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## Treating Kaposi Sarcoma

If you've been diagnosed with Kaposi sarcoma (KS), your treatment team will discuss your options with you. It's important to weigh the benefits of each treatment option against the possible risks and side effects.

### How is Kaposi sarcoma treated?

For patients with immune system problems, the most important treatment is keeping the immune system healthy and controlling any related infections. Other treatments are also used. Some patients might get 2 or more types of treatment together.

- [Treating Immune Deficiency and Related Infections in People With Kaposi Sarcoma](#)
- [Local Therapy for Kaposi Sarcoma](#)
- [Radiation Therapy for Kaposi Sarcoma](#)
- [Chemotherapy for Kaposi Sarcoma](#)
- [Immunotherapy for Kaposi Sarcoma](#)

### Common treatment approaches

Treatment for Kaposi sarcoma (KS) is more effective than it was a couple of decades ago. Doctors now better understand what causes KS and have much more experience treating KS than they did when this disease was quite rare.

Choices about the best treatment options for each patient are based on the function of the immune system as well as the number, location, and size of the KS lesions. The patient's general health is also a major factor. If the patient has other serious health problems, it can make some treatments a poor choice.

- [General Considerations in the Treatment of Kaposi Sarcoma](#)

## Who treats Kaposi sarcoma?

Based on your treatment options, you might have different types of doctors on your treatment team. These doctors could include:

- An **infectious disease specialist**: a doctor who treats infectious diseases such as HIV and AIDS.
- A **dermatologist**: a doctor who treats diseases of the skin
- A **radiation oncologist**: a doctor who treats cancer with radiation therapy.
- A **medical oncologist**: a doctor who treats cancer with medicines such as chemotherapy or immunotherapy.

You might have many other specialists on your treatment team as well, including physician assistants, nurse practitioners, nurses, nutrition specialists, social workers, and other health professionals.

- [Health Professionals Associated with Cancer Care](#)

## Making treatment decisions

It's important to discuss all treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. You may feel that you need to make a decision quickly, but it's important to give yourself time to absorb the information you have learned. Ask your cancer care team questions.

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.

- [Questions to Ask About Kaposi Sarcoma](#)
- [Seeking a Second Opinion](#)

## 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](#)

## **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 Integrative Medicine](#)

## **Help getting through cancer treatment**

People with cancer need support and information, no matter what stage of illness they may be in. Knowing all of your options and finding the resources you need will help you make informed decisions about your care.

Whether you are thinking about treatment, getting treatment, or not being treated at all, you can still get supportive care to help with pain or other symptoms. Communicating with your cancer care team is important so you understand your diagnosis, what treatment is recommended, and ways to maintain or improve your quality of life.

Different types of programs and support services may be helpful, and can be 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.

- [Palliative Care](#)
- [Programs & Services](#)

### **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](#)

*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 your cancer care team any questions you may have about your treatment options.*

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## **Treating Immune Deficiency and Related Infections in People With Kaposi Sarcoma**

For epidemic (AIDS-associated) and iatrogenic (transplant related) Kaposi sarcoma (KS), it is most important to treat any immune deficiency that exists, as well as any related infections.

For people with HIV or AIDS, this means using combinations of anti-HIV drugs. This is known as highly active antiretroviral therapy (HAART). For many AIDS patients, HAART may be the only treatment needed to shrink the KS lesions and to keep them under control.

In organ-transplant patients whose immune systems are suppressed by drugs, stopping, lowering or changing the drugs may be helpful. Sirolimus and everolimus are new drugs that may control the KS lesions as well as prevent organ rejection.

New KS lesions are more likely to develop when a patient's blood test results for Kaposi sarcoma herpesvirus (KSHV) are positive. The risk of developing new lesions is lower when antiviral medicines such as ganciclovir or foscarnet are used. These medicines may help prevent new lesions but they do not help existing lesions get better. They can also cause serious side effects.

KS lesions tend to get worse if you develop bacterial or other active infections. Therefore, it is very important to do what you can to lower your risk of bacterial infections and to treat active infections promptly if they do occur.

## References

Bhutani M et al. Kaposi sarcoma-associated herpesvirus-associated malignancies: epidemiology, pathogenesis, and advances in treatment. *Semin Oncol*. 2015; 42(2):223-246.

Curtiss P, Strazzulla LC, Friedman-Kien AE. An Update on Kaposi's Sarcoma: Epidemiology, Pathogenesis and Treatment. *Dermatology and Therapy*. 2016;6(4):465-470.

Guidelines on the Treatment of Skin and Oral HIV-Associated Conditions in Children and Adults. Geneva: World Health Organization; 2014. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK305417/>

National Cancer Institute Physician Data Query (PDQ): Kaposi sarcoma treatment - Health Professional Version. 01/30/2018. Accessed at <https://www.cancer.gov/types/soft-tissue-sarcoma/hp/kaposi-treatment-pdq> accessed on March 12, 2018.

Tian R, Liao Q, and Chen X. Prevention and Treatment of KSHV-associated Diseases with Antiviral Drugs. *Virologica Sinica*. 2008; 23 (6):486-495.

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# Local Therapy for Kaposi Sarcoma

- [Topical treatment](#)
- [Cryosurgery \(cryotherapy\)](#)
- [Surgery](#)
- [Intralesional chemotherapy](#)

## Surgery

When a person has only a few, small Kaposi sarcoma lesions, one option may be to remove them with surgery. This can be done in different ways.

**Simple excision:** The skin is first numbed with a local anesthetic. The tumor is then cut out with a surgical knife, along with some surrounding normal skin. The remaining skin is carefully stitched back together, leaving a small scar.

[Curettage and electrodesiccation](#)<sup>1</sup>: The tumor is removed by scraping it with a curette (a long, thin instrument with a sharp looped edge on one end), then treating the area with an electric needle (electrode) to try to destroy any remaining cancer cells. This process can be repeated.

A drawback of surgery is that the lesion might recur (come back) in the same place.

Surgery may also be an option for a single KS lesion that is blocking the air entering the lungs or blocking the urinary system.

## Intralesional chemotherapy

A small amount of a chemotherapy drug is injected directly into the KS lesions. Very little of the drug is absorbed into the body. This lets the patient avoid many of the side effects normally seen with chemotherapy.

The most common drug used for intralesional chemotherapy in KS is vinblastine. Some people may have swelling, blistering, and pain at the injection site with this type of treatment.

## Photodynamic therapy (PDT)

A special liquid drug is applied to the skin. The drug collects in the tumor cells over several hours or days and makes the cells sensitive to certain types of light. A special light source is then focused on the tumor(s), and the cells die. A possible side effect of PDT is that it can make the skin very sensitive to sunlight for some time, so precautions may be needed to avoid severe burns.

Radiation can also be used as a local treatment for KS.



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# Radiation Therapy for Kaposi Sarcoma

- [More information about radiation therapy](#)

Radiation therapy uses high-energy radiation to kill cancer cells. When the radiation is given from outside the body it is called **external beam radiation therapy**. This is the type of radiation therapy used to treat lesions of Kaposi sarcoma (KS). KS lesions usually respond well to radiation treatments, but sometimes new lesions can appear in the skin right next to the area where the radiation was given.

Radiation therapy is often effective as a type of local therapy to treat KS lesions on or near the surface of the body. Radiation is used to reduce symptoms like pain or swelling from the KS lesions. It is also used for skin lesions that look bad and can easily be seen (like on the face).

For KS lesions on the skin, the form of radiation most often used is called **electron-beam radiation therapy** (EBRT). It uses tiny particles called electrons that don't pass very far through the skin's surface. This limits non-skin side effects. EBRT can also be used to treat large areas of the skin if a person has many widespread KS lesions.

Radiation can also be used to treat KS lesions in the mouth or throat. The form of radiation used for this, known as **photon radiation**, can penetrate deeper into the body.

Radiation treatments for KS lesions are often given once a week for several weeks. Getting treatment is much like getting an x-ray, but the radiation is stronger. The procedure itself is painless. Each treatment lasts only a few minutes, although the initial setup time takes longer.

[Side effects of radiation therapy](#)<sup>1</sup> can include skin changes, nausea, vomiting, and fatigue. Radiation can also cause anemia (low red blood cells), as well as lower numbers of white blood cells, which increases the risk of infection.

Serious side effects are rare when radiation is given to just a small area of the skin, but a small portion of patients have severe skin reactions.

When radiation is used to treat KS lesions in the mouth or throat, these areas can become painful and open sores can develop. If chemotherapy and radiation are given at

the same time, the side effects can be worse.

## More information about radiation therapy

To learn more about how radiation is used to treat cancer, see [Radiation Therapy](#)<sup>2</sup>.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)<sup>3</sup>.

## Hyperlinks

1. [www.cancer.org/cancer/managing-cancer/side-effects.html](http://www.cancer.org/cancer/managing-cancer/side-effects.html)
2. [www.cancer.org/cancer/managing-cancer/treatment-types/radiation.html](http://www.cancer.org/cancer/managing-cancer/treatment-types/radiation.html)
3. [www.cancer.org/cancer/managing-cancer/side-effects.html](http://www.cancer.org/cancer/managing-cancer/side-effects.html)

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# Chemotherapy for Kaposi Sarcoma

- [More information about chemotherapy](#)

Chemotherapy (chemo) is the use of drugs to treat cancer. When the drugs are given into a vein or by mouth, they enter the bloodstream to reach almost all areas of the body. This is a type of **systemic treatment**. It is useful to treat cancer that has spread to many areas of the body. When the drugs are injected directly into a tumor it is called **intralesional chemotherapy**. (See [Local Therapy for Kaposi Sarcoma](#).)

The systemic chemo drugs used most often to treat Kaposi sarcoma (KS) belong to a group known as liposomal anthracyclines. Anthracyclines are drugs that treat many different cancers. In liposomal anthracyclines, the drugs are enclosed in tiny fat globules. In this form, they are better taken up by tumors and have fewer side effects. The liposomal anthracyclines used in the US to treat KS are:

- Liposomal doxorubicin (Doxil<sup>®</sup>)
- Liposomal daunorubicin (DaunoXome<sup>®</sup>)

Another chemo drug commonly used to treat KS is paclitaxel (Taxol<sup>®</sup>). Initial studies show it seems to work as well as liposomal doxorubicin and its main side effect is a low white blood cell count.

Other chemotherapy drugs that treat KS include:

- Nab-paclitaxel (Abraxane<sup>®</sup>)
- Gemcitabine (Gemzar<sup>®</sup>)
- Vinorelbine (Navelbine<sup>®</sup>)
- Bleomycin
- Vinblastine (Velban<sup>®</sup>)
- Vincristine (Oncovin<sup>®</sup>)
- Etoposide (VP-16)

More than half of KS patients treated with chemo will improve, but KS generally doesn't go away completely. Sometimes chemo can be stopped as long as lesions are not causing problems or increasing in size and number. If the KS starts to get worse, treatment may be restarted.

It can be hard to give chemo to people for long periods of time if they have immune system problems (such as HIV/AIDS), because chemo drugs can also weaken the immune system. In all patients, it is important to try to improve immune function and treat related infections. This is especially important when giving chemo.

As previously noted, patients with epidemic KS should be treated with combined antiretroviral therapy (cART), which can be given along with systemic chemotherapy.

When choosing a treatment plan, your doctor will take into account drug interactions between the antiretroviral drugs and the chemo drugs. Once there is adequate control of the KS disease, chemo may be stopped, at least for a time. The KS may then be controlled with cART alone.

Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells in the body, 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 [side effects](#)<sup>1</sup> such as:

- Nausea and vomiting
- Loss of appetite
- Mouth sores
- Diarrhea
- Hair loss
- Increased risk of [infection](#)<sup>2</sup> (from too few white blood cells)
- Easy bruising or bleeding (from too few blood platelets)
- Fatigue (from too few red blood cells)

The side effects of chemo depend on the type of drug, the amount taken, and the length of treatment.

Some drugs can have other side effects. For example, drugs such as vincristine or paclitaxel can damage nerves (called neuropathy), sometimes leading to numbness, tingling, or pain, particularly in your fingers and toes. This can also cause some weakness in your arms and legs. These problems tend to be worse in AIDS patients because the AIDS virus affects bone marrow and often nerve cells.

Most side effects go away once treatment is finished, but some can last a long time (or even be permanent). Be sure to ask your doctor about the possible side effects from the chemo drugs that you will receive.

There are often ways to prevent or lessen these side effects. For example, drugs can be given to help nausea and vomiting. Tell your medical team about any side effects or changes you notice while getting chemo so that they can be treated promptly.

## **More information about chemotherapy**

For more general information about how chemotherapy is used to treat cancer, see [Chemotherapy](#)<sup>3</sup>.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)<sup>4</sup>.

## Hyperlinks

1. [www.cancer.org/cancer/managing-cancer/side-effects.html](http://www.cancer.org/cancer/managing-cancer/side-effects.html)
2. [www.cancer.org/cancer/managing-cancer/side-effects/low-blood-counts/infections.html](http://www.cancer.org/cancer/managing-cancer/side-effects/low-blood-counts/infections.html)
3. [www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html](http://www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html)
4. [www.cancer.org/cancer/managing-cancer/side-effects.html](http://www.cancer.org/cancer/managing-cancer/side-effects.html)
5. [www.nccn.org/professionals/physician\\_gls/pdf/kaposi.pdf](http://www.nccn.org/professionals/physician_gls/pdf/kaposi.pdf)
6. [www.cancer.gov/types/soft-tissue-sarcoma/hp/kaposi-treatment-pdq](http://www.cancer.gov/types/soft-tissue-sarcoma/hp/kaposi-treatment-pdq)

## References

Cianfrocca M, Lee s, Von Roenn J, et al. Randomized trial of paclitaxel versus pegylated liposomal doxorubicin for advanced human immunodeficiency virus-associated Kaposi sarcoma: evidence of symptom palliation from chemotherapy. *Cancer* 2010; 116:3969-3977.

Hoffmann C, Sabranski M, Esser S. HIV-Associated Kaposi's Sarcoma. *Oncol Res Treat.* 2017;40(3):94-98.

National Comprehensive Cancer Network (NCCN)—AIDS-Related Kaposi Sarcoma. V1.2018 (11/03/2017). Accessed 03/02/2018 from [https://www.nccn.org/professionals/physician\\_gls/pdf/kaposi.pdf](https://www.nccn.org/professionals/physician_gls/pdf/kaposi.pdf)<sup>5</sup>.

National Cancer Institute Physician Data Query (PDQ): Kaposi sarcoma treatment - Health Professional Version. 01/30/2018. Accessed at <https://www.cancer.gov/types/soft-tissue-sarcoma/hp/kaposi-treatment-pdq><sup>6</sup> accessed on March 12, 2018.

Noy A, Dickson M, Gulick RM, Palefsky J, Rubinstein PG, Steir E. Ch. 65 - Acquired Immunodeficiency Syndrome and Cancer. In: Niederhuber JE. Armitage JO, Kastan MB, Tepper JE. *Abeloff's Clinical Oncology*

Yarchoan R, Uldrick TS, Polizzotto MN, Little RF. Ch. 117 - HIV-associated malignancies. In: *DeVita, Hellman, and Rosenberg's Cancer: Principles & Practice of Oncology*. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2015.

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## Immunotherapy for Kaposi Sarcoma

- [Immunomodulating agents](#)
- [More information about immunotherapy](#)

Immunotherapy is the use of medicines to stimulate a person's own immune system to recognize and destroy cancer cells more effectively.

### Immunomodulating agents

The way immunomodulating agents affect the immune system isn't entirely clear. Three immunomodulating agents can be used to treat Kaposi sarcoma (KS). The first of these drugs to be developed, thalidomide, caused severe birth defects when taken during pregnancy. Because the other immunomodulating agents are related to thalidomide, there's concern that they could also cause birth defects. That's why all of these drugs can only be ordered through a special program run by the drug company that makes them.

Because all of these drugs can increase the risk of serious blood clots, they are often given along with aspirin or a blood thinner.

**Thalidomide (Thalomid)** was first used decades ago as a sedative and as a treatment for morning sickness in pregnant women. When it was found to cause birth defects<sup>6-10</sup>

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## **Pomalidomide (Pomalyst)**

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# **General Considerations in the Treatment of Kaposi Sarcoma**



infection with anti-AIDS drug combinations. In many patients, KS lesions begin to get smaller as their immune function gets better. In some patients with AIDS, highly active antiretroviral therapy (HAART) may be the only treatment needed to treat the KS. HAART also helps AIDS patients live longer and feel better. Still, other treatments for KS may be needed to improve symptoms (like pain and swelling).

A [local treatment](#) such as radiation therapy, cryosurgery, or a topical retinoid, may be used if a person has only a few skin lesions. KS tumors of the skin, mouth, or anus are sometimes treated with low-doses of radiation therapy. As a rule, doctors use radiation therapy to relieve symptoms or treat highly visible lesions. Sometimes radiation is given to patients who can't have chemotherapy because they are too weak or have poor liver function.

Chemotherapy may be added to HAART for patients with:

- Many skin or mouth lesions
- Severe swelling from KS (lymphedema)
- Lung lesions causing shortness of breath
- Lesions in the stomach and intestines that have caused anemia (low red blood cell count), weight loss, or other problems

In people who have had organ transplants, KS lesions sometimes go away on their own if the drugs that suppress the immune system are changed or stopped. A drug called sirolimus may be used in place of another anti-rejection drug because it can often make KS lesions get smaller.

Skin lesions can be treated with radiation therapy or another local treatment. Most doctors try to avoid giving chemotherapy in KS patients who have had organ transplants. But some patients may agree to take part in [clinical trials](#)<sup>1</sup> of new drugs.

### Endemic Kaposi sarcoma

Because endemic KS occurs in poor countries, treatment options are often limited. When available, the same treatments given for classic KS may be used.

### Hyperlinks

1. [www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html](http://www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html)

### References

Curtiss P, Strazzulla LC, Friedman-Kien AE. An Update on Kaposi's Sarcoma: Epidemiology, Pathogenesis and Treatment. *Dermatology and Therapy*. 2016;6(4):465-470.

Jakob L, Metzler G, Chen K-M, Garbe C. Non-AIDS Associated Kaposi's Sarcoma: Clinical Features and Treatment Outcome. Soyer HP, ed. *PLoS ONE*. 2011;6(4):e18397.

National Cancer Institute Physician Data Query (PDQ): Kaposi sarcoma treatment - Health Professional Version. 01/30/2018. Accessed at <https://www.cancer.gov/types/soft-tissue-sarcoma/hp/kaposi-treatment-pdq> accessed on March 12, 2018.

National Comprehensive Cancer Network (NCCN)—AIDS-Related Kaposi Sarcoma. V1.2020 (02/12/2020). Accessed 05/21/2020 from [https://www.nccn.org/professionals/physician\\_gls/pdf/kaposi.pdf](https://www.nccn.org/professionals/physician_gls/pdf/kaposi.pdf).

Noy A, Dickson M, Gulick RM, Palefsky J, Rubinstein PG, Steir E. Ch. 65 - Acquired

Immunodeficiency Syndrome and Cancer. In: Niederhuber JE, Armitage JO, Kastan MB, Tepper JE. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, PA: Elsevier; 2014.

Régnier-Rosencher E, Guillot B, and Dupin N. Treatments for classic Kaposi sarcoma: a systematic review of the literature. *J Am Dermatol*. 2013 Feb;68(2):313-31. doi: 10.1016/j.jaad.2012.04.018. Epub 2012 Jun 12.

U. S. Food and Drug Administration/Drug Approvals and Databases. (05/15/2020). *FDA grants accelerated approval to pomalidomide for Kaposi sarcoma*. Accessed 05/21/2020 from <https://www.fda.gov/drugs/resources-information-approved-drugs/fda-grants-accelerated-approval-pomalidomide-kaposi-sarcoma>.

Yarchoan R, Uldrick TS, Polizzotto MN, Little RF. Ch. 117 - HIV-associated malignancies. In: *DeVita, Hellman, and Rosenberg's Cancer: Principles & Practice of Oncology*. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2015.

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