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Cancer Chemotherapy

What is cancer chemotherapy?

Cancer chemotherapy is a type of cancer treatment. It uses medicines to destroy cancer cells.

Normally, your body forms new cells as needed, replacing old cells that die. **Cancer** [<https://medlineplus.gov/cancer.html>] cells keep growing without control. New cells grow even when you don't need them, and old cells don't die when they should. These extra cells can form a mass called a tumor. Chemotherapy works by killing the cancer cells, stopping them from spreading, or slowing their growth.

Chemotherapy is used to:

- **Treat cancer** by curing the cancer, lessening the chance it will return, or stopping or slowing its growth.
- **Ease cancer symptoms** by shrinking tumors that are causing pain and other problems.

What are the side effects of chemotherapy?

Chemotherapy does not just destroy cancer cells. It can also harm some healthy cells, which causes side effects.

You may have a lot of side effects, some side effects, or none at all. It depends on the type and amount of chemotherapy you get and how your body reacts.

Some common side effects are:

- Mouth sores
- Fatigue [<https://medlineplus.gov/fatigue.html>]
- Nausea and vomiting [<https://medlineplus.gov/nauseaandvomiting.html>]
- Pain
- Hair loss [<https://medlineplus.gov/hairloss.html>]

There are ways to prevent or control some side effects. Talk with your health care provider about how to manage them. Healthy cells usually recover after chemotherapy is over, so most side effects go away over time.




What can I expect when getting chemotherapy?

You may get chemotherapy in a hospital, at home, at your provider's office, or a medical clinic. You might be given the medicines by mouth, in a shot, as a cream, through a catheter (a thin tube), or intravenously (by IV).


Your treatment plan will depend on the type of cancer you have, which chemotherapy medicines are used, the treatment goals, and how your body responds to the medicines.

Chemotherapy may be given alone or with other treatments. You may get treatment every day, every week, or every month. You may have breaks between treatments so that your body has a chance to build new healthy cells.



Start Here

- **A to Z List of Cancer Drugs** [<https://www.cancer.gov/about-cancer/treatment/drugs>]  (National Cancer Institute)
- **Chemotherapy** [<https://www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html>]
(American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/como-sobrellevar-el-cancer/tipos-de-tratamiento/quimioterapia.html>]
- **Chemotherapy and You: Support for People with Cancer** [<https://www.cancer.gov/publications/patient-education/chemo-and-you>]  (National Cancer Institute) - **PDF**
Also in Spanish [<https://www.cancer.gov/espanol/publicaciones/educacion-para-pacientes/quimioterapia-y-usted>]
- **Chemotherapy to Treat Cancer** [<https://www.cancer.gov/about-cancer/treatment/types/chemotherapy>]  (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/tipos/quimioterapia>]

Living With

- **Eating Hints: Before, during, and after Cancer Treatment** [<https://www.cancer.gov/publications/patient-education/eating-hints>]  (National Cancer Institute) - **PDF**
Also in Spanish [<https://www.cancer.gov/espanol/publicaciones/educacion-para-pacientes/consejos-de-alimentacion>]

Related Issues

- **Anemia: Cancer Treatment Side Effect** [<https://www.cancer.gov/about-cancer/treatment/side-effects/anemia>]  (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/anemia>]
- **Bleeding and Bruising (Thrombocytopenia) and Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/bleeding-bruising>]  (National Cancer Institute)
- **Cancer Fatigue** [<https://www.cancer.gov/about-cancer/treatment/side-effects/fatigue>]  (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/fatiga>]
- **Cancer Therapy Interactions with Foods and Dietary Supplements** [<https://www.cancer.gov/about-cancer/treatment/cam/patient/dietary-interactions-pdq>]  (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/mca/paciente/interacciones-alimentos-suplementos-pdq>]
- **Cancer Treatments & Oral Health** [<https://www.nidcr.nih.gov/health-info/cancer-treatments>]  (National Institute of Dental and Craniofacial Research)
Also in Spanish [<https://www.nidcr.nih.gov/espanol/temas-de-salud/tratamientos-contr-el-cancer>]
- **Chemo Brain** [<https://www.mayoclinic.org/diseases-conditions/chemo-brain/symptoms-causes/syc-20351060?p=1>]
(Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/chemo-brain/symptoms-causes/syc-20351060?p=1>]
- **Chemotherapy and Hair Loss: What to Expect during Treatment** [<https://www.mayoclinic.org/tests-procedures/chemotherapy/in-depth/hair-loss/ART-20046920?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/tests-procedures/chemotherapy/in-depth/hair-loss/art-20046920?p=1>]
- **Chemotherapy and Sex: Is Sexual Activity OK during Treatment?** [<https://www.mayoclinic.org/tests-procedures/chemotherapy/expert-answers/chemotherapy-and-sex/FAQ-20058287?p=1>]
(Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/tests-procedures/chemotherapy/expert-answers/chemotherapy-and-sex/faq-20058287?p=1>]
- **Chemotherapy Side Effects: A Cause of Heart Disease?** [<https://www.mayoclinic.org/diseases-conditions/cancer/expert-answers/chemotherapy-side-effects/FAQ-20058319?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/cancer/expert-answers/chemotherapy-side-effects/faq-20058319?p=1>]
- **Constipation and Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/constipation>]  (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/estreñimiento>]

Diarrhea and Cancer Treatment [<https://www.cancer.gov/about-cancer/treatment/side-effects/diarrhea>]

 (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/diarrea>]

• **Edema (Swelling) and Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/edema>]

 (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/edema>]

• **Hair Loss (Alopecia) and Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/hair-loss>]

 (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/caida-pelo>]

• **Infection and Neutropenia during Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/infection>]

 (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/infecciones>]


• **Low Blood Cell Counts: Side Effects of Cancer Treatment** [<https://www.mayoclinic.org/diseases-conditions/cancer/in-depth/cancer-treatment/ART-20046192?p=1>] (Mayo Foundation for Medical Education and Research)

Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/cancer/in-depth/cancer-treatment/art-20046192?p=1>]


• **Managing Cancer-Related Side Effects** [<https://www.cancer.org/cancer/managing-cancer/side-effects.html>]

(American Cancer Society)

Also in Spanish [<https://www.cancer.org/es/cancer/como-sobrellevar-el-cancer/efectos-secundarios.html>]

• **Memory or Concentration Problems and Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/memory>]  (National Cancer Institute)


Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/memoria>]

• **Mouth and Throat Problems: Cancer Treatment Side Effects** [<https://www.cancer.gov/about-cancer/treatment/side-effects/mouth-throat>]  (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/boca-garganta>]

• **Nausea and Vomiting and Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/nausea-vomiting>]

 (National Cancer Institute)


• **Nerve Problems (Peripheral Neuropathy) and Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/nerve-problems>]  (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/problemas-nervios>]

• **Off-Label Drug Use in Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/drugs/off-label>]

 (National Cancer Institute)


Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/medicamentos/uso-extraoficial>]

• **Oral Complications of Cancer Therapies** [<https://www.cancer.gov/about-cancer/treatment/side-effects/mouth-throat/oral-complications-pdq>]  (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/boca-garganta/complicaciones-orales-pdq#section/all>]

• **Pain and Cancer** [<https://www.cancer.gov/about-cancer/treatment/side-effects/pain>]  (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/dolor>]

• **Skin and Nail Changes during Cancer Treatment** [<https://www.cancer.gov/about-cancer/treatment/side-effects/skin-nail-changes>]  (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/cambios-piel-unas>]

• **Urinary and Bladder Problems** [<https://www.cancer.gov/about-cancer/treatment/side-effects/urination-changes>]

 (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/efectos-secundarios/problemas-urinarios>]

Specifics

• **Getting Oral or Topical Chemotherapy** [<https://www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy/oral-chemotherapy.html>] (American Cancer Society)

Also in Spanish [<https://www.cancer.org/es/cancer/como-sobrellevar-el-cancer/tipos-de-tratamiento/quimioterapia/quimioterapia-oral.html>]

• **TACE Cancerous Tumor Therapy** [<https://www.radiologyinfo.org/en/info/chemoembol>]


(American College of Radiology; Radiological Society of North America)

Also in Spanish [<https://www.radiologyinfo.org/es/info/chemoembol>]

Test Your Knowledge

- Test Your Chemotherapy Knowledge [https://medlineplus.gov/ency/quiz/002324_10.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/quiz/002324_70.htm]

Statistics and Research

- Cholesterol Drug May Help Protect the Heart during Chemotherapy for Lymphoma [<https://www.cancer.gov/news-events/cancer-currents-blog/2023/lymphoma-statin-reduces-chemo-heart-damage>]  (National Cancer Institute)

Clinical Trials


- ClinicalTrials.gov: Cancer Chemotherapy [<https://clinicaltrials.gov/search?cond=cancer&intr=chemotherapy&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles



References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Assessing the Impact of Pharmacists' Interventions on Preventing and Resolving Drug-Related... [<https://www.ncbi.nlm.nih.gov/pubmed/40729081>]
- Article: Investigating the effects of watson-based education on depressive symptoms, hope, and... [<https://www.ncbi.nlm.nih.gov/pubmed/40713929>]
- Article: Phase 1b/2 study evaluating safety, efficacy and immune effects of TLR9... [<https://www.ncbi.nlm.nih.gov/pubmed/40713179>]
- Cancer Chemotherapy -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Antineoplastic+Agents%2Ftherapeutic+use%22%5Bmajr%3Anoexp%5D+OR+%22Neoplasms%2Fdrug+therapy%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]


Reference Desk

- Dictionary of Cancer Terms [<https://www.cancer.gov/publications/dictionaries/cancer-terms>]  (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/publicaciones/diccionarios/diccionario-cancer/>]

Find an Expert

- American Cancer Society [<https://www.cancer.org/>]
- Choosing a Cancer Doctor [<https://www.cancer.org/cancer/managing-cancer/finding-care/where-to-find-cancer-care/choosing-a-cancer-doctor.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/como-sobrellevar-el-cancer/encontrar-tratamiento/como-elegir-un-medico-y-un-hospital/como-seleccionar-a-un-medico.html>]
- National Cancer Institute [<https://www.cancer.gov/>] 
Also in Spanish [<https://www.cancer.gov/espanol/>]
- NCI - Designated Cancer Centers [<https://www.cancer.gov/research/infrastructure/cancer-centers>]  (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/investigacion/infraestructura/centros-oncologicos>]
- Organizations that Offer Cancer Support Services [<https://supportorgs.cancer.gov/home.aspx>]  (National Cancer Institute)
Also in Spanish [<https://supportorgs.cancer.gov/home.aspx?lang=2>]

Children

- Central Lines (Central Venous Catheters) [<https://kidshealth.org/en/parents/central-lines.html>]  (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/central-lines.html>]

Chemotherapy [<https://kidshealth.org/en/kids/chemo.html>] (Nemours Foundation)

Also in Spanish [<https://kidshealth.org/es/kids/chemo.html>]

- **Implanted Ports** [<https://kidshealth.org/en/parents/implanted-ports.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/implanted-ports.html>]
- **Peripherally Inserted Central Catheter (PICC Line)** [<https://kidshealth.org/en/parents/picc-lines.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/picc-lines.html>]
- **Side Effects of Chemotherapy and Radiation (For Parents)** [<https://kidshealth.org/en/parents/side-effects.html>]
(Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/side-effects.html>]
- **Tunneled Central Lines** [<https://kidshealth.org/en/parents/cv-catheters.html>] (Nemours Foundation)

Patient Handouts

- **After chemotherapy - discharge** [<https://medlineplus.gov/ency/patientinstructions/000012.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000012.htm>]
- **Central venous catheter - dressing change** [<https://medlineplus.gov/ency/patientinstructions/000156.htm>]
(Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000156.htm>]
- **Central venous catheter - flushing** [<https://medlineplus.gov/ency/patientinstructions/000157.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000157.htm>]
- **Central venous catheters - ports** [<https://medlineplus.gov/ency/patientinstructions/000491.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000491.htm>]
- **Chemotherapy to Treat Cancer** [<https://www.cancer.gov/about-cancer/treatment/types/chemotherapy>]
 (National Cancer Institute)
Also in Spanish [<https://www.cancer.gov/espanol/cancer/tratamiento/tipos/quimioterapia>]
- **Low white blood cell count and cancer** [<https://medlineplus.gov/ency/patientinstructions/000675.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000675.htm>]
- **Oral mucositis - self-care** [<https://medlineplus.gov/ency/patientinstructions/000047.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000047.htm>]
- **Types of chemotherapy** [<https://medlineplus.gov/ency/patientinstructions/000910.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000910.htm>]



MEDICAL ENCYCLOPEDIA

After chemotherapy - discharge [<https://medlineplus.gov/ency/patientinstructions/000012.htm>]

Central venous catheter - dressing change [<https://medlineplus.gov/ency/patientinstructions/000156.htm>]

Central venous catheter - flushing [<https://medlineplus.gov/ency/patientinstructions/000157.htm>]

Central venous catheters - ports [<https://medlineplus.gov/ency/patientinstructions/000491.htm>]

Chemotherapy [<https://medlineplus.gov/ency/article/002324.htm>]

Chemotherapy - what to ask your doctor [<https://medlineplus.gov/ency/patientinstructions/000185.htm>]

Low white blood cell count and cancer [<https://medlineplus.gov/ency/patientinstructions/000675.htm>]

Midline venous catheters - infants [<https://medlineplus.gov/ency/article/007744.htm>]

Oral mucositis - self-care [<https://medlineplus.gov/ency/patientinstructions/000047.htm>]

Peripherally inserted central catheter - flushing [<https://medlineplus.gov/ency/patientinstructions/000159.htm>]

Types of chemotherapy [<https://medlineplus.gov/ency/patientinstructions/000910.htm>]

Related Health Topics

Cancer [<https://medlineplus.gov/cancer.html>]

Cancer Alternative Therapies [<https://medlineplus.gov/canceralternativetherapies.html>]

National Institutes of Health

The primary NIH organization for research on *Cancer Chemotherapy* is the National Cancer Institute [<http://www.cancer.gov/>]

Other Languages

Find health information in languages other than English [<https://medlineplus.gov/languages/cancerchemotherapy.html>] on *Cancer Chemotherapy*

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