

Common Questions about Chemotherapy

Some common questions about chemotherapy include:

- What is cancer?
- What are treatments for cancer?
- Why is chemotherapy recommended?
- What is chemotherapy?
- How much chemotherapy will I receive?
- How will I receive chemotherapy?
- Will I get really sick after chemotherapy?
- Will I lose my hair?
- If I do not have any side effects/ is my treatment working?
- Will chemotherapy hurt some of my good cells, too?
- Will my body recover from the chemotherapy? How?
- What happens to my blood counts after chemotherapy?
- How long is the medicine in my body and how does it get out?
- How will all of this affect my personal relationships?

Common Questions about Chemotherapy

What is Cancer?

Cancer is the uncontrolled growth and spread of abnormal cells in your body. Normal cell growth is usually controlled. Cancer cell growth is not only uncontrolled but the cells that are growing and dividing are abnormal. Cancer cells divide more frequently and live longer than normal cells.

A tumor or mass may develop from uncontrolled cell growth. If the cells are normal, then the tumor is considered to be benign or non-cancerous. A tumor with abnormal cells is malignant or cancerous.

Cancer does not always present itself as a tumor. Some types of cancer cells circulate in our blood or lymphatic fluid. They create problems by taking up space that should be occupied by normal blood or lymph cells. These are cancers like leukemia or lymphoma. Biopsies or specific blood tests are often necessary before a diagnosis can be confirmed.

The smallest clinically detectable mass or tumor has at least 10 billion cells. This is why even after we no longer see a cancer, treatment may be continued for a period of time. A person who has had cancer is considered to be in remission when there is no evidence of that disease for at least five years.

There are more than 100 different types of cancer. Approximately one in three people will have a type of cancer at one time in their lives. Four out of 10 people with cancer will be cured.

What are Treatments for Cancer?

From the medical perspective, there are three ways to treat cancer.

- Surgery
- Radiation
- Chemotherapy

Sometimes more than one treatment will be used. This is called combined modality treatment. For example, radiation and/or chemotherapy may be used to first shrink the tumor followed by surgery. Another example: surgery may be performed first to remove the bulk of the tumor and determine the extent of involvement. This is often followed by chemotherapy and/or radiation.

Why is Chemotherapy Recommended?

Chemotherapy is often chosen as the preferred medical treatment. This is because chemotherapy circulates in your blood stream and attacks cells throughout your body. Radiation and surgery usually concentrate on very specific areas.

Even when a cure is unlikely, chemotherapy may still be used to help control disease growth or to try and bring some comfort from disease related symptoms like pain or swelling. This is called palliation.

Three possible goals with chemotherapy treatment are:

- Cure: Absence of disease.
- Control: To prevent further spread of disease.
- Palliation: Relief of symptoms produced by cancer.

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What is Chemotherapy?

Chemotherapy means chemical treatment. It is the use of chemicals to treat a problem. For example, Tylenol could technically be considered chemotherapy for a headache. But, society has come to associate the word “chemotherapy” specifically with cancer. In this case, the chemicals are used to interfere with cell growth and cause the cell to die. Cancer chemotherapy is the use of strong chemicals or large amounts of medicine to destroy cancer cells.

Another word you may hear is antineoplastic. When chemotherapy is used to treat cancer, the purpose is to prevent the cells from growing and developing into more cancer cells. Chemotherapy is an antineoplastic agent.

There are some drugs or treatments that have been developed for specific diseases that work to target selected cancer cells. They work differently than antineoplastic agents. If you are receiving one of these agents, your physician or nurse will inform you.

How Much Chemotherapy Will I Receive?

Different factors are used to determine how much chemotherapy to give. Studies have been conducted using different drugs for different types of cancer to determine which drugs are most effective for which disease. The amount of drug used has also been studied to determine a level of drug that is not only safe, but also effective. Often, more than one drug is used to provide a better result. Some drugs act on different stages of cell division and thus using more than one drug, we are able to attack more cancer cells. Remember, cancer cells divide more often in their life cycle than do most normal cells.

Based on the knowledge of what drug is proven to be effective and at what dose, your specific dose is calculated according to your weight, or a ratio of your height and weight known as your body surface area or BSA. If you have other complicating health factors, such as heart disease, lung disease, liver disease, kidney disease, diabetes or impaired physical abilities, your doctor may decide to reduce your dose.

How Will I Receive Chemotherapy?

Chemotherapy drugs are given in several different ways called routes. You may receive chemotherapy in the following routes:

- **Injection**
The injection can be into a muscle or just under the skin. It can also be placed into the cerebral spinal fluid. This is called an intrathecal injection.
- **Vein**
Intravenous (IV) infusion through a needle connected to a tube in your arm or through a central venous catheter (CVC-Port or PICC) line.
- **Mouth**
Drugs may be given through pills, capsules or liquid form.
- **Topically**
Cream, ointments or lotions rubbed into the skin can also disperse drugs.

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Will I Get Really Sick After Chemotherapy?

Possible side effects after chemotherapy include:

- Mouth sores
- Infection
- Altered emotional status
- Diarrhea
- Fever
- Hair loss
- Nausea
- Constipation
- Bleeding
- Fatigue
- Vomiting
- Anemia

It is important you understand what the possible side effects are, and what to do about them. Each of these is addressed separately in this learning folder.

Our goal is to minimize the unpleasant side effects you may experience. Not everyone gets really sick with chemotherapy. There are some drugs that cause nausea and/or vomiting frequently. Your past experience may also play a role. If you are not usually nauseated easily, it is less likely you will have difficulty. However, this is true only to some extent.

There are drugs we know will cause anyone to be nauseated, so we use preventive anti-nausea therapy. We will also give you some anti-nausea medicine to use at home.

Generally speaking, side effects can be managed effectively if they are promptly addressed. Home remedies are not always the most helpful treatment. We suggest you call for advice in the management of these side effects. When necessary, we may request you come to the Clinic for an assessment.

Often, the biggest complaint is that of feeling tired or depleted of energy. Rest periods are important.

Will I Lose My Hair?

Some people feel guilty because they are most concerned about the side effect of hair loss. Don't feel guilty! Hair loss is often a big concern because our hair can be an important part of our appearance, and plays a significant role in our self image.

Know that not everyone who receives chemotherapy loses their hair. If it is a very likely side effect for you, we will let you know. (Please see page entitled "Hair Loss".)

If I Do Not Have Any Side Effects, is My Treatment Working?

A side effect is just simply that--only a side effect. Whether or not you experience side effects will help the doctor to determine if you can tolerate the same amount of chemotherapy, or if your doctor needs to reduce or increase the amount of chemotherapy. The presence or absence of side effects does not determine whether or not your treatment is working.

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Will Chemotherapy Hurt Some of My Good Cells, Too?

Yes. Unfortunately, chemotherapy cannot tell a normal cell from a cancer cell. It can, however, attack a cell in a specific phase of cell division. This is one way chemotherapy works. Cancer cells, like your hair cells and the cells lining your gastrointestinal tract (mouth to rectum), divide more frequently. Because of this, they are more vulnerable to the insult of chemotherapy.

Normal cells will be replaced by your bone marrow during the recovery period between chemotherapy cycles. Cancer cells, since they are abnormal, hopefully will not re-grow and will be further eliminated with repeated treatments of chemotherapy.

Remember, cancer cells divide more often than normal cells. Therefore, they are more likely to be destroyed with the chemotherapy.

Will My Body Recover from the Chemotherapy? How?

Yes. Thanks to your bone marrow (your blood cell-forming tissue)! It is true that taking chemotherapy is hard work. You may think you are not really doing anything except coming to the Clinic for your treatments. However, as the chemotherapy decreases the number of both good and bad cells, a message is sent to your bone marrow: replenish the supply. You need new red blood cells, white blood cells and/or platelets.

The bone marrow has a storehouse of cells and yet often, after chemotherapy, the demand is greater than the supply. This is when we see the blood counts dropping on your lab tests. You may feel tired and your appetite may lessen. These are common symptoms. You need to try to provide your body with the fuel it needs to make new cells. Your body needs calories, protein and rest balanced with activity. Soon your blood count will normalize, and your strength and appetite will improve.

Infrequently, the body cannot meet the demand for new cells without some additional help. We are able, if necessary, to transfuse both platelets and red blood cells. White blood cells are not given by transfusion but an injection is available that stimulates your bone marrow to make white blood cells faster than it normally would.

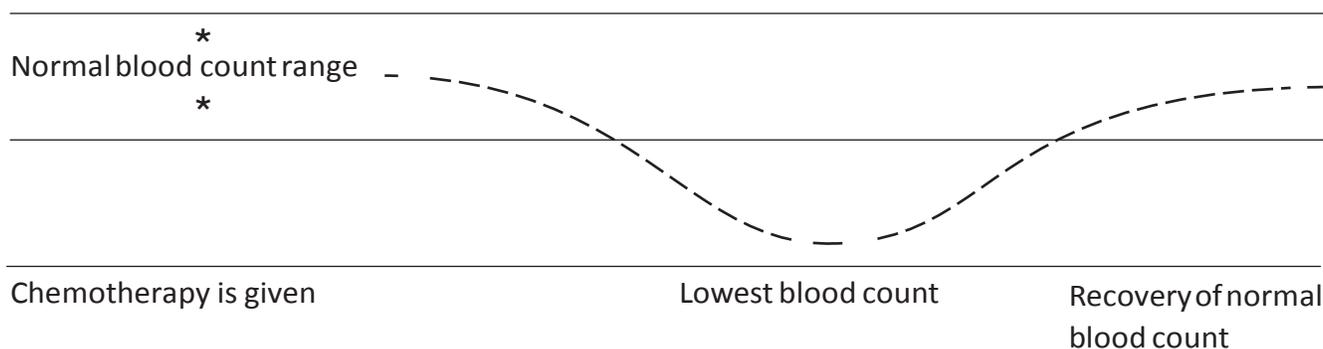
Most of the time, your body does fine on its own. Your blood counts will be checked on a weekly basis or as your doctor prefers. If we see a drop in any of your blood counts that is concerning, we will contact you. We may ask that you have a lab drawn earlier than planned, and the doctor may also prescribe an antibiotic. We will instruct you on any precautions.

This may sound too hard or just plain scary to some, but we must be aggressive when fighting an aggressive disease.

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What Happens to My Blood Counts After Chemotherapy?

(Dotted line symbolizes your blood count)



How low a blood count goes, how quickly it drops and how quickly it recovers are, to some extent, an individual matter. The average number of days to the lowest blood cell count is approximately 14 days. The average recovery period is another seven days. We see a few exceptions with drugs like BCNU, where it can take up to 21 days before the blood counts drop to its lowest point. Chemotherapy is not given again until the blood counts recover to a safe level.

How Long is the Medicine in My Body and How Does it Get Out?

A generalization is that chemotherapy is out of your body 48 hours after it is given. It leaves your body primarily with your urine. Some question remains as to whether or not this urine should be considered dangerous should someone else come in contact with it. Because of this concern, we suggest after using the toilet you flush the bowl twice to ensure the urine has disposed properly. If clothes become soiled with urine or other body fluids, such as stool, vomitus, semen, vaginal secretions or blood, the Oncology Nursing Society recommends that these clothes be washed separately from other, non-soiled clothes.

Remember, these are only precautions. You are encouraged to follow these suggestions during your treatments for a full 48 hours after your chemotherapy is completed. Should a family member or other individual accidentally be exposed, do not panic. The best course of action is to cleanse your skin with a diluted bleach solution and rinse thoroughly. Never use bleach on any open wound, your eyes, nose, ears or mouth.

If you are unsure of what to do, call your doctor or the nursing staff. Remember that most of the chemotherapy is excreted in your urine and is gone in 48 hours.

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How Will All of This Affect My Personal Relationships?

This is a complicated question.

Challenging times can be the test of any relationship. Certain family members and friends may become much more important to you. Some relationships that seem important now may fade. Your spouse or most intimate friend might find they just don't know what to say. You might, however, find they are the only one who really listens.

Remember that your illness affects all who love you. They too might feel angry, sad, confused or helpless. The best practice is to be as honest as possible about your feelings. Accept the feelings of others and surround yourself with people who care about you.

It usually does not work to try and keep your illness from your family and friends. They often sense that something is wrong and that you are hiding something from them. You might want to protect them but they might not want to be protected.

Personal counseling to help you deal with all that is changing may be very beneficial. It is not a sign of weakness to reach out for help but rather a sign of strength. Having the support of at least one person during your treatment course is a proven advantage.

Couples may wonder about their sexual intimacy. Sometimes your illness has also meant a necessary surgical procedure. This surgery may have produced a change in your appearance, leaving you to question who you are. Surgery also means a healing process must take place and you may not feel interest in your partner's needs. Chemotherapy itself can decrease your libido for a period of time. Talk with your partner -- tell her or him how you feel. Sexual intercourse may not be an option for a while. Explore other ways to be intimate.

If you are receiving chemotherapy, remember that bodily secretions, especially urine, are considered to have the chemicals present for up to 48 hours. Please ask your medical staff for guidance if you have any questions.

Another relationship to consider is that with your co-workers. Although many companies have become very supportive of employees faced with treatment for cancer, others may not. If a fellow colleague has been through treatment, ask them how it went for them. If you are the first in your workplace to go through treatment, you might want to ask the advice of a social worker or contact the American Cancer Society about what rights, if any, you have related to your work.

How Does Chemotherapy Affect Sexuality?

A woman's ability to have children after treatment will depend on the type and dose of chemotherapy she receives, and her age at the time of treatment. Chemotherapy can affect the function of women's ovaries, which may result in temporary or permanent infertility (the inability to become pregnant.) Ask your doctor about the long-term effects of your treatment plan.

If cancer is discovered in a pregnant woman, the doctor may delay chemotherapy to reduce the chance of birth defects. Talk with your doctor about any questions you may have about pregnancy and chemotherapy.

Men and Women

Even though treatment may lower a man's sperm count or cause a woman's periods to become irregular or stop completely, a pregnancy can still occur during treatment. Starting a family during chemotherapy treatment is not recommended. Anticancer drugs in the mother's bloodstream may cause birth defects to an unborn baby. Anticancer drugs in the father may cause temporary damage to his sperm. For this reason, talk to your doctor about the best methods of birth control for you.

Feelings about Sexuality

Sexual feelings and attitudes vary among people during chemotherapy. Everyone is different and will respond in his or her own way. Some people experience an increased desire for sexual activity, while others experience little or no change in their sexual desire and energy level. Still others find that their sexual interest declines due to the physical and emotional stresses related to cancer and cancer treatment.

It is important that you and your partner make a concerted effort to try and share your feelings with one another. Good communications is an important part of maintaining a healthy sexual relationship with your partner. Both you and your partner should also feel free to discuss sexual concerns with your doctor or nurse. This will help you in dealing with many of the sexually-related fears, anxieties and concerns you may have about chemotherapy treatment.

For more information about sexuality and cancer, refer to the booklet entitled "Sexuality & Cancer: For the Man (or woman) Who Has Cancer". These can be obtained through the American Cancer Society at 1-800- ACS-2345.

Emotional Changes

When someone is diagnosed with cancer, that person's entire collection of relationships is affected. It is said that the way you have tried to cope with other stressful times will be the way you try to cope with your illness and its treatment. This can be true for everyone involved.

Keeping family and friends informed and sharing how you feel will help you and may also help them to cope. Find a few special people to be your partners. They can help by listening, bringing you to appointments, helping with errands, or other responsibilities. Try keeping a diary of what is going on and how you feel. This may increase your sense of control and help to put things in perspective.

It is a well documented fact that people who try and hide their illness and have no extra emotional support do not fare as well as those with at least one confidant.

You will have good days and bad days. Take them one at a time. Set small, realistic goals for yourself each day. Do not consume yourself with anger over things you cannot control. Your energy needs to be focused on what is good for you.

Sometimes support groups can be very helpful. The American Cancer Society has information on what is available in your area. One out of three people develop some type of cancer. It is not something to be ashamed of or feel guilty about, but something to be informed about. There are more successful treatments now than ever before. We are committed to help you by offering the best medical treatment possible.

Fatigue

Fatigue is a feeling of weakness, lack of energy and/or an increased need for sleep. For a long time, fatigue was not identified as a side effect of chemotherapy. This left people unprepared to deal with it, and they were discouraged because they did not understand why they felt so tired.

Your body has a lot of hard work to do after chemotherapy. It must get rid of the old cells and begin to make new ones. You can help your body deal with this demand by:

- Eating well.
- Resting between periods of activity.
- Decreasing the demand you place on yourself.
- Discussing how you feel with your family and friends.

Chemotherapy is not the only cause of fatigue. Fatigue may result from stress, depression, pain, anemia, fear or a sudden change in your lifestyle. Talk with your doctor or nurse to help identify the possible cause and then to work on possible solutions. It may be very easy to help you feel a lot better or it may be a temporary side effect you may need to adapt to until the demands of both the chemotherapy and the cancer are decreased.

Anemia

The word “anemia” means that the hemoglobin or red blood cell count is lower than normal. Hemoglobin carries oxygen around in your blood. When your hemoglobin is low, your energy level is also low. The main reason for anemia after chemotherapy is simply that the drugs have destroyed more red blood cells than your body is able to replace. The supply is less than the demand.

Anemia does not always occur. If it does, it is usually only for a short period of time until your bone marrow is able to make enough blood cells to meet the demand.

Occasionally, a blood transfusion is necessary, but this is not a common occurrence. Your blood will be tested before and at various times after your treatment. This will provide us with an actual hemoglobin level or number. Usually people tell us they feel tired. Occasionally, people complain of other symptoms like shortness of breath or feeling their heart pounding in their ears.

Energy conservation is the best thing you can do to deal with anemia. Limit your activities and rest frequently. Also, eat foods containing plenty of calories and protein to supply your blood with the fuel needed to make new red blood cells.

Anemia can be corrected by taking medications that encourage bone marrow to produce more red blood cells or by transfusing red blood cells.

Blood Tests

A blood sample is usually taken before each treatment while you are on chemotherapy. Sometimes it is necessary to test your blood more frequently, but other times we are able to reduce the times your blood is tested. If, in between treatments, you are feeling especially fatigued or you have experienced uncontrolled vomiting, it may be necessary to come in before your next scheduled appointment to have your blood tested.

In most cases, the blood counts we follow are the white blood cell count (infection fighter, normal 4.8 to 10.8), hemoglobin (carries oxygen throughout your body, normal 12.0 to 18.0), and your platelet count (this cell helps produce a clot and/or prevents bleeding problems, normal 130,000 to 440,000). Often we do not see normal levels because of the disease process. More importantly, we compare the blood counts to previous results to identify changes.

Infection

We live in a world filled with germs and bacteria. Usually our bodies are able to keep us pretty healthy. It does this with the help of our white blood cells. These cells recognize and fight infections. When the white blood count is low, usually about 10 to 14 days after chemotherapy, extra precautions should be taken to decrease the risk of infection. Here are some things you should do if we tell you that you need to take precautions to lower your risk of infection:

- Wash your hands thoroughly and instruct other family members to do the same.
- Take your temperature if not feeling well and call us immediately if it reaches **100.5** degrees Fahrenheit.
- Stay out of crowds and away from anyone who is ill.
- Do not clean pets' environments (i.e., litter boxes, birdcages, etc.).
- Get plenty of rest.
- Maintain good nutrition -- plenty of fluids, calories and protein.
- Keep your mouth clean by brushing or rinsing after meals.
- Drink fresh water. Do not drink water that has been sitting out all day.
- Do not use enemas, suppositories or douches unless you check with your oncologist.
- Do not have dental work done.

Your doctor may decide to start a medication if your white blood cell count is low such as **Neupogen**, **Neulasta**, or Granix which are administered as an injection. These shots may cause some bone pain as they stimulate your bone marrow to produce white blood cells. We have found that taking "Claritin" (**Loratadine**) 10 mg every day prior to a shot may help relieve the pain. You may restart this if bone pain continues after shots are done.

It is also remotely possible you will need to be hospitalized. We try to keep you out of the hospital, but sometimes it is necessary, especially if you are feeling very ill with your fever. If you notice any signs or symptoms of infection, call your doctor. This would include:

- A fever with or without chills that reaches 100.5 degrees Fahrenheit
- Burning, frequency or urgency of urination
- Sores or pain in the mouth or throat
- A new cough or colored sputum (white, yellow, green or brown)
- Swollen, red, painful areas of skin
- Draining wound(s)

Bleeding

There is a small chance of bleeding after chemotherapy because your treatment can decrease the number of platelets circulating in your blood. Platelets are blood cells that help to form a clot when you get a cut. There are many other factors in your body that assist in clot formation, but basically platelets are necessary to prevent bleeding. We will alert you if your count is low. Here are some precautions to take if you are told they are low:

- Avoid using sharp objects to limit your chance of getting cut.
- Do not participate in any contact sports.
- Keep bowels soft to avoid straining. Use stool softeners, increase fluids and increase safe activity.
- Do not use enemas, douches or suppositories without the approval of your oncologist.
- Do not have intercourse.
- If you are unsteady on your feet, walk only with assistance so you do not fall.
- Blow your nose gently.
- Get adequate rest and good nutrition.
- Eat soft, non-irritating foods.
- Do not lift heavy objects.
- Do not use aspirin or alcohol unless permitted by your oncologist.
(If you use aspirin daily, do not stop unless your oncologist instructs otherwise.)
- Do not have any dental work performed.
- Keep your mouth clean and lips moist.
- Use a soft bristle tooth brush and do not use dental floss.
- Use an electric razor.

Call your doctor if you develop:

- Nosebleeds
- Bleeding gums
- New or unusual bruising
- Blood in your urine or stool*
- Blood in your sputum
- Small red or purple dots on your skin

* Blood in your urine or stool may vary widely in color from obvious bright red to pink, burgundy or black. If you notice a change in the color of your urine or stool, please call us.

Any of these things may be a sign that your platelet count is low. This may prompt your doctor to order a blood test, especially if the bleeding persists. Occasionally, it is necessary to give an infusion of platelets to help stop bleeding.

If you experience a nosebleed:

- Sit straight up. Do not tip your head back.
- Apply pressure and/or ice to your nose.
- Breathe through your mouth.
- After the bleeding stops, try not to blow your nose to help in clot formation.

Constipation

Constipation can also be a side effect of chemotherapy. Decreased activity, decreased fluid intake, or decreased nerve stimulus to your bowel because of a medication can leave you constipated. Your nurse will tell you if the chemotherapy medicine you are receiving has the known side effect of constipation.

Constipation is defined as irregular or infrequent hard stools that cause discomfort. You know what is normal for you. It may be normal for you to have a stool every second or third day. If your stool is not hard and does not cause you discomfort, you are not constipated. However, if you generally have a stool every morning and you miss a day you might consider some action.

To help prevent or deal with constipation:

- Increase fluid intake.
- Increase fiber in your diet.
- Respond to the urge to go to the bathroom.
- Avoid cheese, chocolate and eggs.
- Increase your activity, if possible.
- If you are taking a prescription of pain medicine, you should also take a stool softener daily such as Colace (Docusate sodium). Laxatives such as Miralax (Polyethylene Glycol), Milk of Mag, or Senna may also be recommended. Ask your doctor or nurse.
- Do not use an enema without your doctor's approval.

Call us if:

- You are concerned about your bowel status.
- You are oozing liquid stool.
- You start vomiting or feel nauseated and you have not had a stool in the past three days.
- Your stomach is distended, feels very full or hard.
- You notice any blood in your stool.

Diarrhea

Some chemotherapy medicines are more likely to cause diarrhea than others. Call us if you develop diarrhea. Diarrhea is frequent soft or liquid stools with or without discomfort. Our concern is for you to maintain adequate hydration since diarrhea can lead to dehydration, drink 8-10 glasses of liquid a day. Diarrhea can also result in poor nutrition and sore, tender skin around either your rectum or stoma. Dehydration, poor nutrition and/or poor skin condition weaken your body's ability to recover from your treatments.

What can you do?

First, recognize you have diarrhea. Generally, diarrhea is considered to be more than three loose or watery stools a day. You know what your normal bowel pattern is. Call us and report any problems.

You can also:

- Decrease fiber in your diet.

Foods to Eat Pasta, baked potatoes, white rice, toast, broth, pudding, custard, Jell-O, crackers, nutmeg

Foods to Avoid Nuts; seeds; raw or dried fruits or vegetables; greasy, fried foods; rich pastries

- Eat small, frequent meals.

Often, depending on the severity of your diarrhea, your physician may suggest a medication like Lomotil or Imodium. Keep a record of how many stools you have and how much anti-diarrheal medicine you take. This will be helpful for future occurrences.

If your diarrhea is not controlled with the following measures then please notify us immediately.

Imodium (loperamide):

Take 2 caplets (4 mg) first episode of diarrhea.
Then 1 caplet (2 mg) every 2 hours
(or 1 with each episode of loose stool)

May take up to 8 tablets (16 mg) daily

BRAT Diet-

Bananas
Rice
Applesauce
Toast

Hair Loss

Your nurse will tell you if hair loss is common with the medicines you are going to receive. Hair loss can occur slowly and may result in some thinning or it may happen very quickly, coming out in clumps.

For some people, this side effect is the most difficult because it affects appearance. You may want to buy a wig, hat or experiment with some scarves to help you prepare. It is often easier to buy a wig before your hair is gone if you wish to have the wig match your current hair color and style.

After chemotherapy, your hair will begin to grow at approximately 1/2 inch per month. Sometimes hair grows back a different color. It may return curly when it used to be straight or vice versa.

It is recommended that you do not color or Perm hair for about 6 months after treatment.

You may want to:

- Buy a wig, hat or scarves.
- Discuss your concern with your family and friends.
- Avoid perms or color treatments. Your hair might not fall out as quickly.
- Place a towel on your pillowcase at night to help contain the hair you lose at night.
- Cut your hair short with an electric razor, but DO NOT shave your head.
- Ask the American Cancer Society about its "Look Good Feel Better" program.

If you lose your hair, you will become colder more quickly. Wear a hat, nightcap, scarf or turban to conserve body heat. You may also lose other body hair. This is less common but sometimes men will not have to shave as frequently or women might have to pencil in their eyebrows. This is only temporary. The only time hair loss is permanent is when hair follicles die. This may occur with radiation to the head.

Nausea and Vomiting

Will I experience nausea and vomiting with my chemotherapy?

This depends on a few factors. Some people experience no nausea and vomiting at all. We will let you know if nausea and/or vomiting are common with the medicines you receive. In most cases we will provide a prescription for an anti-nausea medication.

What is the difference between nausea and vomiting?

Nausea is a feeling of sickness in your stomach. Vomiting is when you actually throw up. Just because you have one of these does not mean you will have the other. Our main goal is to prevent nausea and vomiting as much as possible. New anti-nausea and anti-vomiting medicines have greatly decreased these problems from chemotherapy for many people.

Why do people get nauseated when they are receiving chemotherapy?

There are many different reasons for nausea following chemotherapy. The medicines themselves may be the cause. However, sometimes the nausea may be due to the tumor itself, where it is located, or the breaking down of the tumor. Anticipation, stress or movement might trigger a feeling of nausea. Nausea may occur because you need to eat or you might have an upset stomach. Diarrhea causes you to lose important substances like potassium and may cause nausea. Constipation may also cause nausea.

How can nausea and vomiting be prevented?

We will prescribe anti-nausea medications and, when appropriate, determine scheduled times for you to take these medicines. If, despite these efforts, you still experience nausea and/or vomiting, please call us. Different medications may provide relief. If you are afraid that anything you try to eat will come right back up again, do not force yourself to eat. If you are vomiting or experiencing any problems that prevent you from eating and drinking, please call us. Medicine for vomiting can also be given in a suppository form, which is inserted into your rectum. It is important to eat and drink to help your body flush out the chemotherapy and to give your body the strength to repair itself. Do not hesitate to call if there are any problems.

Some self-help measures:

- Eat small snacks five or six times a day. You may be able to eat sweet or salty foods better.
 - Rest after meals. Excess movements may increase the nausea. If you recline after meals, make sure your head is four inches higher than your feet.
 - Drink fluids often throughout the day. Try to drink at least two to three quarts/liters of fluid a day.
 - Avoid hot foods when you feel sick. Their odors can increase nausea. Try cold meats and fruit plates with cottage cheese or small sandwiches of bland food.
 - Take anti-nausea pills at the first feeling of nausea.
-

Mouth Care

You can help prevent mouth sores to some extent by practicing good oral care. If your mouth stays healthy, it is easier for you to keep your body well nourished.

Some chemotherapy medicines are more likely than others to cause mouth sores. If you are given a medicine known to produce mouth sores, we will notify you. We may suggest you suck on ice chips for a while during your treatment. This cooling constricts the blood vessels inside your mouth, thereby decreasing the amount of drug reaching these tissues. The theory is that the less medicine reaching the mouth tissue, the less chance of mouth sores.

What You Can Do

- Brush with a soft bristle toothbrush and warm water.
- Rinse your mouth after eating with a salt water and baking soda solution. (1 teaspoon baking soda, 1 teaspoon salt in a quart of tap water) Make a fresh solution each morning and discard at the end of the day.
- Use non-irritating toothpaste. Ask your pharmacist or dentist for recommendations.
- Use only alcohol-free mouthwashes (unless prescribed by your oncologist.)
- Keep lips moist with a soothing lip balm.
- Drink approximately eight, 8 oz. glasses of fluid a day -- unless you are on a fluid restriction prescribed by your doctor.
- If you have dentures, remove and rinse your mouth every four hours. If a sore develops and your dentures irritate it, remove dentures except for eating.
- Floss regularly and gently. If your gums become painful or if any bleeding starts, stop flossing.
- Dental care of any kind is best done before you begin chemotherapy. If it is needed during your treatment, please check with your oncologist first.
- Avoid irritating foods such as extremely hot foods (temperature); extremely acidic or spicy foods (tomatoes, grapefruits, oranges, Mexican foods); hard or sharp foods (dry toast, pretzels, etc.)

If you are having problems with mouth sores please notify our staff as we may need to intervene with additional medications.

Important Things to Remember

Things to Have at Home

Thermometer - We suggest using a digital thermometer because often times they are easier to read than a traditional thermometer.

Flashlight - If you have a sore throat or a sore mouth, a flashlight will allow you to look in your mouth and describe to our staff what you see.

Soft Tooth brush- Oral hygiene is very important. We suggest you use a soft toothbrush to provide thorough oral care.

Sunscreen - In general, chemotherapy makes you much more sensitive to the sun. You can experience a severe burn in a short period of time. Remember, sunscreen should be applied 30 minutes before you are in the sun. A sunscreen of at least SPF 30 is recommended.

Tylenol - This medicine is often used for relief from pain and/or fever. We advise having some available in your home.

Current List of Medications and Allergies - Write down a list of your medicines, the dosage, how often you take them, and why you take them. Also, write down any allergies you have to medicines. This is a good list to carry with you at all times. Keep it current.

Important Things to Remember

Chemotherapy Teaching

Patient Name _____ Date _____ Chart # _____

_____ Characteristics of Chemotherapy

_____ Blood Counts:

WBC, Hct/ Hgb, Platelets

_____ Infection Precautions

_____ Temperature > 100.5

_____ Anemia/ Fatigue

_____ Nausea /Vomiting

_____ Diarrhea/ Constipation

_____ Nutrition/ Fluids

_____ Mouth Care

_____ Pain

_____ Additional Side Effects: _____

_____ Hair Loss (drug specific)

Other: _____

_____ I have received the Chemotherapy teaching packet.

_____ I have had the side effects of chemotherapy explained to me.

Patient's Signature _____

Teaching RN's Signature _____

Important Things to Remember

Here are a few things to keep in mind when receiving chemotherapy:

- Consider a temperature of 100.5 degrees Fahrenheit an emergency. Call our office at: **801-387-7150 (Dr Hansen)** or **801-476-1777 (Drs Johnson and Gray)** day or night.
- Watch for and report any unusual bleeding. Drink two to three quarts/liters of fluid while receiving treatment. Take anti-nausea medication as directed. If excessive nausea and vomiting occur, call our office. Don't hesitate to call - the sooner you call, the sooner we can help. Watch for and report any mouth sores.
- When you come in for follow up appointments, check in at the receptionists' desk. They will give you further instructions. If blood needs to be drawn, a phlebotomist from our lab will draw it. Please check in 15 minutes before you are to see the physician. This will allow time for lab work if needed. We recognize your time is just as valuable as ours.
- If you need a refill on your medications, please have the bottle with you when you call. This ensures you get the correct strength and dosage. Also, please do not wait until you are completely out before calling for a refill. If possible, call early in the day to give the doctor time to order the refill. Once you have left your request, please allow us up to 48 hours to order the refill and call the pharmacy. If you want to check the status of your request, please contact the pharmacy before calling our office.
- If you need questions answered, please call our office. Your calls are important to us and we will do our best to answer them promptly. If you are asked to hold, please know we are assisting other patients. If you cannot hold, please leave a message and we will return your call as quickly as possible. We appreciate your patience.

To assist you during your treatment, here is the Utah Hematology Oncology team:

- Medical Oncologists/Hematologists: Dr. Vincent Hansen, Dr. Harold Johnson, and Dr. Carl Gray
- Our nurse practitioners are: Deanna Bojanower, ANP-C, and Jan Davis, APRN
- Registered Nurses administer chemotherapy treatments, assist in education, help manage side effects, and will answer your questions about your diagnosis and treatment.
- Medical assistants help the physicians and nurse practitioners during your examinations.
- Receptionists will greet you when you arrive, and help schedule your appointments.

Important Things to Remember

Working with Our Health Care Team

You are now part of a team. Your team members are your family or support group, your doctor and his staff of nurses and medical assistants. Other team members may need to include a dietician, a counselor, a religious leader and a social worker. One of our goals is to help you to be prepared to manage the side effects of your therapy whether it is chemotherapy or radiation therapy. You are the one who profits the most in this team effort. We, at Utah Hematology Oncology, want to help you with every aspect of your disease. Whether your concern is due to your physical or mental well being, we are here. We want to help you learn about the many problems of cancer and its treatment.

Please feel free to ask questions and tell us your concerns. This is a vital part of your treatment. For emergencies, our 24-hour phone numbers are: 801-387-7150 (Dr Hansen) and 801-476-1777 (Drs Johnson and Gray)

Medications

- It is important you let your physician know about all medications, herbs or other supplements you are taking right now.
- Do not take any aspirin or aspirin products while on chemotherapy. Many drugs, both over-the-counter and given to you by a doctor, may contain aspirin. Be sure to read the labels on all pill bottles. Aspirin and cancer treatment affect the platelets in your blood, which may lead to bleeding. However, if you are on aspirin for your heart, keep taking them but do not increase the dosage.
- Do not take Tylenol (acetaminophen) or products containing Tylenol/acetaminophen without being directed to do so by your oncologist or nurse. Many drugs, both over-the-counter prescribed for you by a doctor, may contain acetaminophen. Taking an excess of acetaminophen can cause serious liver damage. Be sure to read the labels on all medications.
- Ask your physician about you or someone in your family receiving vaccinations while you are undergoing treatment.

Important Things to Remember

About Your Anti-Nausea Medication

To help prevent nausea and vomiting from occurring, your physician may order IV medications that are given before you receive your chemo. These medications should manage symptoms until the evening of your treatment. In addition you may also be prescribed one or more of the following medications for home use. Nausea can occur at any point after your treatment, if nausea starts to bother you take the medications as directed. Do not wait until you are vomiting, they can't help you if they don't stay down.

- Zofran (ondansetron) 8 mg tablets to be taken by mouth every morning and evening (or every 8 hours if needed) for three days (or longer) following treatment. This is an effective medication to prevent nausea.
- Compazine (prochlorperazine) 10 mg tablets to be taken by mouth every 6-8 hours as needed. This is an effective medication if you are already nauseated, but may also be helpful in preventing nausea.
- Phenergan (promethazine) 25 mg tablets to be taken by mouth every 6-8 hours as needed. Phenergan can be taken with or without food.
- Emend (aprepitant) Bring the tri-pack to the chemotherapy suite so you can take your first capsule of Emend (125 mg) by mouth one hour before you start chemotherapy. Take one 80 mg capsule of Emend each morning for the two days following your chemotherapy.

Foods to have on hand for nausea:

| | | | |
|-----------|--------|------------|--------------|
| Popsicles | Jell-O | Broth | Tea |
| Saltines | 7-up | Ginger Ale | Ginger snaps |

It is our sincere desire to make your chemotherapy treatments as tolerable as possible. Everyone is so different that it may take a few adjustments in medications to find what will work best for you. Do not feel that because you are receiving chemotherapy, you have to feel sick. If what you have been prescribed does not work for you, please let us know.

If you are not keeping food down then please come into our office for possible IV hydration and IV anti-nausea medication.

Important Things to Remember

Why is drinking fluids so important?

Information about Fluids

In our bodies, water performs the following functions:

- Helps to keep cells, joints and other tissues lubricated
- Helps to maintain body temperature
- Plays an important role in metabolic activity
- Helps maintain muscle tone
- Helps rid the body of waste
- Transports needed nutrients

How much do you need to drink?

- The normal amount of fluid intake per day ranges from 1.5 to 3.5 quarts/liters.
- One way to figure out how much you need is to divide your weight in pounds by 2. This is the number of ounces you need for one day.
- Your doctor or nurse may give you an amount to drink -- usually two to three quarts/liters per day.
- You may need more fluids if you are experiencing increased demands of disease and treatment; have increased metabolic activity or have a fever; or if you have a high salt intake.

Many patients find they feel better if they drink at least three quarts/liters per day!

What fluids should you drink?

To prevent boredom, vary the beverages you drink. Best choices are:

- Water, flavored water, seltzers.
- Juices, sports drink (unless you are diabetic or your doctor has told you to avoid these).
- Fruit smoothies.
Add fruit, ice cream, sherbet or sorbet to juices. Mix in a blender for a refreshing smoothie.

Following are several ways to increase your fluid intake:

- Set a goal and keep a record to see if you are reaching your target.
- Combine juices with seltzer and crushed ice.
- Keep fluids at hand in a cooler at your desk, in the car or at home.
- Vary the fluids you drink. Try new beverages. Your tastes may change while on therapy.

Keeping a fluid diary journal

- Until you set a routine, it may be helpful to keep a journal of how much you drink.
- Many people think they are drinking more than they really are. A journal can help you see your true intake.

Important Things to Remember

More Information about Fluids

Are there any fluids you should avoid or omit?

- Do not drink any alcohol.
- Reduce your intake of drinks with caffeine. Caffeinated drinks pull water out of your system and dehydrate you. Keep in mind that no caffeinated drinks should count toward your fluid requirement. For every caffeinated beverage you drink, drink an equal amount of water.
- Caffeine or similar substances are present in coffee/teas (including iced), cola and other sodas (including Mountain Dew and Dr Pepper), chocolate/cocoa and most energy drinks. Check the label.

How do you know if you are drinking enough?

There are a couple of ways you can tell if you are drinking enough.

- Check your urine color. Darker urine means you are not drinking enough, while clear or very pale yellow means you are getting adequate fluids.
- Dizziness when changing positions, i.e. from sitting to standing, may be a sign of dehydration.

Be sure to discuss the amount of fluids you should drink with your physician or nurse. Remember, this is a simple way you can help yourself and ease your side effects.

Fluid equivalency:

| | | |
|------------------------|---|--------------------|
| 1 ounce | = | 30 ml or cc |
| 8 ounces | = | 240 ml or cc |
| 2 liters | = | approx. 67 ounces |
| Half gallon + 3 ounces | = | 2 liters (2000 ml) |
| 2 quarts + 3 ounces | = | 2 liters |

How Does Chemotherapy Affect Sexuality?

Most patients are able to continue sexual activity during chemotherapy. However, chemotherapy may temporarily decrease your sexual desire by lowering your hormone level. Nausea, fatigue and pain may also be a factor. Negative emotions like depression, anger or fear may keep you or your partner from wanting to have sex.

Chemotherapy may, but does not always, affect sexual organs and functioning. The side effects that may result depend upon the drugs used and the person's age and overall general health. If you or your partner is currently using any form of birth control, it is important to discuss this with your doctor; changes may need to be made.

In addition, patients undergoing chemotherapy are at an increased risk of getting infections. For this reason, practice good personal hygiene and bathe daily. Wash your hands and genitals before and after sexual activity. To help prevent infection, a condom and a water-based lubricant or spermicidal jelly with nonoxynol-9 may be used. These products reduce the chance of infection or irritation to the genital area. Never use an oil-based product such as petroleum jelly or baby oil, which can cause a condom to tear. If you have been told by your physician that your white blood cell count is low enough to cause concern you should abstain from sexual intercourse.

Men

During treatment, some men may experience a temporary decrease in the size and frequency of erections. Sexual desire may also decrease. These decreases are usually due to a slowing down in the amount of testosterone that is produced, or are secondary to hormonal imbalances caused by some nausea and vomiting medications. Hormone levels, along with a man's sexual function and desire, will return to normal after treatments have ended. Chemotherapy may reduce a man's sperm count. A lowered sperm count does not affect the ability to have sexual intercourse. A low sperm count may be temporary or permanent, depending upon the dose of chemotherapy and the type of drugs used during treatment. If you plan to have children after treatment, discuss your wishes with your doctor. Your doctor may suggest a sperm bank where you can store your sperm before treatment.

Women

Women undergoing chemotherapy may experience hot flashes and other symptoms of menopause (i.e., itching, burning or dryness of vaginal tissues.) Menstrual periods may become irregular or stop completely. These changes can be temporary or permanent depending on the women's age, the type of drugs used during treatment and the drug dose. Ask your doctor about the long-term effects of your treatment.

Vaginal dryness may also be a consequence of lowered hormone levels. This, along with other tissue changes, can increase a woman's chance of vaginal infections. To maintain sexual health, women can use a water-based vaginal lubricants (i.e. K-Y jelly) or moisture replacement suppositories such as Replens. These items can be purchased over-the-counter at any drugstore. Do not use oil-based lotions or petroleum jelly, which may block the urinary opening and lead to an infection. In addition, wearing cotton underwear and pantyhose with a ventilated cotton lining, and avoiding wearing of tight slacks and shorts, will aid in preventing infections.

More →

Important Things to Remember

Safe Use of Alternative/Complementary Cancer Treatments

Many people with cancer use one or more kinds of alternative or complementary therapies. Often they do not tell their doctors about their decision. The best approach is to look carefully at your choices. Talk to your doctor about any method you are considering. There are many complementary methods you can safely use along with standard treatment to relieve symptoms or side effects, to ease pain and to help you better enjoy life.

Here is a partial list of some complementary methods some people have found helpful when used along with medical treatment: aromatherapy, art therapy, biofeedback, garlic, herbal teas, massage therapy, meditation, music therapy, prayer, spiritual practices and yoga. If you are thinking about using any method instead of standard treatment, look first at these questions.

- What claims are made? To cure the cancer? Or to enable standard treatment to work better? To relieve symptoms or side effects?
- What are the credentials of those supporting the treatment? Are they recognized experts in cancer treatment? Have they published their findings in trustworthy journals?
- How is the method promoted? Is it promoted only in the mass media (books, magazines, talk shows), rather than in scientific journals?

Signs of Treatments to Avoid:

Use the following checklist to spot approaches that might be open to question. If you are not sure, talk to your doctor or nurse before moving ahead.

- Is the treatment based on an unproven theory?
- Does the treatment promise a cure for all cancers?
- Are you told not to use conventional medical treatment?
- Is the treatment or drug a secret that only certain providers can give?
- Does the treatment require you to travel to another country?
- Do the promoters attack the medical/scientific establishment?

How Can I Learn More?

The American Cancer Society has information about some alternatives and complementary methods available through its toll free number 800-ACS-2345 or its web site www.Cancer.org. Information is also available from the National Cancer Institute's Cancer Information Service at 800-4-CANCER. There is a great deal of interest today in alternative and complementary therapies. Mass communication, especially the Internet, makes it possible for people to share ideas and information very quickly. But, too often information on the Internet is written by promoters of useless treatments. The following books may be helpful:

- American Cancer Society: Informed Decisions: The Complete Book of Cancer Diagnosis, Treatment and Recovery, Viking, 1997
- A Cancer Survivor's Almanac: Charting Your journey, Chronimed Publishing, 1996
- The Alternative Medicine Handbook, WW Norton, 1998
- Choice in Healing, MIT Press, 1994
- Choices, Avon Books, 1994

A great source of information is the Internet. The following sites may be helpful:

- www.cancer.gov
- www.huntsman.utah.edu
- www.nci.org
- www.onclink.com
- www.cancer.org