a Greek word meaning "abdominal").

Aretaeus' work gained traction in Western medicine centuries later, when physicians Samuel Gee and Christian Herter isolated the causes of it to the patients' diet. After minor successes with very restrictive diets (such as bananas and mussels), Dr. Willem Dicke isolated wheat consumption as the cause during the Dutch famine of 1944. A team from Birmingham (Anderson et al, 1952) discovered that the specific trigger of the symptoms was wheat gluten. The hereditary component of celiac disease was uncovered in 1965 (Macdonald, Dobbins and Rubin).
Celiac disease is an autoimmune disorder caused by a dysfunctional reaction of the small bowel and the immune system in response to gluten. The resulting inflammation is what causes the symptoms of celiac patients.

There are two genes associated with celiac disease, HLA-DQ2 and HLA-DQ8, located on chromosome six. The presence of just one gene indicates that a person may develop the disease in their lifetime, and two genes makes it more likely. The number of genes also denotes the severity of the disease. These genes are not mutated and occur as normal haplotypes within the population. Research suggests that the genes follow an autosomal recessive pattern of inheritance.

Although there is a strong genetic component to celiac disease, the presence of either genetic marker is not an indication of disease state. Other factors such as diet, environment, and stress may cause the disease to develop.

**causes**

**diagnosis**

Women and people of European American descent are most likely to develop celiac disease. People of African, Chinese or Japanese descent are unlikely to carry the necessary genes (Houlston and Ford, 1996). Between 0.05 and 0.95% of people in the United States are affected by celiac disease (Rewers and Marian, 2005).

Common symptoms include intermittent diarrhea, abdominal pain and bloating. However, not all celiac patients experience gastrointestinal symptoms. Other signs include skin rash, mouth sores and side effects of malabsorption such as loose, pale stool and stunted growth in children.

Genetic testing for the celiac marker genes is available by PCR technique, but the presence of these genes does not indicate whether or not a person has celiac disease. Doctors must test blood for high levels of tissue transglutaminase antibodies in order to confirm the diagnosis. In some cases, intestinal biopsies are taken to confirm it.

**treatment**

The only known treatment for celiac disease is a gluten-free diet. Gluten is found naturally in wheat, barley, and rye, and is used as an additive in many processed foods, making it somewhat difficult to avoid (see imitation crab meat):

However, there are many gluten-free products available to consumers, including pasta, bread, cookies, and even beer. Additionally, there are ample gluten-free recipes available both online and in cookbooks. There are millions of affected people who can provide tips!
**Ovarian Cancer Management**

- How does a woman know if ovarian cancer runs in her family?
  Ovarian cancer may run in the family if first-degree relatives (mother, sisters, daughters) or many other family members (grandmothers, aunts, nieces, granddaughters) have had ovarian cancer.
- What are the chances that the mutation is inherited?
  A child who has a parent with a mutation has a 50% chance of inheriting that mutation. A brother, sister, or parent of a person who has a gene mutation also has a 50% chance of having the same mutation.
- The following inherited genetic mutations raise the risk of ovarian cancer:
  - Hereditary breast and ovarian cancer (HBOC) syndrome
  - Lynch syndrome
  - Peutz-Jeghers syndrome (PJS)
  - Neviod basal cell carcinoma syndrome
  - Li-Fraumeni syndrome (LFS)
  - Ataxia telangiectasia (A-T).

**Increased Risks Associated With:**

- Nulliparity
- Older age at first birth (≥35 years)
- Early menarche
- Hormone therapy

**Decreased Risks Associated With:**

- Oral contraceptive use
- Pregnancy and first birth at young age (≤25 years)
- Multiparity
- Lactation (>18 months)
- History of tubal ligation/hysterectomy

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**Treatment**

Based on the stage of ovarian cancer

- **Surgery:** to remove the cancer
- **Chemotherapy:** use of drugs to kill the cancer
- **Radiation Treatment:** utilizes high energy x-rays to kill the cancer

**Treatment Studies**

Doctors are testing novel drugs and new combinations. They are studying biological therapies, such as monoclonal antibodies. Monoclonal antibodies can bind to cancer cells and interfere with cancer cell growth and the spread of cancer.

**Support Groups**

- [http://www.dailystrength.org/C/Ovarian-Cancer/support-group](http://www.dailystrength.org/C/Ovarian-Cancer/support-group)
- [https://www.inspire.com/groups/ovarian-cancer-national-alliance/](https://www.inspire.com/groups/ovarian-cancer-national-alliance/)
- [www.sharecancersupport.org](http://www.sharecancersupport.org)

**Resources**

- [http://www.cancer.gov/cancertopics/detector/ovarian/healthprofessional/page2#Section40](http://www.cancer.gov/cancertopics/detector/ovarian/healthprofessional/page2#Section40)
- [Pathology of Ovarian Cancer](http://www.cancer.gov/cancertopics/detector/ovarian/healthprofessional/page2#Section40)
- [http://www.cancer.net/patient/About+Cancer/Genetic/ovarian](http://www.cancer.net/patient/About+Cancer/Genetic/ovarian)
- [http://www.cancerquest.org/history-cancer-detection.html](http://www.cancerquest.org/history-cancer-detection.html)

**Summary**

Ovarian cancer is the leading cause of death from gynecologic cancer and the 5th most common death in U.S. women. Only 24% of cases are caught in its early stages. If not treated early, Ovarian Cancer can spread to other parts of the body, making it difficult to treat. About 90% of ovarian cancer is considered sporadic and 10% is considered inherited. BRCA1 and BRCA2 genes are responsible for most hereditary ovarian cancers. There are various symptoms associated with ovarian cancer and different tests are conducted to identify it. Risks increase with certain inherited genetic mutations. Treatment for the cancer includes Surgery, Chemotherapy, and Radiation Treatment.

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**Shocking Facts**

- There are many different types of ovarian cancer.
- Epithelial ovarian cancer is the leading cause of death from gynecologic cancer in the U.S. and the fifth most common cause of cancer mortality in U.S. women.
- Only 24 percent of ovarian cancers are diagnosed at an early stage when the disease is confined to the ovary. When cases are diagnosed after the cancer has spread to other parts of the body, it's difficult to treat successfully.
**Defined:**
Ovarian cancer is cancer of the ovaries in which cells of the ovary grow and divide uncontrollably. The cells may grow to form a tumor on the ovary and can break off from the main tumor and spread to other parts of the body.

### Key Milestones in the Discovery of Ovarian Cancer
- 1924: Coloscope Invented
- 1941: Pap Smear Introduced
- 1942: Ultrasound Imaging first used
- 1983: Immunoassay To Detect CA-125
- 1995: 1st DNA Micro Array Chip
- 2002: The Ovarian Cancer Action Research Was Set Up
- 2009: Gene Variant That Increases Ovarian Cancer Risk Discovered

### Clinical Features
- Majority of ovarian cancers are autosomal dominant inheritance pattern.
- Most ovarian cancers (90% to 95%) are considered sporadic, meaning the damage to the genes occurs by chance after birth and there is no risk of passing on the gene to a person's children. Inherited ovarian cancers are less common (5%-10%) and occur when gene mutations are passed within a family, from one generation to the next.
- The most common genes associated with ovarian cancer; mutations on BRCA1 (located on chromosome 17) and BRCA2 (located on chromosome 15).
- Very minor phenotypic effects (i.e. bloating)
- Incidence: Occurs 1 in every 70 women

### Diagnosis

#### Symptoms of Ovarian Cancer
- Pelvic or abdominal pain or discomfort
- Vague but persistent gastrointestinal upsets such as gas, nausea and indigestion
- Frequency of urination in absence of an infection
- Changes in bowel habits
- Weight gain or loss; particularly weight gain in the abdominal area
- Pelvic or abdominal swelling, bloating or a feeling of fullness
- Pain during intercourse
- Ongoing fatigue
- Abnormal postmenopausal bleeding

#### Tests
- Pelvic Examination
- Ultrasound
- Surgery to remove samples of tissue for testing
- CA 125 blood test
- There are no routine screenings for ovarian cancer

#### Staging Ovarian Cancer
**Stage I.** Ovarian cancer is confined to one or both ovaries.
**Stage II.** Ovarian cancer has spread to other locations in the pelvis, such as the uterus or fallopian tubes.
**Stage III.** Ovarian cancer has spread beyond the pelvis or to the lymph nodes within the abdomen.
**Stage IV.** Ovarian cancer has spread to organs beyond the abdomen, such as the liver or the lungs

### Other Diagnosis
- Median age of diagnosis is 66 years.
- Cancer survival is mostly dependent on disease stage: 70%-80% of women with stage I disease survive for 5 years, compared with only 15% of those with stage IV disease.
- DNA microarray technology is used to detect mutations in certain genes that are associated with ovarian cancer
- Germline mutations of BRCA1 and BRCA2 tumor suppressor genes are responsible for most hereditary ovarian cancers (90%-95%).
- Hereditary ovarian cancer makes up approximately 5% to 10% of all cases of ovarian cancer. Three hereditary patterns have been identified: ovarian cancer alone, ovarian and breast cancers, and ovarian and colon cancers.
TREATMENT

Chemotherapy is the main type of treatment.

Radiation therapy may be used for disease that is confined to one body area.

Radioimmunotherapy, which involves linking a radioactive substance to an antibody that targets the cancerous cells and injects the substance into the body.

Most often, multiple different drugs are used in combination together.

SUMMARY

Non-Hodgkin's lymphoma is cancer of the lymphoid tissue, which affects 1 in 50 people. Symptoms of NHL include swollen lymph nodes, fatigue, abdominal pain, night sweats, and weight loss. The causes of most lymphomas are unknown. Still, scientists have made a lot of progress in understanding how certain changes in DNA can cause normal lymphocytes to become lymphoma cells. The disease is often diagnosed after biopsy of suspected tissue or a bone marrow biopsy. Treatment options include chemotherapy, radiation, radioimmunotherapy, or a drug cocktail.
Non-Hodgkin's lymphoma is cancer of the lymphoid tissue, which includes the lymph nodes, spleen, and other organs of the immune system.

Signs and symptoms of NHL include the following: Swollen, painless lymph nodes in the neck, armpits, or groin, Unexplained weight loss, Fever, Night sweats, Coughing, trouble breathing, or chest pain, Weakness and tiredness that don't go away (fatigue), Abdominal pain or swelling, or a feeling of fullness in the abdomen, and Itching of the skin

Hodgkin lymphoma was first described in 1832 by Thomas Hodgkin. It was the first form of lymphoma defined. Since Hodgkin lymphoma was much more radiation-sensitive than other forms, its diagnosis was important for oncologists and their patients. Thus, research originally focused on Hodgkin's. The first classification of Hodgkin lymphoma was proposed by Robert J. Luke in 1963. The term non-Hodgkin lymphoma (NHL) and defined three grades of lymphoma.

The Rappaport classification, proposed by Henry Rappaport in 1956 and 1966, became the first widely accepted classification of lymphomas other than Hodgkin. Following its publication in 1982, the Working Formulation became the standard classification for this group of diseases. It introduced the term non-Hodgkin lymphoma (NHL) and defined three grades of lymphoma.

NHL consists of 16 different conditions that are grouped by their aggressiveness. The Working Formulation and the NHL category continue to be used.

CLINICAL FEATURES

The causes of most lymphomas are unknown. Still, scientists have made a lot of progress in understanding how certain changes in DNA can cause normal lymphocytes to become lymphoma cells. DNA changes related to non-Hodgkin lymphoma are usually acquired after birth, rather than being inherited. Acquired changes may result from exposure to radiation, cancer-causing chemicals, or infections, but often these changes occur for no apparent reason.

According to the American Cancer Society, a person has a 1 in 50 chance of developing non-Hodgkin’s lymphoma. Most of the time, this cancer affects adults. However, children can get some forms of lymphoma. High-risk groups include those who have received an organ transplant or who have a weakened immune system.

DIAGNOSIS

The disease may be diagnosed after biopsy of suspected tissue or a bone marrow biopsy.

Other tests that may be done include blood test to check protein levels, liver function, kidney function, and uric acid level, complete blood count (CBC), CT scans of the chest, abdomen and pelvis, Gallium scan, and PET (positron emission tomography) scan.