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About Gestational Trophoblastic Disease

Overview and Types

If you have been diagnosed with gestational trophoblastic disease or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start.

- [What Is Gestational Trophoblastic Disease?](#)

Research and Statistics

See the latest estimates for cases of gestational trophoblastic disease in the US and what research is currently being done.

- [What Are the Key Statistics About Gestational Trophoblastic Disease?](#)
- [What's New in Gestational Trophoblastic Disease Research and Treatment?](#)

What Is Gestational Trophoblastic Disease?

Tumors can grow anywhere in the body and happen when cells in the body begin to grow out of control. Some tumors might have cancer cells within them, and some might not. Cells in nearly any part of the body can become cancer, and can spread to other

areas of the body. To learn more about how cancers start and spread, see [What Is Cancer?](#)¹

Gestational trophoblastic disease (GTD) is a group of rare tumors that involve abnormal growth of cells inside a woman's uterus. GTD does not develop from cells of the uterus like cervical cancer or endometrial (uterine lining) cancer do. Instead, these tumors start in the cells that would normally develop into the placenta during pregnancy. (The term gestational refers to pregnancy.)

GTD begins in the layer of cells called the **trophoblast** that normally surrounds an embryo. (Tropho- means nutrition, and -blast means bud or early developmental cell.) Early in normal development, the cells of the trophoblast form tiny, finger-like projections known as villi. The villi grow into the lining of the uterus. In time, the trophoblast layer develops into the placenta, the organ that protects and nourishes the growing fetus.

You might hear GTDs called gestational trophoblastic disease, gestational trophoblastic tumors, or gestational trophoblastic neoplasia. (neoplasia simply means new growth. Most GTDs are benign (not cancer) and they don't invade deeply into body tissues or spread to other parts of the body. But some are malignant (cancerous).

All forms of GTD can be treated. And in most cases the [treatment](#)² produces a complete cure.

Types of gestational trophoblastic disease

The main types of gestational trophoblastic diseases are:

- Hydatidiform mole (complete or partial)
- Invasive mole
- Choriocarcinoma
- Placental-site trophoblastic tumor
- Epithelioid trophoblastic tumor

Hydatidiform mole

The most common form of gestational trophoblastic disease (GTD) is a hydatidiform mole, also known as a **molar pregnancy**. It is made up of villi that have become swollen with fluid. The swollen villi grow in clusters that look like bunches of grapes. This is called a molar pregnancy, but it is not possible for a normal baby to form. Still in

rare cases (less than 1 in 100), a normal fetus can develop alongside the molar pregnancy. Hydatidiform moles are not cancerous, but they can develop into cancerous GTDs.

There are 2 types of hydatidiform moles: complete and partial.

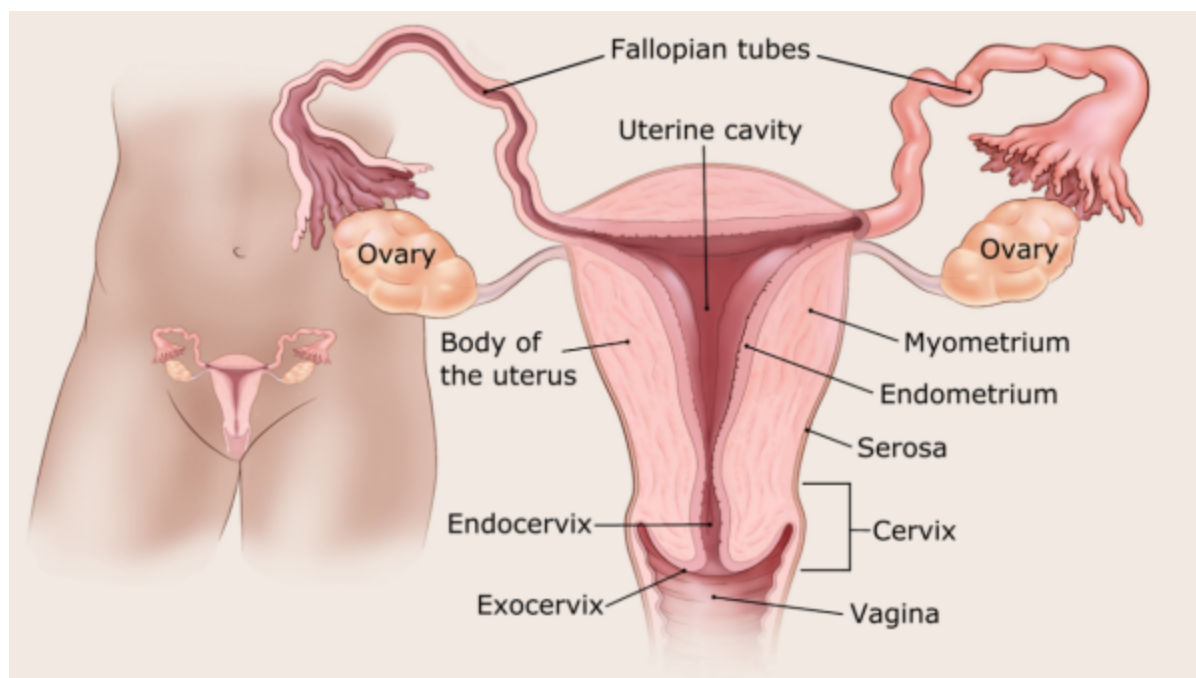
A **complete hydatidiform mole** most often develops when 1 or 2 sperm cells fertilize an egg cell that contains no nucleus or DNA (an “empty” egg cell). All the genetic material comes from the father's sperm cell. Therefore, there is no fetal tissue.

[Surgery](#)³ can totally remove most complete moles, but as many as 1 in 5 women will have some persistent molar tissue (see below). Most often this is an invasive mole, but in rare cases it is a choriocarcinoma, a malignant (cancerous) form of GTD. In either case it will require further treatment.

A **partial hydatidiform mole** develops when 2 sperm fertilize a normal egg. These tumors contain some fetal tissue, but this is often mixed in with the trophoblastic tissue. It is important to know that a viable (able to live) fetus is not being formed.

Partial moles usually are completely removed by [surgery](#)⁴. Only a small number of women with partial moles need further treatment after initial surgery. Partial moles rarely develop into malignant GTD.

Persistent gestational trophoblastic disease is GTD that is not cured by initial surgery. Persistent GTD occurs when the hydatidiform mole has grown from the surface layer of the uterus into the muscle layer below (the myometrium). The surgery used to treat a hydatidiform mole (called suction dilation and curettage, or D&C) scrapes the inside of the uterus. This removes only the inner layer of the uterus (the endometrium) and cannot remove tumor that has grown into the muscular layer.



Most cases of persistent GTD are invasive moles, but in rare cases they are choriocarcinomas or placental site trophoblastic tumors (see below).

Invasive mole

An invasive mole (formerly known as chorioadenoma destruens) is a hydatidiform mole that has grown into the muscle layer of the uterus. Invasive moles can develop from either complete or partial moles, but complete moles become invasive much more often than do partial moles. Invasive moles develop in less than 1 out of 5 women who have had a complete mole removed. The risk of developing an invasive mole in these women increases if:

- There is a long time (more than 4 months) between their last menstrual period and treatment.
- The uterus has become very large.
- The woman is older than 40 years.
- The woman has had gestational trophoblastic disease in the past.

Because these moles have grown into the uterine muscle layer, they aren't completely removed during a [D&C](#)⁵. Invasive moles can sometimes go away on their own, but most often more treatment is needed.

A tumor or mole that grows completely through the wall of the uterus might result in

bleeding into the abdominal or pelvic cavity. This bleeding can be life threatening.

Sometimes after removing a complete hydatidiform mole, the tumor spreads (metastasizes) to other parts of the body, most often the lungs. This occurs about 4% of the time (or 1 in 25 cases).

Choriocarcinoma

Choriocarcinoma is a malignant form of gestational trophoblastic disease (GTD). It is much more likely than other types of GTD to grow quickly and spread to organs away from the uterus.

Half of all gestational choriocarcinomas start off as molar pregnancies. About one-quarter develop in women who have a miscarriage (spontaneous abortion), intentional abortion, or tubal pregnancy (the fetus develops in the fallopian tube, rather than in the uterus). Another quarter (25%) develop after normal pregnancy and delivery.

Rarely, choriocarcinomas that are not related to pregnancy can develop. These can be found in areas other than the uterus, and can occur in both men and women. They may develop in the ovaries, testicles, chest, or abdomen. In these cases, choriocarcinoma is usually mixed with other types of cancer, forming a type of cancer called a **mixed germ cell tumor**.

These tumors are not considered to be gestational (related to pregnancy) and are not discussed in this document. Non-gestational choriocarcinoma can be less responsive to chemotherapy and may have a less favorable prognosis (outlook) than gestational choriocarcinoma. For more information about these tumors, see [Ovarian Cancer](#)⁶ and [Testicular Cancer](#)⁷.

Placental-site trophoblastic tumor

Placental-site trophoblastic tumor (PSTT) is a very rare form of GTD that develops where the placenta attaches to the lining of the uterus. This tumor most often develops after a normal pregnancy or abortion, but it may also develop after a complete or partial mole is removed.

Most PSTTs do not spread to other sites in the body. But these tumors have a tendency to grow into (invade) the muscle layer of the uterus.

Most forms of GTD are very sensitive to chemotherapy drugs, but PSTTs are not. Instead, they are treated with [surgery](#)⁸, to completely remove disease.

Epithelioid trophoblastic tumor

Epithelioid trophoblastic tumor (ETT) is an extremely rare type of gestational trophoblastic disease that can be hard to diagnose. ETT used to be called atypical choriocarcinoma because the cells look like choriocarcinoma cells under the microscope, but it is now thought to be a separate disease. Because it can be found growing in the cervix, it can also sometimes be confused with [cervical cancer](#)⁹. Like placental-site trophoblastic tumors, ETT most often occurs after a full-term pregnancy, but it can take several years after the pregnancy for the ETT to occur. Also, like placental-site trophoblastic tumors, ETT does not respond very well to chemotherapy drugs, so the main treatment is [surgery](#)¹⁰. It might have already metastasized when it is diagnosed which carries a poorer prognosis (outlook).

Hyperlinks

1. www.cancer.org/cancer/cancer-basics/what-is-cancer.html
2. www.cancer.org/cancer/gestational-trophoblastic-disease/treating.html
3. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/surgery.html
4. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/surgery.html
5. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/surgery.html
6. www.cancer.org/cancer/ovarian-cancer.html
7. www.cancer.org/cancer/testicular-cancer.html
8. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/surgery.html
9. www.cancer.org/cancer/cervical-cancer.html
10. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/surgery.html

References

See all references for Gestational Trophoblastic Disease
(www.cancer.org/cancer/gestational-trophoblastic-disease/references.html)

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What Are the Key Statistics About

Gestational Trophoblastic Disease?

Gestational trophoblastic disease (GTD) occurs in about 1 pregnancy out of 1,000 in the United States. Most of these are hydatidiform moles.

Choriocarcinoma , a malignant form of gestational trophoblastic disease (GTD), is even less common, affecting around 2 to 7 of every 100,000 pregnancies in the United States.

Choriocarcinoma and other forms of GTD are more common in many Asian and African countries.

Overall, gestational trophoblastic tumors account for less than 1% of female reproductive system cancers.

Cure rates depend on the type of GTD and its stage, as described in [Treatment of Gestational Trophoblastic Disease, by Type and Stage](#)¹.

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/by-stage.html

References

See all references for Gestational Trophoblastic Disease
(www.cancer.org/cancer/gestational-trophoblastic-disease/references.html)

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What's New in Gestational Trophoblastic Disease Research and Treatment?

Important research into gestational trophoblastic disease (GTD) is being done right now

in many university hospitals, medical centers, and other institutions around the country. Each year, scientists find out more about what causes the disease and how to improve treatment.

Causes of GTD

Researchers are studying cells of GTD to learn more about how these tumors develop. Discoveries about chromosome abnormalities of complete and partial moles have helped explain the causes of these types of GTD. These discoveries have led to developing lab tests that can help identify types of moles (partial vs. complete) when routine microscopic analysis does not yield a clear answer.

Epidemiology

Researchers often collect data on how often various forms of cancer occur in different parts of the world and whether these diseases are becoming more or less common. This often provides clues about risk factors and ideas for prevention. Earlier studies suggested that choriocarcinoma and GTDs were 5 to 10 times more common in Asia than in Europe and North America. More recent information indicates that the difference is actually no greater than double and may be even less, and that the original estimates were likely biased by differences in the way births are recorded in different countries.

Staging and prognosis

Newer and more sensitive tests are now able to more accurately determine blood human chorionic gonadotropin (HCG) levels than in the past. Scientists have developed a blood test for a form of HCG known as hyperglycosylated HCG. Early studies suggest that this blood test may help separate patients with active GTD who need treatment from those who have elevated HCG levels but don't truly have GTD, and therefore may not require therapy. More studies are needed to confirm this.

Improvements in the staging systems and prognostic classification systems are making it easier for doctors to recognize which patients will benefit from which treatments.

Treatment

In recent years, a number of studies have shown the benefits of using combination chemotherapy (chemo) for high-risk metastatic GTD, such as the EMA-CO and EMA-EP regimens (these were discussed in the section about [chemotherapy](#)¹). The excellent

results with these regimens have made them treatments of choice in many institutions.

Newer chemo drugs including pemetrexed, paclitaxel, and gemcitabine have been studied for use in this disease, as are several new combinations of drugs. Some of these are already being used in women whose GTD doesn't respond to other treatments.

For tumors that are resistant to standard chemo doses, doctors are studying the use of high-dose chemo followed by a stem cell transplant to restore the patient's bone marrow. Some very early results have been promising, but more research is needed.

Researchers are also studying the benefits and risks of giving anti-cancer drugs to prevent future GTDs in women who have had a molar pregnancy in the past.

And researchers are always looking for ways to give the usual chemo drugs with new schedules that might be more effective, cause less severe side effects, and/or be more convenient for patients.

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/chemotherapy.html

References

See all references for Gestational Trophoblastic Disease
(www.cancer.org/cancer/gestational-trophoblastic-disease/references.html)

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Important research into gestational trophoblastic (jeh-STAY-shuh-nul troh-fuh-BLAS-tik) disease (GTD) is being done right now in many university hospitals, medical centers, and other institutions around the country. Each year, scientists find out more about what causes this disease and how to improve treatment.

Researchers are studying GTD cells to learn more about how these tumors develop. Finding certain chromosome changes in complete and partial moles have helped explain the causes of these types of GTD. These discoveries have led to developing lab tests that can help identify these 2 types of moles (partial vs. complete) when routine testing doesn't give a clear answer. As more genetic changes are identified, researchers

hope to be better able to identify and treat GTD.

Studies have suggested that human chorionic gonadotropin (hCG) blood levels may help separate women with high (hCG) levels with active GTD who need treatment from those who have high (hCG) levels, but don't have GTD and don't need treatment. More studies are looking at how this might be useful in women with high (hCG) levels, as well as in women with low hCG levels who do have GTD.

Improvements in the staging systems and prognostic classification (predicting outcomes) systems are under discussion. These changes could make it easier for doctors to recognize which patients will benefit from which treatments. It could also help researchers when comparing GTD treatments and patient outcomes.

New chemo drugs are being studied for use in this disease, as are new combinations of drugs. This could lead to more treatment options and better treatment outcomes. Researchers are also studying ways to give the usual chemo drugs with new schedules that might work better, cause less severe side effects, and/or be more convenient for patients.

For tumors that are resistant to standard chemo doses, doctors are studying the use of high-dose chemo followed by a stem cell transplant to restore the patient's bone marrow. So far results have been mixed and more research is needed.

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Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

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Gestational Trophoblastic Disease Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for gestational trophoblastic disease.

- [What Are the Risk Factors for Gestational Trophoblastic Disease?](#)
- [Do We Know What Causes Gestational Trophoblastic Disease?](#)

Prevention

At this time not much can be done to prevent gestational trophoblastic disease.

- [Can Gestational Trophoblastic Disease Be Prevented?](#)
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What Are the Risk Factors for Gestational Trophoblastic Disease?

A risk factor is anything that affects your chance of getting a disease such as cancer. Different cancers have different risk factors. For example, exposing skin to strong sunlight is a risk factor for skin cancer. Smoking is a risk factor for cancers of the lung, mouth, larynx (voice box), bladder, kidney, and several other organs.

But risk factors don't tell us everything. Having a risk factor, or even several risk factors, does not mean that you will get the disease. And some people who get the disease might not have any known risk factors. Even if a person has a risk factor, it is often very hard to know how much that risk factor may have contributed to the cancer.

Researchers have found several risk factors that might increase a woman's chance of developing gestational trophoblastic disease (GTD).

Age

GTD occurs in women of childbearing age. The risk of complete molar pregnancy is highest in women over age 35 and younger than 20. The risk is even higher for women over age 45. Age is less likely to be a factor for partial moles. For choriocarcinoma, risk is lower before age 25, and then increases with age until menopause.

Prior molar pregnancy

Once a woman has had a hydatidiform mole, she has a higher risk of having another one. The overall risk for later pregnancies is about 1% to 2%. This risk is much higher if she has had more than one molar pregnancy.

Prior miscarriage(s)

Women who have lost pregnancies before have a higher risk of GTD. This might be at least in part because in some cases GTD affected the miscarried pregnancy. Overall, the risk of GTD after a miscarriage is still low.

Blood type

Women with blood type A or AB are at slightly higher risk than those with type B or O.

Birth control pills

Women who take birth control pills might be more likely to get GTD when they do become pregnant. The link between the use of birth control pills and GTD is weak, and may be explained by other factors. This risk seems to be higher for women who took the pills longer. But the risk is still so low that it doesn't outweigh the benefit of using the pills.

Family history

Very rarely, several women in the same family have one or more molar pregnancies.

References

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(www.cancer.org/cancer/gestational-trophoblastic-disease/references.html)

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Do We Know What Causes Gestational Trophoblastic Disease?

Normally, the sperm and egg cells each provide a set of 23 chromosomes (bits of DNA that contain our genes) to create a cell with 46 chromosomes. This cell will start dividing to eventually become a fetus. This normal process does not occur with gestational trophoblastic disease (GTD).

Complete hydatidiform moles

In complete hydatidiform moles, a sperm cell fertilizes an abnormal egg cell that has no nucleus (or chromosomes). The reason the egg contains no chromosomes is not known. After fertilization, the chromosomes from the sperm duplicate themselves, so there are 2 copies of identical chromosomes that both come from the sperm.

When this happens, normal development cannot occur, and no fetus is formed. Instead, a complete hydatidiform mole develops. Less often, a complete mole forms when an abnormal egg without any chromosomes is fertilized by 2 sperm cells. Again, there are 2 copies of the father's chromosomes and none from the mother, and no fetus forms.

Partial hydatidiform moles

A partial hydatidiform mole results when 2 sperm cells fertilize a normal egg at the same time. The fertilized egg contains 3 sets of chromosomes (69) instead of the usual 2 sets (46). An embryo with 3 sets of chromosomes cannot grow into a normally developed infant. Instead, this leads to an abnormal (malformed) fetus along with some normal placental tissue and a partial hydatidiform mole.

Invasive moles

Invasive moles are hydatidiform moles that begin to grow into the muscle layer of the uterus. They develop more often from complete moles than from partial moles. It's not clear exactly what causes this to happen.

Choriocarcinomas

Most choriocarcinomas develop from persistent hydatidiform moles (usually complete moles). They can also develop when bits of tissue are left behind in the uterus after a miscarriage, an intended abortion, or the delivery of a baby following an otherwise normal pregnancy. Researchers have found changes in certain genes that are commonly found in choriocarcinoma cells, but it's not clear what causes these changes.

Placental-site trophoblastic tumor

Placental-site trophoblastic tumor (PSTT) is an uncommon type of GTD. Unlike choriocarcinomas and hydatidiform moles, they do not have villi (tiny finger-like projections that can grow into the lining of the uterus). They develop most often after full-term pregnancies.

Epithelioid trophoblastic tumors

Epithelioid trophoblastic tumors are even rarer than PSTTs. Like PSTTs, they develop most often after full-term pregnancies, but it can be many years later.

References

See all references for Gestational Trophoblastic Disease
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Can Gestational Trophoblastic Disease Be Prevented?

The only way to avoid the rare chance of developing gestational trophoblastic disease (GTD) is to not get pregnant. But GTD is so rare that its prevention should not be a factor in family planning decisions for women who have never been affected by it.

Women with a history of one or more molar pregnancies should ask their doctor for any new information about prevention of GTD and be sure they understand their risk for future molar pregnancies.

References

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Gestational Trophoblastic Disease Early Detection, Diagnosis, and Staging

Detection and Diagnosis

Catching cancer early often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that is not always the case.

- [Can Gestational Trophoblastic Disease Be Found Early?](#)
- [Signs and Symptoms of Gestational Trophoblastic Disease](#)
- [How Is Gestational Trophoblastic Disease Diagnosed?](#)

Staging

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- [How Is Gestational Trophoblastic Disease Staged?](#)

Questions to Ask About Gestational Trophoblastic Disease

Here are some questions you can ask your cancer care team to help you better understand your diagnosis and treatment options.

- [What Should You Ask Your Doctor About Gestational Trophoblastic Disease?](#)
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Can Gestational Trophoblastic Disease Be Found Early?

Most cases of gestational trophoblastic disease (GTD) are found early during routine prenatal care. Usually, a woman has certain signs and symptoms, like vaginal bleeding, that suggest something may be wrong. (See [Signs and Symptoms of Gestational Trophoblastic Disease](#).) These problems will prompt the doctor to look for the cause of the trouble.

Often, moles or tumors cause swelling in the uterus that seems like a normal pregnancy. But a doctor can usually tell that this isn't a normal pregnancy during a routine ultrasound exam. A blood test for HCG (human chorionic gonadotropin) can also show something abnormal. This substance is normally elevated in the blood of pregnant women, but it may be very high if there is GTD.

Fortunately, even if it is not detected early, GTD is a very treatable (and usually curable) form of cancer.

Because women who have had one molar pregnancy are at increased risk, doctors can be especially careful in checking their future pregnancies with HCG tests and transvaginal or pelvic sonograms. (See [How Is Gestational Trophoblastic Disease Diagnosed?](#))

References

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Signs and Symptoms of Gestational Trophoblastic Disease

It's important to tell your doctor about any abnormal symptoms you are having during pregnancy. Your doctor might suspect you have gestational trophoblastic disease (GTD) based on a typical pattern of signs and symptoms.

Complete hydatidiform moles (molar pregnancies)

Most of these signs and symptoms (except for bleeding), are seen less commonly now than in the past because they tend to occur late in the course of the disease. Most women with GTD are now diagnosed early because of the use of blood tests and ultrasound early in pregnancy.

Vaginal bleeding: Almost all women with complete hydatidiform moles have irregular vaginal bleeding during pregnancy. It happens a little less often with partial moles. Bleeding typically starts during the first trimester (13 weeks) of pregnancy. Women with GTD often pass blood clots or watery brown discharge from the vagina. Sometimes, pieces of the mole resembling a cluster of grapes become dislodged from the uterus and are discharged through the vagina. This bleeding often leads the doctor to order an ultrasound (discussed later in this section), which can help diagnose a molar pregnancy.

Anemia: In cases of serious or prolonged bleeding, a woman's body is not able to replace red blood cells as fast as they are lost. This can lead to anemia (low red blood cell counts). Symptoms can include fatigue and shortness of breath, especially with physical activity.

Abdominal swelling: The uterus and abdomen (belly) can get bigger faster in a complete molar pregnancy than they do in a normal pregnancy. Abnormal uterine enlargement occurs in about 1 out of 4 women with complete moles but rarely in women with partial moles. This might not be seen early in the pregnancy and is more often present in the second trimester.

Ovarian cysts: HCG ([human chorionic gonadotropin](#)), a hormone made by the tumor, might cause fluid-filled cysts to form in the ovaries. These cysts can be large enough to cause abdominal swelling. They only occur with very high levels of HCG. Even though they can become quite large, they usually go away on their own about 8 weeks after the molar pregnancy is removed. Sometimes ovaries can twist on their blood supply (called **torsion**). This can cause severe pain and is treated with surgery to remove the cyst or a procedure to drain the fluid inside the cyst.

Vomiting: Many women have nausea and vomiting during a typical pregnancy. With GTD, however, the vomiting might be more frequent and severe than normal.

Pre-eclampsia: Pre-eclampsia (toxemia of pregnancy) can occur as a complication of a

normal pregnancy (usually in the third trimester). When it occurs earlier in pregnancy (like during the first or early second trimester), it can be a sign of a complete molar pregnancy. Pre-eclampsia might cause problems such as high blood pressure, headache, exaggerated reflexes, swelling in the hands or feet, and too much protein leaking into the urine. It affects a small number of women with complete moles but is rare in women with partial moles.

Hyperthyroidism: Some women with complete hydatidiform moles have hyperthyroidism (having an overactive thyroid gland). It occurs only in women with very high HCG blood levels. Symptoms of hyperthyroidism can include a rapid heartbeat, warm skin, sweating, problems tolerating heat, and mild tremors (shaking). This occurs in less than 10% of women with complete molar pregnancy.

Partial hydatidiform moles

The signs and symptoms of partial hydatidiform moles are similar to those of complete moles, but often are less severe. These include:

- Vaginal bleeding
- Low red blood cell count (anemia)
- Swelling of the abdomen (belly)
- Ovarian cysts
- Pre-eclampsia (toxic pregnancy)

Some symptoms that are seen with complete moles, such as frequent vomiting or an overactive thyroid gland, rarely, if ever, occur with partial moles.

Partial moles are often diagnosed after a woman has what is thought to be a miscarriage. The molar pregnancy is found when the uterus is scraped during a suction dilation and curettage (D&C) and the products of conception are looked at under a microscope.

Invasive moles and choriocarcinoma

These more invasive forms of gestational trophoblastic disease (GTD) sometimes develop after a complete mole has been removed. They occur less commonly after a partial mole. Choriocarcinoma can also develop after a normal pregnancy, ectopic pregnancy (where the fetus grows outside of the uterus, such as inside a fallopian tube), or miscarriage. Symptoms can include:

Bleeding: The most common symptom is vaginal bleeding. Rarely, the tumor grows through the uterine wall, which can cause bleeding into the abdominal cavity and severe abdominal pain.

Infection: In larger tumors, some of the tumor cells might die, creating an area where bacteria can grow. Infection might develop, which can cause vaginal discharge, pelvic cramps, and fever.

Abdominal swelling: Like hydatidiform moles, more invasive forms of GTD can expand the uterus, causing abdominal swelling. HCG, a hormone made by the tumor (see Blood and urine tests in [How Is Gestational Trophoblastic Disease Diagnosed?](#)), might cause fluid-filled cysts (called **theca lutein cysts**) to form in the ovaries, which can be large and might also contribute to abdominal swelling.

Lung symptoms: The lung is a common site for distant spread of GTD. Spread to the lungs might cause coughing up of blood, a dry cough, chest pain, or trouble breathing.

Vaginal mass: These tumors can sometimes spread to the vagina, and cause vaginal bleeding or a pus-like discharge. The doctor might also notice a cancerous growth on the vagina during a pelvic exam.

Other symptoms of distant spread: Symptoms depend on where GTD has spread. If GTD has spread to the brain, symptoms can include headache, vomiting, dizziness, seizures, or paralysis on one side of the body. Spread to the liver can cause abdominal pain and yellowing of the skin or eyes (jaundice).

Sometimes, choriocarcinoma doesn't cause symptoms, but might be suspected because a woman has a positive pregnancy test but no fetus is seen on ultrasound.

Placental site trophoblastic tumors

Placental site trophoblastic tumors (PSTTs) rarely spread to distant sites. More often, they grow into the wall of the uterus

Bleeding: The most common symptom of PSTT is vaginal bleeding. If the tumor grows all the way through the wall of the uterus, it can cause bleeding into the abdominal cavity and severe abdominal pain.

Abdominal swelling: As they grow within the wall of the uterus, PSTTs might make the uterus enlarge.

Epithelioid trophoblastic tumors

The most common symptom of an epithelioid trophoblastic tumor (ETT) is vaginal bleeding. Other symptoms will depend on where it has spread. For example, if it has spread to the lung, the patient might cough or be short of breath. ETTs have also spread to the intestine, where they can cause abdominal (belly) pain, nausea, and vomiting.

Many of the signs and symptoms of GTD could also be caused by other conditions. Still, if you have any of these, it's important to see your doctor right away so the cause can be found and treated, if needed.

References

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How Is Gestational Trophoblastic Disease Diagnosed?

Gestational trophoblastic disease (GTD) is most often found either as a result of abnormal signs or symptoms during pregnancy or from the results of certain tests during routine prenatal care. These may lead the doctor to order other tests.

Blood and urine tests

Blood and urine tests can be used to help diagnose GTD.

Human chorionic gonadotropin (HCG)

Trophoblastic cells of both normal placentas and GTD make a hormone called **human**

chorionic gonadotropin or HCG, which is vital in supporting a pregnancy. HCG is released into the blood, and some of it is excreted in the urine. This hormone has 2 chemical components, and the commonly used blood and urine tests measure one of these, called beta-HCG (HCG).

HCG is normally found only in the blood or urine of pregnant women. In fact, finding HCG in urine is the basis of most pregnancy tests.

A complete mole usually releases more HCG than a normal placenta, so finding **higher than expected HCG levels** in the blood can be a sign that a complete mole is present.

However, not all women with GTD have HCG levels that are higher than those seen in a normal pregnancy. For example, most women with partial moles, placental site trophoblastic tumors, and epithelioid trophoblastic tumors have normal or only slightly increased HCG levels.

HCG tests can also help tell if GTD may be present after a pregnancy or miscarriage, as the level of HCG should normally fall to an undetectable level soon afterward.

Along with helping to diagnose GTD, blood HCG levels are also very useful in women already known to have GTD. They can be used to:

- Help estimate the amount of GTD present in a patient's body. Higher levels of HCG might mean that there are more tumor cells in the body.
- Determine if [treatment](#)¹ is working. HCG levels should drop to normal after treatment.
- Detect GTD that has come back after treatment

It's especially important to monitor HCG levels during treatment and follow-up to make sure the disease is going or has gone away, or has not returned. The HCG test is generally very accurate. In rare cases, patients may have abnormal substances (antibodies) in their blood that interfere with the HCG test. When these patients' blood samples are tested, the HCG levels appear higher than they really are, a situation known as **phantom HCG**. In some cases, women have been diagnosed with GTD when it is not actually present. A sign of phantom HCG is having high blood levels of HCG, but normal urine levels (because the abnormal antibodies are not present in urine). If doctors notice that the blood (or serum) levels of HCG are high but the urine levels are not, they can order special tests to distinguish between truly elevated HCG levels and phantom HCG.

Other blood tests

Other tests may provide indirect evidence of GTD. For example, red blood cell counts can detect anemia (having too few red blood cells), which can be caused by uterine bleeding. Human placental lactogen (hPL) is a marker that may be used to follow up patients with placental site trophoblastic tumors.

For women diagnosed with GTD, blood tests are often used to watch for side effects from chemotherapy. Blood cell counts are done to watch the health of the bone marrow (where new blood cells are made), and blood chemistry tests can be used to check the condition of the liver and kidneys.

Other lab tests

Examination of the placenta

After a woman gives birth, the placenta is taken to the lab to be examined. Sometimes an unsuspected choriocarcinoma is found.

Tests of spinal fluid

If symptoms suggest GTD might have spread to the brain or spinal cord or if there is a high HCG level but no tumors are seen on any radiology studies, spinal fluid may be checked for signs of tumor spread. This procedure is called a lumbar puncture or spinal tap. For this test, the patient may lie on their side or sit up. The doctor first numbs an area in the lower part of the back over the spine. A small, hollow needle is then placed between the bones of the spine and into the area around the spinal cord and some of the fluid can be collected through the needle.

Imaging tests

[Imaging tests](#)² use sound waves, x-rays, magnetic fields, or radioactive substances to create pictures of the inside of your body. Imaging tests may be done to help find out whether a tumor is present and to learn how far it may have spread.

Ultrasound (sonogram)

[Ultrasound](#)³ can identify most cases of GTD that are in the uterus, and will likely be one of the first tests done if your doctor suspects there may be a problem.

To diagnose GTD, a different type of ultrasound called **transvaginal ultrasonography** is most often used. In this procedure, a small transducer is placed into the vagina. This

allows for good images of the uterus for women suspected of having GTD during the first trimester of their pregnancy.

What doctors look for: In a normal pregnancy, ultrasound imaging shows a picture of the developing fetus inside the womb.

In a complete molar pregnancy, however, no fetus can be seen on an ultrasound. Instead, the ultrasound detects the large, grape-like swollen villi that are typical of GTD. Rarely, the ultrasound may show a "twin" pregnancy in which one of the twins is a normal fetus and the other is a hydatidiform mole. This occurs less than 1% of the time.

In a partial molar pregnancy, ultrasound can show an abnormally formed placenta. If a fetus is seen, it is often deformed.

Ultrasound can also be used to help find out if a mole is invading local tissues. If blood levels of HCG are still elevated after the mole has been removed, more exams may need to be done.

Chest x-ray

A chest x-ray may be done in cases of persistent GTD to see if it has spread to your lungs, which is very unlikely unless the cancer is far advanced. However, CT scans of the chest are done more often if your doctor suspects spread outside of the uterus. Either test can be done in an outpatient setting.

Computed tomography (CT) scan

The [CT scan](#)⁴ may be done to see if GTD has spread outside the uterus, such as the lungs, brain, or liver.

CT scans take longer than regular x-rays. You need to lie still on a table while they are being done. During the test, the table moves in and out of the scanner, a ring-shaped machine that completely surrounds the table. You might feel a bit confined by the ring you have to lie in while the pictures are being taken.

Magnetic resonance imaging (MRI) scan

[MRI scans](#)⁵ are most helpful in looking at the brain and spinal cord. They are most likely to be used to scan the brain if GTD has already been found to have spread elsewhere, such as to the lungs. Sometimes they are used to look to see if the tumor has grown into the wall of the uterus.

Positron emission tomography (PET) scan

A [PET scan](#)⁶ is sometimes useful if your doctor thinks the cancer may have spread (or returned after treatment) but doesn't know where. PET scans can be used instead of several different imaging tests because they scan your whole body. Still, these tests are rarely used for GTD.

Some machines are able to perform both a PET and CT scan at the same time (PET/CT scan). This allows the radiologist to compare areas of higher radioactivity on the PET with the appearance of that area on the CT.

Other tests

Doctors can often be fairly certain of a diagnosis of GTD based on symptoms, [blood test results](#)⁷, and imaging tests, but the diagnosis is often made after a procedure called a D&C (dilation and curettage) in patients with abnormal bleeding. The cells from the tissue removed during the D&C are viewed under a microscope. The cells from different types of GTD each look different under the microscope. Sometimes complete and partial moles may be hard to tell apart when they are examined under the microscope early in the first trimester. If so, other tests may be needed to distinguish the 2 types of mole. Some tests, called [cytogenetics](#)⁸, look at the number and type of chromosomes of the mole. Other tests may look at certain genes that only come from the mother to see if it is a partial mole versus a complete mole. (D&C is described in [Surgery for Gestational Trophoblastic Disease](#)⁹.)

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/treating.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/imaging-radiology-tests-for-cancer.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests/ultrasound-for-cancer.html
4. www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-cancer.html
5. www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html
6. www.cancer.org/treatment/understanding-your-diagnosis/tests/nuclear-medicine-scans-for-cancer.html
7. www.cancer.org/treatment/understanding-your-diagnosis/tests/understanding-your-lab-test-results.html
8. www.cancer.org/treatment/understanding-your-diagnosis/tests/testing-biopsy-and-

[cytology-specimens-for-cancer/special-tests.html](http://www.cancer.org/cancer/cytology-specimens-for-cancer/special-tests.html)

9. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/surgery.html

References

See all references for Gestational Trophoblastic Disease

www.cancer.org/cancer/gestational-trophoblastic-disease/references.html

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Gestational Trophoblastic Disease Stages

After a woman is diagnosed with gestational trophoblastic disease (GTD), doctors will try to figure out if it has spread, and if so, how far. This process is called **staging**. The stage of a cancer describes how much cancer is in the body. It helps determine how serious the cancer is and how best to [treat](#)¹ it. Doctors also use a cancer's stage when talking about survival statistics.

GTD stages range from stage I (1) through IV (4). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. Although each person's cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

How is the stage determined?

The 2 systems used for staging GTD, the **FIGO (International Federation of Gynecology and Obstetrics) system** and the **AJCC (American Joint Committee on Cancer) TNM staging system** are basically the same.

They both use 2 factors to stage (classify) this cancer:

- The extent (size) of the tumor (**T**): How far has the cancer grown into the uterus? Has the cancer reached nearby structures or organs?

- The spread (**metastasis**) to distant sites (**M**): Has the cancer spread to the lungs or other distant organs?

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced. Once a person's T, N, and M categories have been determined, this information is combined in a process called **stage grouping** to assign an overall stage. In the case of GTD, the spread to nearby lymph nodes (N) is not used because the cancer rarely spreads there. If the cancer does spread to the lymph nodes it is categorized as M1b (metastasis).

The staging system in the table below uses the **clinical stage**. It is based on the results of physical exam, biopsy, and imaging tests done before surgery. If surgery is done, a **pathologic stage** can be determined from the findings at surgery, but it does not change your clinical stage. Your treatment plan is based on the clinical stage. For more information see [Cancer Staging²](#).

The system described below is the most recent AJCC system, effective January 2018. It is the staging system for invasive moles, choriocarcinoma, placental site trophoblastic tumor, and epithelioid trophoblastic tumor.

Risk score

Stage is also used to predict a patient's outlook. Because treatment for GTD is usually effective regardless of the extent of the disease, other factors such as a woman's age, length of time since pregnancy, and HCG level are more useful in predicting a woman's outlook (prognosis). These factors are taken into account in a scoring system.

Prognostic scoring system

In the United States, most cancer centers use a system that describes women with persistent GTD according to their outlook, based on several factors.

Age	Score
Younger than 40	0
40 or older	1

Preceding pregnancy	Score
----------------------------	--------------

Molar pregnancy	0
Abortion (includes miscarriage)	1
Birth (term pregnancy)	2

Time since pregnancy	Score
-----------------------------	--------------

Less than 4 months	0
At least 4 months but less than 7 months	1
7 to 12 months	2
More than 12 months	4

Blood HCG level (IU/L) pre-treatment	Score
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Less than 1,000	0
1,000 9,999	1
10,000 99,999	2
100,000 or more	4

Largest tumor size, including the original one in the uterus	Score
---	--------------

Less than 3 cm (1.2 inches) across	0
At least 3 cm but less than 5 cm (2 inches)	1
5 cm or more	2

Site of metastases (if any)	Score
------------------------------------	--------------

Lung	0
------	---

Spleen, kidney	1
Gastrointestinal tract	2
Brain, liver	4
Number of metastases found	Score
0	0
1 to 4	1
5 to 8	2
More than 8	4
Failed chemotherapy	Score
None	0
Single drug	2
2 or more drugs	4

The numbers are then added up, and the overall score determines a woman's risk level.

- Women with a score of **6 or less** are at **low risk** and tend to have a good outlook regardless of how far the cancer has spread. The tumor(s) will usually respond well to [chemotherapy](#)³.
- Women with a score of **7 or more** are at **high risk**, and their tumors tend to respond less well to chemotherapy, even if they haven't spread much. They may require more intensive chemotherapy.

The final stage is the anatomic stage with the actual prognostic score number shown together (separated by a colon). An example of this is II:5.

GTD staging can be complex, so ask your doctor to explain it to you in a way you understand.

AJCC Stage	Stage grouping	FIGO Stage	Stage description*
I: risk score	T1 M0	I	The cancer is within the uterus. (T1). It has not spread to the lungs or other distant sites (M0).
II: risk score	T2 M0	II	The cancer has grown outside the uterus into other genital structures (like the vagina or ovaries) (T2). It has not spread outside the pelvis to the lungs or to other distant sites (M0).
III: risk score	Any T M1a	III	The tumor has spread to the lungs (M1a). It might also involve genital structures such as the vagina or vulva (Any T).
IV: risk score	Any T M1b	IV	The cancer has spread to distant organs such as the brain, liver, kidneys, spleen and/or gastrointestinal (GI) tract (M1b). It might also involve genital structures such as the vagina or vulva (Any T).

* The T categories are described in the table above, except for: **TX**: Main tumor cannot be assessed due to lack of information. **T0**: No evidence of a primary tumor.

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/treating.html
2. www.cancer.org/treatment/understanding-your-diagnosis/staging.html
3. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/chemotherapy.html

References

See all references for Gestational Trophoblastic Disease

www.cancer.org/cancer/gestational-trophoblastic-disease/references.html

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What Should You Ask Your Doctor About Gestational Trophoblastic Disease?

It is important to have honest open discussions with your medical team. You should feel free to ask any question, no matter how minor it might seem. Among the questions you might want to ask are:

- What [kind of gestational trophoblastic disease](#)¹ do I have?
- Has the cancer spread beyond my uterus?
- Can the [stage](#) of my cancer be determined and what does that mean? What is my prognostic score?
- How much experience do you have treating this type of disease?
- Are there hospital centers that specialize in the treatment of this disease?
- What are my [treatment choices](#)²? Which do you recommend? Why?
- Am I eligible for a [clinical trial](#)³?
- Does one type of treatment reduce the risk of recurrence more than another?
- What are the side effects and other risks of each treatment?
- How will you monitor my response to treatment?
- Based on what you've learned about my cancer, what are my chances of being cured?
- What should I do to be ready for treatment?
- How long will it take me to recover from treatment?
- When can I go back to work after treatment?
- How soon after treatment can I have sex? Will I need to use birth control?
- What are the chances that my cancer will come back (recur)? What would we do if

this happens?

- Will a specialist in gynecologic oncology be involved in my care?
- Will I be able to have a normal pregnancy later on?
- How soon after treatment can I get pregnant?

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/about/what-is-gtd.html
2. www.cancer.org/cancer/gestational-trophoblastic-disease/treating.html
3. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html

References

See all references for Gestational Trophoblastic Disease

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Treating Gestational Trophoblastic Disease

How is GTD treated?

The main methods of treatment are:

- [Surgery for Gestational Trophoblastic Disease](#)
- [Chemotherapy for Gestational Trophoblastic Disease](#)
- [Radiation Therapy for Gestational Trophoblastic Disease](#)

Common treatment approaches

It's important to start treatment as soon as possible after GTD has been detected. No matter what type or stage of GTD a woman has, treatment is available. Sometimes the best approach combines 2 or more methods.

- [Treatment of Gestational Trophoblastic Disease by Type and Stage](#)

Who treats GTD?

Doctors on your treatment team may include:

- A gynecologist: a doctor who treats diseases of the female reproductive system
- A gynecologic oncologist: a doctor who specializes in cancers of the female reproductive system
- A radiation oncologist: a doctor who uses radiation to treat cancer
- A medical oncologist: a doctor who uses chemotherapy and other medicines to treat cancer

Many other specialists may be involved in your care as well, including nurse practitioners, nurses, psychologists, social workers, rehabilitation specialists, and other health professionals.

- [Health Professionals Associated With Cancer Care¹](#)

Making treatment decisions

Your treatment choice depends on many factors:

- The location and the extent of the disease are very important
- Type of GTD present
- The level of HCG (human chorionic gonadotropin in your blood,
- How long you've had the disease
- Sites of metastasis (cancer spread) if any
- Any treatment already used.

In choosing a treatment plan, you and your medical team will also consider your age, general state of health, and personal preferences. It's important to discuss all of your treatment options, including their goals and possible side effects, with your doctors to help make the decision that's best for you. It's also very important to ask questions if there's anything you're not sure about.

If time permits, it is often a good idea to seek a second opinion. A second opinion can give you more information and help you feel more confident about the treatment plan you choose.

- [What Should You Ask Your Doctor About Gestational Trophoblastic Disease?²](#)
- [Seeking a Second Opinion³](#)

Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they're not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by

asking your doctor if your clinic or hospital conducts clinical trials.

- [Clinical Trials](#)⁴

Considering complementary and alternative methods

You may hear about alternative or complementary methods that your doctor hasn't mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

Complementary methods refer to treatments that are used along with your regular medical care. Alternative treatments are used instead of a doctor's medical treatment. Although some of these methods might be helpful in relieving symptoms or helping you feel better, many have not been proven to work. Some might even be harmful.

Be sure to talk to your cancer care team about any method you are thinking about using. They can help you learn what is known (or not known) about the method, which can help you make an informed decision.

- [Complementary and Alternative Medicine](#)⁵

Help getting through cancer treatment

Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists.

- [Find Support Programs and Services in Your Area](#)⁶

Choosing to stop treatment or choosing no treatment at all

For some people, when treatments have been tried and are no longer controlling the cancer, it could be time to weigh the benefits and risks of continuing to try new

treatments. Whether or not you continue treatment, there are still things you can do to help maintain or improve your quality of life.

Some people, especially if the cancer is advanced, might not want to be treated at all. There are many reasons you might decide not to get cancer treatment, but it's important to talk to your doctors and you make that decision. Remember that even if you choose not to treat the cancer, you can still get supportive care to help with pain or other symptoms.

- [If Cancer Treatments Stop Working](#)⁷
- [Palliative or Supportive Care](#)⁸

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

Surgery for Gestational Trophoblastic Disease

Suction dilation and curettage (D&C)

This procedure is often used to diagnose a molar pregnancy and may be the first treatment given for a hydatidiform mole. Surgery can be the only treatment needed. It is done in an operating room in a hospital or other type of surgical center.

Most often, general anesthesia is used (you are asleep). Using a special instrument, the doctor enlarges (dilates) the opening of the uterus (the cervix) and then inserts a vacuum-like device that removes most of the tumor. The doctor then uses a long, spoon-like instrument (curette) to scrape the lining of the uterus to remove any molar tissue that remains. During this procedure you may receive an intravenous (IV) infusion of a drug called oxytocin. This makes the uterus contract and expel its contents.

After the procedure, most women can go home on the same day. Possible

complications of a suction D&C are not common but can include reactions to anesthesia, bleeding from the uterus, infections, scarring of the cervix or uterus, and blood clots. A rare but serious side effect is trouble breathing caused when small pieces of trophoblastic tissue break off and travel to the blood vessels in the lungs. Most women will have cramping in the pelvis and some vaginal bleeding or spotting for up to a day after the procedure.

Hysterectomy

This type of surgery removes the uterus (womb). It is an option for women with hydatidiform moles who do not want to have any more children, but it isn't often used. It is also the standard treatment for women with placental site trophoblastic tumors and epithelioid trophoblastic tumors. Removing the uterus ensures that all of the tumor cells in the uterus are gone including any that had invaded the muscle layer (myometrium). But since some tumor cells might have already spread outside the uterus, it does not guarantee that all tumor cells are removed from the body.

The ovaries are usually left in place. Rarely, when there are theca-lutein cysts (fluid-filled sacs) in the ovaries, these cysts will be removed as well. This operation is called an ovarian cystectomy.

Abdominal hysterectomy: During this operation, the uterus is removed through an incision that is made in the front of the abdomen (belly).

Vaginal hysterectomy: Less often, if the uterus is not too large, it may be detached and removed through the vagina. In some cases, the surgeon may make a small cut in the abdomen to insert a laparoscope—a long, thin instrument with a video camera on the end—to aid with the operation. This is known as a **laparoscopic-assisted vaginal hysterectomy**. Because there is no large abdominal incision, recovery is often quicker than with an abdominal hysterectomy. Several small holes are made in the abdomen and long, thin instruments (including one with a video camera on the end) are inserted into them to perform the operation. The uterus is then removed through a small hole made in the vagina. Again, recovery is usually quicker than with an abdominal hysterectomy. As with a vaginal hysterectomy, this approach can only be used if the uterus is not too large.

For these operations, the patient is either asleep (general anesthesia) or sedated and numbed below the waist (regional anesthesia). A hospital stay of about 2 to 3 days is common for an abdominal hysterectomy. Complete recovery takes about 4 to 6 weeks. The usual hospital stay for a vaginal hysterectomy is 1 to 2 days and the recovery time is 2 to 3 weeks. A similar recovery is expected for a laparoscopic hysterectomy.

Hysterectomy results in the inability to have children. Some pain is common after surgery but usually can be well controlled with medicines. Complications of surgery are unusual but could include reactions to anesthesia, excessive bleeding, infection, or damage to the urinary tract, the intestine, or to nerves.

Surgery (suction D&C or hysterectomy) removes the source of disease within the uterus, but it does not get rid of cancerous cells that may have already spread outside the uterus to other parts of the body. To be certain that no cancer cells remain, blood HCG levels are carefully checked at regular time points after surgery. If HCG levels stay the same or start to rise, doctors often recommend that women have [chemotherapy](#). Most women with hydatidiform moles, however, do not require chemotherapy.

Surgery for metastatic tumors

Even when gestational trophoblastic disease has spread to distant areas of the body, it can often be treated effectively with chemotherapy. But in some rare cases, surgery may be used to remove tumors in the liver, lung, brain, or elsewhere, especially if chemotherapy is not shrinking the tumor(s).

References

See all references for Gestational Trophoblastic Disease
(www.cancer.org/cancer/gestational-trophoblastic-disease/references.html)

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Chemotherapy for Gestational Trophoblastic Disease

Chemotherapy (chemo) uses anti-cancer drugs that are injected into a vein or given by mouth. These drugs enter the bloodstream and reach all areas of the body, making this treatment useful for cancers that have spread to distant organs (metastasized). Gestational trophoblastic disease (GTD) is one of the few cancers that can almost always be cured by chemo no matter how advanced it is. The best indicator of which

drug to use is the [prognostic score](#)¹.

The drugs that can be used to treat GTD include:

- Methotrexate (with or without leucovorin)
- Actinomycin-D (dactinomycin)
- Cyclophosphamide (Cytosan[®])
- Chlorambucil
- Vincristine (Oncovin[®])
- Etoposide (VP-16)
- Cisplatin
- Ifosfamide (Ifex[®])
- Bleomycin
- Fluorouracil (5-FU)
- Paclitaxel (Taxol[®])

To reduce the risk of side effects, doctors try to give the fewest drugs at the lowest doses that will still be effective. As a general rule, women who need to get chemo and fall into the low-risk group (see [How Is Gestational Trophoblastic Disease Staged?](#)²) are given a single chemo drug. Women who fall in the high-risk group usually receive combinations of drugs, often at higher doses.

Single drug treatment

Methotrexate: Chemotherapy with methotrexate alone can be used in most women with low-risk disease. Methotrexate can be injected into a vein or a muscle every day for 5 days. This can be repeated again after a rest period based on the HCG level. Another way to give methotrexate is to give a larger dose once a week. Again, the treatment is continued as long as needed, based on the HCG level.

Another option is to give methotrexate along with folinic acid (also called leucovorin). Leucovorin is not a chemo drug, but instead is a type of vitamin related to folic acid that reduces the toxic effects of methotrexate. In this course of treatment, methotrexate is given on days 1, 3, 5, and 7, and leucovorin is given on days 2, 4, 6, and 8. Each cycle has 8 days of drug treatment, followed usually by a 7-day rest period and then the cycle is repeated. This method has more treatment days, so it may be less convenient. In all cases, methotrexate is given in cycles that are repeated until blood levels of HCG remain normal for a few weeks. Vitamins such as folic acid can make methotrexate less effective and so should not be taken with this drug unless directed by your doctor.

Actinomycin-D: Another option is to give actinomycin-D instead of methotrexate. This drug may be especially useful in patients with liver problems, because it is less toxic to the liver than is methotrexate. Actinomycin-D is given in a vein (intravenously, or IV) every day for 5 days, followed by several days without treatment. It is also given as a larger single dose once every 2 weeks. This schedule seems to have fewer side effects while still working well. Either way, the cycles are repeated until HCG levels have stayed in the normal range for several weeks.

Etoposide: It is given IV, every day for 3 to 5 days, followed by several days of treatment. This is used much less often by itself than either actinomycin or methotrexate.

Combinations of drugs

Women with higher-risk disease will receive combinations of drugs such as methotrexate, actinomycin-D, and cyclophosphamide. Other drugs such as etoposide, vincristine, and cisplatin may also be used.

Some of the more commonly used combinations include:

- MAC: methotrexate/leucovorin, actinomycin-D, and cyclophosphamide or chlorambucil
- EMA-CO: etoposide, methotrexate/leucovorin, and actinomycin-D, followed a week later by cyclophosphamide and vincristine (Oncovin)
- EMA-EP: etoposide, methotrexate/leucovorin, and actinomycin-D, followed a week later by etoposide and cisplatin ("platinum")
- VBP: vinblastine, bleomycin, and cisplatin
- BEP: bleomycin, etoposide, cisplatin

Possible side effects

Chemo drugs work by attacking cells that are dividing quickly, which is why they work against cancer cells. But other cells, such as those in the bone marrow, the lining of the mouth and intestines, and the hair follicles, also divide quickly. These cells are also likely to be affected by chemotherapy, which can lead to some side effects.

The side effects of chemo depend on the type and dose of drugs given and the length of time they are taken. Common [side effects](#)³ of chemotherapy drugs include:

- Hair loss
- Mouth sores
- Loss of appetite
- [Nausea and vomiting](#)⁴
- Low blood counts

Because chemotherapy can damage the blood-producing cells of the bone marrow, the [blood cell counts might become low](#)⁵. This can result in:

- Increased chance of [infections](#)⁶ (from too few low white blood cells)
- Easy bruising or bleeding (from too few blood platelets)
- [Fatigue](#)⁷ (from too few red blood cells)

Most of these side effects are short-term and tend to go away after treatment is finished. There are often ways to lessen these side effects. For example, drugs can be given to help prevent or reduce nausea and vomiting. Do not hesitate to discuss any questions about side effects with the cancer care team.

Along with the effects listed above, some side effects are specific to certain medicines:

- Common side effects of methotrexate are diarrhea and sores in the mouth. This drug can also cause mild liver damage which is seen as changes in certain blood tests (liver enzymes). Some women have inflammation of the eye (conjunctivitis), pain in the chest or abdomen (belly), irritation in the genital region, or skin rash. Hair loss and blood side effects do not usually occur with single-drug methotrexate therapy.
- Actinomycin-D can cause fairly severe nausea and vomiting. This can be prevented by medicines given before chemo. Treatment with actinomycin-D or combination therapy is more likely to result in hair loss. Your bone marrow's ability to produce blood cells may be affected, which in turn may lower the ability of your immune system to fight infection.
- Bleomycin can cause lung problems. These occur more often in patients who smoke.
- Cyclophosphamide and ifosfamide can cause some nausea and hair loss. They can also cause bladder irritation and rarely cause severe lung problems.
- In rare cases, etoposide treatment has been linked with the development of leukemia several years later. Cisplatin has also been linked to this, although it occurs less often than with etoposide. But doctors still consider these drugs

important to use because their benefit in curing the cancer outweighs the small risk of leukemia.

- Vincristine and cisplatin can damage nerves (called neuropathy). Patients may notice tingling and numbness, particularly in the hands and feet. Cisplatin can also cause hearing loss and kidney damage. These side effects may persist after treatment stops.

You should report any side effects or changes you notice while getting chemotherapy to your medical team so that they can be treated promptly. In some cases, the doses of the chemotherapy drugs may need to be reduced or treatment may need to be delayed or stopped to prevent the effects from getting worse.

To learn more, see [Chemotherapy](#)⁸.

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/detection-diagnosis-staging/staging.html
2. www.cancer.org/cancer/gestational-trophoblastic-disease/detection-diagnosis-staging/staging.html
3. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy/chemotherapy-side-effects.html
4. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/nausea-and-vomiting.html
5. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts.html
6. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/infections.html
7. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fatigue.html
8. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy.html

References

See all references for Gestational Trophoblastic Disease
(www.cancer.org/cancer/gestational-trophoblastic-disease/references.html)

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Radiation Therapy for Gestational Trophoblastic Disease

Radiation therapy uses focused high-energy x-rays that penetrate the body to reach and destroy cancerous cells.

Radiation isn't often used to treat gestational trophoblastic disease (GTD), unless it has spread and is not responding to [chemotherapy](#) (chemo). Radiation may then be used to treat sites where the cancer may be causing pain or other problems. It may also be used if GTD has spread to the brain.

The type of radiation therapy most often used in treating GTD is called **external beam radiation therapy**. In this type of radiation therapy, the radiation is aimed at the cancer from a machine outside the body. Having this type of radiation therapy is much like having a diagnostic x-ray, except that each treatment lasts longer and the treatments are usually repeated daily over several weeks.

[Side effects](#)¹ of radiation can depend on what area is treated and can include:

- [Nausea and vomiting](#)², which tends to be worse if the abdomen (belly) or pelvis is treated
- Skin changes, ranging from mild redness to blistering and peeling
- Hair loss in the area being treated
- Diarrhea (if the pelvis is being treated)
- [Fatigue](#)³ (tiredness)
- Low blood counts

To learn more, see [Radiation Therapy](#)⁴⁵.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/effects-on-different-parts-of-body.html

2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/nausea-and-vomiting.html
3. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fatigue.html
4. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation.html
5. [/content/cancer/en/treatment/treatments-and-side-effects/treatment-types/radiation/radiation-therapy-guide.html](http://content.cancer/en/treatment/treatments-and-side-effects/treatment-types/radiation/radiation-therapy-guide.html)

References

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Treatment of Gestational Trophoblastic Disease by Type and Stage

The following are the standard treatment options according to the type of gestational trophoblastic disease (GTD) and the [stage and prognostic group of the disease](#)¹. These treatments are discussed in more detail in [surgery](#), [chemotherapy](#), and [radiation therapy](#).

Hydatidiform moles (complete and partial moles)

For women who may wish to have children in the future, the standard treatment is to remove the tumor by suction dilation and curettage (D&C). Women who no longer wish to have children may be able to have a hysterectomy (removal of the tumor and entire uterus) instead. A hysterectomy ensures no tumor remains within the uterus but, like a D&C, it does not treat tumor cells that may have already spread outside the uterus.

Rarely, a hydatidiform mole occurs as part of a "twin" pregnancy, where there is a normal fetus along with the mole. In this case, the pregnancy is watched closely and

typically allowed to continue. The mole is then treated after delivery.

In either case, once the tumor is removed, a pathologist will look at it with a microscope for signs of choriocarcinoma or other malignant changes in the specimen. If there are none, then patients are carefully monitored with frequent measurements of blood HCG (human chorionic gonadotropin) levels. The levels should drop and become undetectable within several months. If not, there may still be mole tissue deep in the uterus (an invasive mole) or elsewhere in the body.

Doctors recommend that women avoid becoming pregnant during the first year after diagnosis because pregnancy would raise HCG levels and make it harder to know if any molar tissue is left or if there is choriocarcinoma. Oral contraceptives may be used, but intrauterine devices (IUDs) should not be used at this time because of the risk of bleeding, infection, or other problems. Sometimes IUDs can cause problems that can look like tumor left in the uterus.

If the blood HCG level begins to rise or is still detectable after a reasonable time (often around 4 to 6 months), it means that the patient has persistent GTD (such as an invasive mole or choriocarcinoma). This will need to be treated with chemotherapy (chemo). Chemo will also be needed if the pathologist finds choriocarcinoma in the tissue sample. About 1 in 5 women will need chemo after a molar pregnancy.

Stage I low-risk gestational trophoblastic tumors

This can be either persistent gestational trophoblastic disease (where the HCG level hasn't dropped to normal after treatment of a molar pregnancy) or a choriocarcinoma or placental site trophoblastic tumor that was found in the curettage specimen. The tumor is still confined to the uterus, and the prognostic score is less than 7.

Chemo with either methotrexate (with or without leucovorin/folinic acid) or actinomycin-D is the recommended treatment for stage 1, low-risk disease. Surgery to remove the uterus (hysterectomy) may also be advised, particularly for women who no longer want to have babies. It may reduce the amount of chemo needed.

Chemo is given until there are no longer any signs of cancer, based on levels of HCG in the blood (the HCG level should return to normal after treatment). If the initial chemo drug does not get rid of the tumor, a second drug may be tried. If the HCG level is still detectable, more intensive chemo with a combination of drugs may be needed.

Placental-site trophoblastic tumor (PSTT) is treated with hysterectomy. Chemo is usually not helpful. Since HCG is often not found at high levels in the blood with PSTT, levels of another hormone called human placental lactogen (hPL) may be checked and

watched over time.

Epithelioid trophoblastic tumor (ETT) is also treated with hysterectomy. The HCG level may be slightly elevated, and if it is, it will be checked again after surgery. Chemo is not helpful in treating these tumors.

Stage II/III low-risk gestational trophoblastic tumors

These tumors have spread to the genital structures or to the lungs, but the prognostic score is less than 7. Chemo with either methotrexate (with or without leucovorin) or actinomycin-D is the only treatment needed in most cases. If a single drug does not get rid of the tumor, treatment with combination chemo is usually effective. In rare cases, the tumors are surgically removed and chemo may be given. Blood HCG levels are measured after treatment and should return to normal.

PSTTs and ETTs do not respond well to chemo, so they are treated with a hysterectomy (surgery to remove the uterus).

Stage II/III high-risk gestational trophoblastic tumors

These tumors have spread to the genital structures or to the lungs, and the prognostic score is 7 or higher. Standard treatment is usually an intensive combination chemo regimen such as EMA-CO (etoposide, methotrexate/leucovorin, and actinomycin-D, followed a week later by cyclophosphamide and vincristine). A combination of cisplatin and etoposide may be given before the EMA-CO is begun. Other drug combinations, such as EMA-EP (etoposide, methotrexate/leucovorin, and actinomycin-D, followed a week later by etoposide and cisplatin), might also be used, although they could be reserved for use if the EMA-CO regimen isn't effective. In rare cases, the tumor is surgically removed and chemo might be given. Blood HCG levels are measured after treatment and should return to normal.

PSTTs and ETTs do not respond well to chemo, so they are first treated with a hysterectomy (surgery to remove the uterus).

Stage IV gestational trophoblastic tumors

These tumors need intensive treatment because they have spread to distant sites such as the liver or brain. Combination chemo such as the EMA-CO regimen is the standard treatment. If the cancer has reached the brain, radiation therapy to the head is often used as well. In some cases, the tumor is surgically removed and chemo is given. Sometimes methotrexate is given into the spinal fluid to treat tumors that have spread to

the tissues around the brain and spinal cord. Blood HCG levels are measured after treatment and should return to normal.

PSTTs and ETTs do not respond well to chemo, so they are treated with surgery to remove the uterus and to remove tumors elsewhere in the body. Chemo may be tried for advanced cancers, using the same combinations that are used for other types of gestational trophoblastic disease.

Recurrent gestational trophoblastic tumors

A tumor is called **recurrent** when it come backs after treatment. [Recurrence²](#) can be local (in or near the same place it started) or distant (spread to organs such as the lungs or bone). The type of treatment used depends on where the cancer recurs and what treatment the woman has already received.

For gestational trophoblastic disease that was first treated with surgery, single-drug chemo may be used, unless a new risk factor puts the patient at high risk (in which case combination chemo would be used). If a woman has already had chemo, a more intensive chemo regimen would be used. Several different combinations of drugs might be tried, if needed. If the cancer has reached the brain, radiation therapy to the head is often used. In some cases, the tumors are surgically removed, as well.

Cure rates for GTD

Nearly 100% of women with complete or partial moles and low-risk gestational trophoblastic disease (GTD) can be cured of their disease with appropriate treatment. Placental-site trophoblastic tumor has high cure rates, but the outlook isn't as good if the disease spreads outside of the uterus. Even for high-risk GTD, cure rates are as high as 80% to 90%, but will probably require more intensive treatment (combination chemotherapy, sometimes together with radiation and/or surgery).

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/detection-diagnosis-staging/staging.html
2. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html

References

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After Gestational Trophoblastic Disease Treatment

Living as a Cancer Survivor

For many people, cancer treatment often raises questions about next steps as a survivor.

- [What Happens After Treatment for Gestational Trophoblastic Disease?](#)

Living As a Gestational Trophoblastic Disease Survivor

Completing [treatment](#)¹ can be both stressful and exciting. You may be relieved to finish treatment, but find it hard not to worry about a tumor coming back. (When a tumor comes back after treatment, it is called recurrence.) This is a very common concern in people who have had either a benign or malignant tumor. It is a very real concern for some women with gestational trophoblastic disease (GTD). The risk of GTD returning is very small for molar pregnancies and low-risk GTD, but might be as high as 10% to 15% in women with high-risk GTD. For this reason, follow-up is very important.

It may take a while before your fears lessen. But it may help to know that many women with GTD have learned to live with this uncertainty and are leading full lives. See [Understanding Recurrence](#)² for more on this.

Follow-up care

When treatment ends, your doctors will still want to watch you closely. It is very important to go to all of your follow-up appointments. Depending on the type of GTD you have, your doctor may recommend that you have a physical exam about every 3 to 6 months for the first year, then about every 6 months. Depending on your situation, you may need to have certain tests or procedures, such as [imaging tests](#)³, from time to time. During these visits, your doctors will ask questions about any problems you may have and may do exams and lab tests or x-rays and scans. Remember that treatment for GTD can have side effects. Some may last for a few weeks to months, but others can last the rest of your life. This is the time for you to talk to your cancer care team about any changes or problems you notice and any questions or concerns you have.

Ask your doctor for a survivorship plan

Talk with your doctor about developing your [survivorship plan](#)⁴. This plan might include:

- A suggested schedule for follow-up exams and tests
- A schedule for other tests you might need in the future, or tests to look for long-term health effects from your condition or its treatment
- A list of possible late- or long-term side effects from your treatment, including what to watch for and when you should contact your doctor
- Diet and physical activity suggestions
- Reminders to keep your appointments with your primary care provider (PCP), who will monitor your general health care

The most basic follow-up test measures levels of HCG (human chorionic gonadotropin) in your blood. Rising HCG levels may indicate that the disease is growing again in the uterus (if hysterectomy was not done) or that it has spread to another location and is growing there. Different treatment centers follow different schedules.

- For **molar pregnancies**, blood HCG levels are usually taken weekly until the results are normal for at least 3 consecutive weeks, then monthly for at least the next 6 months.
- For **other forms of GTD**, the follow-up period may be extended to a year or 2 following treatment for those who have metastatic GTD with risk factors.
- If you had a **placental site trophoblastic tumor**, HCG levels aren't helpful, and levels of human placental lactogen (hPL) will be measured instead.

If a tumor does recur, it will most likely be detected with blood HCG tests before it causes any symptoms. Still, if you notice any new symptoms you should report them right away so that the cause can be determined and treated, if needed.

If GTD does come back, in most cases it can be treated successfully. For more information on treating recurrent GTD, see [Treatment of Gestational Trophoblastic Disease by Type and Stage⁵](#).

Avoiding pregnancy during follow-up

If you did not have your uterus removed (a hysterectomy), it is important to avoid getting pregnant during the follow-up period. Talk with your doctor about how long this should last and whether oral contraceptives (birth control pills) or a barrier method of birth control (such as a diaphragm or condoms) might be best for you. Most doctors advise against using intrauterine devices (IUDs), as they might increase the risk of bleeding, infection, or puncturing of the uterine wall if tumor is still present.

Later pregnancies

Most women who have had a molar pregnancy can have normal pregnancies later. Studies have found that women treated for gestational trophoblastic disease (GTD) have near normal risks of problems such as stillbirths, birth defects, premature babies, or other complications. However, if you do get pregnant and have had GTD once before, there is about a 1% to 2% chance that you could have another molar pregnancy. It can be a complete or partial molar pregnancy. You should have a pelvic ultrasound exam within the first 13 weeks (first trimester) of pregnancy to make sure everything is proceeding normally.

If you give birth, your doctor may request a microscopic examination of the placenta to look for any lingering signs of GTD. You will also need to have your HCG level measured about 6 weeks after the end of any subsequent pregnancy, whether it was a normal birth, abortion, or miscarriage.

Keeping health insurance and copies of your medical records

Even after treatment, it's very important to keep [health insurance⁶](#). Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

At some point after your cancer treatment, you might find yourself seeing a new doctor who doesn't know about your medical history. It's important to keep copies of your

medical records to give your new doctor the details of your diagnosis and treatment. Learn more in [Keeping Copies of Important Medical Records](#)⁷.

Second cancers after treatment

One question many women ask is whether they are more likely to get another type of cancer later on. Having had gestational trophoblastic disease (GTD) does not raise your risk of getting other cancers. However, some chemotherapy drugs sometimes used to treat GTD can increase the risk of certain other types of cancer (most often [leukemia](#)⁸). This is rare after treatment of low-risk GTD but is slightly more common with certain drugs used for high-risk GTD, such as etoposide and cyclophosphamide.

Can I lower my risk of GTD progressing or coming back?

If you have (or have had) GTD, you probably want to know if there are things you can do that might lower your risk of it growing or coming back, such as exercising, eating a certain type of diet, or taking nutritional supplements. Unfortunately, it's not yet clear if there are things you can do that will help.

Adopting healthy behaviors such as [not smoking](#)⁹, [eating well](#),¹⁰ [getting regular physical activity](#)¹¹, and [staying at a healthy weight](#)¹² might help, but no one knows for sure. However, we do know that these types of changes can have positive effects on your health that can extend beyond your risk of lymphoma or other cancers.

About dietary supplements

So far, no [dietary supplements](#)¹³ (including vitamins, minerals, and herbal products) have been shown to clearly help lower the risk of cancer progressing or coming back. This doesn't mean that no supplements will help, but it's important to know that none have been proven to do so.

Dietary supplements are not regulated like medicines in the United States – they do not have to be proven effective (or even safe) before being sold, although there are limits on what they're allowed to claim they can do. If you're thinking about taking any type of nutritional supplement, talk to your health care team. They can help you decide which ones you can use safely while avoiding those that might be harmful.

Getting emotional support

Some amount of feeling [depressed](#)¹⁴, [anxious](#)¹⁵, or worried is normal when x cancer is a

part of your life. Some people are affected more than others. But everyone can benefit from help and support from other people, whether friends and family, religious groups, [support groups](#)¹⁶, professional counselors, or others. Learn more in [Life After Cancer](#)¹⁷.

Hyperlinks

1. www.cancer.org/cancer/gestational-trophoblastic-disease/treating.html
2. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html
3. www.cancer.org/cancer/gestational-trophoblastic-disease/detection-diagnosis-staging/how-diagnosed.html
4. www.cancer.org/treatment/survivorship-during-and-after-treatment/survivorship-care-plans.html
5. www.cancer.org/cancer/gestational-trophoblastic-disease/treating/by-stage.html
6. www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance.html
7. www.cancer.org/treatment/survivorship-during-and-after-treatment/be-healthy-after-treatment/keeping-copies-of-important-medical-records.html
8. www.cancer.org/cancer/leukemia.html
9. www.cancer.org/healthy/stay-away-from-tobacco.html
10. www.cancer.org/healthy/eat-healthy-get-active/eat-healthy.html
11. www.cancer.org/healthy/eat-healthy-get-active/get-active.html
12. www.cancer.org/healthy/eat-healthy-get-active/take-control-your-weight.html
13. www.cancer.org/treatment/treatments-and-side-effects/complementary-and-alternative-medicine/dietary-supplements.html
14. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/changes-in-mood-or-thinking/depression.html
15. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/changes-in-mood-or-thinking/anxiety-and-fear.html
16. www.cancer.org/treatment/support-programs-and-services.html
17. www.cancer.org/treatment/survivorship-during-and-after-treatment/be-healthy-after-treatment/life-after-cancer.html

References

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