

LOST TEMPLE FITNESS

CHEMOTHERAPY

Information and pictures from *National Cancer Institute* unless otherwise specified

Quick Summary of Section

How Chemotherapy Works against Cancer and Who Receives it

- Chemotherapy works by stopping or slowing the growth of cancer cells, which grow and divide quickly.

How Your Doctor Decides Which Chemotherapy Drugs to Give You

- There are many different chemotherapy drugs.

How Chemotherapy Is Used with Other Cancer Treatments

- When used with other treatments

How Often You Receive Chemotherapy

- Treatment schedules for chemotherapy vary widely. You may receive chemotherapy in cycles. A cycle is a period of chemotherapy treatment followed by a period of rest.

Ways Chemotherapy may be given

- Oral, intravenous, intrathecal, intraperitoneal, intra-arterial, topical, catheter, port, pump

Side Effects and Exercise Precautions

- Chemotherapy not only kills fast-growing cancer cells, but also kills or slows the growth of healthy cells that grow and divide quickly.

How Chemotherapy Works against Cancer and Who Receives it

Chemotherapy is used to treat many types of cancer. For some people, chemotherapy may be the only treatment you receive. But most often, you will have chemotherapy and other cancer treatments. The types of treatment that you need depends on the type of cancer you have, if it has spread and where, and if you have other health problems. *NIH NCI (14)*

Chemotherapy is used to:

- Treat cancer: Chemotherapy can be used to cure cancer, lessen the chance it will return, or stop or slow its growth.
- Ease cancer symptoms: Chemotherapy can be used to shrink tumors that are causing pain and other problems. *NIH NCI (14)*

Chemotherapy is a drug treatment that works by stopping or slowing the growth of cancer cells, which grow and divide quickly. But it can also harm healthy cells that divide quickly, such as those that line your mouth and intestines or cause your hair to grow. Damage to healthy cells may cause side effects. Often, side effects get better or go away after chemotherapy is over. *Cancer.gov publication – Chemotherapy and You*

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How Your Doctor Decides Which Chemotherapy Drugs to Give You	<p>There are many different chemotherapy drugs. Which ones are included in your treatment plan depends mostly on:</p> <ul style="list-style-type: none">• The type of cancer you have and how advanced it is• Whether you have had chemotherapy before• Whether you have other health problems, such as diabetes or heart disease <p><i>NIH NCI (14)</i></p>
How Chemotherapy Is Used with Other Cancer Treatments	<p>When used with other treatments, chemotherapy can:</p> <ul style="list-style-type: none">• Make a tumor smaller before surgery or radiation therapy. This is called neoadjuvant chemotherapy.• Destroy cancer cells that may remain after treatment with surgery or radiation therapy. This is called adjuvant chemotherapy.• Help other treatments work better.• Kill cancer cells that have returned or spread to other parts of your body. <p><i>NIH NCI (14)</i></p>
How Often You Receive Chemotherapy	<p>Treatment schedules for chemotherapy vary widely. How often and how long you get chemotherapy depends on:</p> <ul style="list-style-type: none">• Your type of cancer and how advanced it is• Whether chemotherapy is used to:<ul style="list-style-type: none">○ Cure your cancer○ Control its growth○ Ease symptoms• The type of chemotherapy you are getting• How your body responds to the chemotherapy <p>You may receive chemotherapy in cycles. A cycle is a period of chemotherapy treatment followed by a period of rest.</p> <ul style="list-style-type: none">• For instance, you might receive chemotherapy every day for 1 week followed by 3 weeks with no chemotherapy. These 4 weeks make up one cycle.• The rest period gives your body a chance to recover and build new healthy cells. <p><i>NIH NCI (14)</i></p>

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Ways Chemotherapy may be given	<p>Oral The chemotherapy comes in pills, capsules, or liquids that you swallow</p> <p>Intravenous (IV) The chemotherapy goes directly into a vein</p> <p>Injection The chemotherapy is given by a shot in a muscle in your arm, thigh, or hip, or right under the skin in the fatty part of your arm, leg, or belly</p> <p>Intrathecal The chemotherapy is injected into the space between the layers of tissue that cover the brain and spinal cord</p> <p>Intraperitoneal (IP) The chemotherapy goes directly into the peritoneal cavity, which is the area in your body that contains organs such as your intestines, stomach, and liver</p> <p>Intra-arterial (IA) The chemotherapy is injected directly into the artery that leads to the cancer</p> <p>Topical The chemotherapy comes in a cream that you rub onto your skin</p> <p>Chemotherapy is often given through a thin needle that is placed in a vein on your hand or lower arm. Your nurse will put the needle in at the start of each treatment and remove it when treatment is over.</p> <p>IV chemotherapy may also be given through catheters or ports, sometimes with the help of a pump.</p> <p>Catheter</p> <ul style="list-style-type: none">• A catheter is a thin, soft tube. A doctor or nurse places one end of the catheter in a large vein, often in your chest area. The other end of the catheter stays outside your body.• Most catheters stay in place until you have finished your chemotherapy treatments.• Catheters can also be used to give you other drugs and to draw blood. Be sure to watch for signs of infection around your catheter. <p>Port</p> <ul style="list-style-type: none">• A port is a small, round disc that is placed under your skin during minor surgery. A surgeon puts it in place before you begin your course of treatment, and it remains there until you have finished. A catheter connects the port to a large vein, most often in your chest.• Your nurse can insert a needle into your port to give you chemotherapy or draw blood.• This needle can be left in place for chemotherapy treatments that are given for longer than one day.• Be sure to watch for signs of infection around your port. <p>Pump</p> <ul style="list-style-type: none">• Pumps are often attached to catheters or ports. They control how much and how fast chemotherapy goes into a catheter or port, allowing you to receive your chemotherapy outside of the hospital.• Pumps can be internal or external. External pumps remain outside your body.• Internal pumps are placed under your skin during surgery. <i>NIH NCI (14)</i>
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Side Effects

(See ***Side Effects*** and ***Late Effects*** for more information)

- Chemotherapy not only kills fast-growing cancer cells, but also kills or slows the growth of healthy cells that grow and divide quickly.
- Examples are cells that line your mouth and intestines and those that cause your hair to grow.
- Damage to healthy cells may cause side effects, such as mouth sores, nausea, and hair loss. Side effects often get better or go away after you have finished chemotherapy.

Cancer treatments can cause side effects—problems that occur when treatment affects healthy tissues or organs. Ask your health care team what side effects you are likely to have.

- Anemia
- Appetite Loss
- Bleeding and Bruising (Thrombocytopenia)
- Constipation
- Delirium
- Diarrhea
- Edema (Swelling)
- Fatigue
- Fertility Issues in Boys and Men
- Fertility Issues in Girls and Women
- Hair Loss (Alopecia)
- Infection and Neutropenia
- Lymphedema
- Memory or Concentration Problems
- Mouth and Throat Problems
- Nausea and Vomiting
- Nerve Problems (Peripheral Neuropathy)
- Pain
- Sexual Health Issues in Men
- Sexual Health Issues in Women
- Skin and Nail Changes
- Sleep Problems
- Urinary and Bladder Problems

The most common side effect is fatigue, which is feeling exhausted and worn out. You can prepare for fatigue by:

- Asking someone to drive you to and from chemotherapy
- Planning time to rest on the day of and day after chemotherapy
- Asking for help with meals and childcare on the day of and at least one day after chemotherapy

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Exercise Precautions or per MD recommendations CETI	<ul style="list-style-type: none">• IV Chemotherapy – No exercise for 24 hours• Hematocrit less than 25% - No Exercise• Hemoglobin less than 24% 8g/dl due to anemia – No Exercise• White blood cell counts less than 300 mm³ – No Exercise• White blood cell counts – Avoid public gyms unless blood cell count is above 500 mm³• Platelet count less than 5000 mm³ – No resistance training – risk of internal bleeding/hemorrhage• Platelet count less than 30,000 mm³ – Gentle Active Range of Motion• Adriamycin use (doxorubicin) – No exercise on the day of chemotherapy. May cause heart to bear irregularly for 24 hours, so only low impact exercise for 24-48 post treatment – no more than 15-20 beats over resting heart rate.
References	<p>Cancer.gov publication – Chemotherapy and You https://www.cancer.gov/publications/patient-education/chemotherapy-and-you.pdf</p> <p>CETI: Cancer Exercise Training Institute https://www.thecancerspecialist.com/</p> <p>NIH NCI (14) Chemotherapy https://www.cancer.gov/about-cancer/treatment/types/chemotherapy</p>