Treating Kaposi Sarcoma

General treatment information

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. Many clinical trials have compared different approaches to treatment.

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. The presence and severity of other serious health problems can make some treatments a poor choice.

For patients with immune system problems, the most important treatment is keeping the immune system healthy and any related infections under control. Some of the other treatments used for KS are:

- Local therapy
- Radiation therapy
- Chemotherapy
- Biologic therapy (immunotherapy)

In some patients, 2 or more of these treatments are used together.

Based on your options, you may have different types of doctors on your treatment team. These doctors may 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
Many other specialists may be involved in your care as well, including physician assistants, nurse practitioners, nurses, nutrition specialists, social workers, and other health professionals.

It is important to discuss all of your treatment options as well as their possible side effects with your doctors to help make the decision that best fits your needs. If time permits, it is often a good idea to seek a second opinion. A second opinion can provide more information and help you feel confident about your chosen treatment plan.

**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 are 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. You can also call our clinical trials matching service at 1-800-303-5691 for a list of studies that meet your medical needs, or see the Clinical Trials section to learn more.

**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 dangerous.

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. See the Complementary and Alternative Medicine section to learn more.
Help getting through cancer treatment

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

The American Cancer Society also has programs and services – including rides to treatment, lodging, support groups, 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 on call 24 hours a day, every day.

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

Treating Immune Deficiency and Related Infections in People With Kaposi Sarcoma

The most important treatment for Kaposi sarcoma (KS) is treating any immune deficiency that exists as well as any related infections.

In people with 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 cause the KS lesions to shrink and to keep them under control.

In organ-transplant patients whose immune systems are suppressed by drugs, decreasing or changing the drugs may be helpful.

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 are also costly and can 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**

See all references for Kaposi Sarcoma

Last Medical Review: August 8, 2014 Last Revised: February 9, 2016

Local Therapy for Kaposi Sarcoma

Local treatment only affects certain Kaposi sarcoma (KS) lesions (or areas of lesions). This type of treatment is often used to treat a few skin lesions in one spot to help a person look or feel better. Local therapy is most useful when there are just a few lesions in a very visible area (such as the face). The drawbacks of local therapy are that it doesn’t treat lesions anywhere else and it can’t keep new lesions from developing.

**Topical retinoid treatment**

This type of treatment puts medicine directly on the lesion. For example, alitretinoin, a retinoid drug related to vitamin A, is available as a gel (Panretin®) that can be used to treat KS skin lesions. When it is placed on a KS lesion 2 to 4 times a day, it makes it get smaller or go away in 1 to 2 months. Side effects of this gel include skin irritation and lightening of the skin.

**Cryosurgery (cryotherapy)**

Cryosurgery can be useful for small KS lesions on the face, although it is not as helpful for large or deeper lesions. Liquid nitrogen is applied to the tumor to freeze and kill the cells. After the dead area of skin thaws, it may swell, blister and crust over. The wound may take several weeks to heal, and the skin of the treated area may be lighter after treatment.

**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:** For this procedure, 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 electrodessication:** This treatment removes a tumor 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.

**Intralesional chemotherapy**

For this treatment, 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. Sodium tetradecyl sulfate (STS or Sotradeco®) can also be used. Some people may have swelling, blistering, and pain at the injection site with this type of treatment.

**Photodynamic therapy (PDT)**

This treatment uses a special liquid drug that 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.

For more information on this technique, see [Photodynamic Therapy](#).

**Radiation therapy**

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

- [References](#)
- [See all references for Kaposi Sarcoma](#)
Radiation Therapy for Kaposi Sarcoma

Radiation therapy uses high-energy radiation to kill cancer cells. When the radiation is delivered 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).

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. It is also used for skin lesions that look bad and are in places that can easily be seen (like 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 penetrate far past 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 setup time getting you into place for treatment takes longer.

**Side effects of radiation therapy** 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 are worse.

For more general information on radiation therapy, see the Radiation Therapy section of our website or A Guide to Radiation Therapy.

- References
  See all references for Kaposi Sarcoma

Chemotherapy for Kaposi Sarcoma

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 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®) and liposomal daunorubicin (DaunoXome®).

Other chemotherapy drugs that treat KS include paclitaxel (Taxol®), gemcitabine (Gemzar®), and vinorelbine (Navelbine®). Drugs used less often include bleomycin, vinblastine (Velban®), vincristine (Oncovin®), and 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 can resume.

It can be hard to give chemo for long periods of time in people who have immune
system problems (such as 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 (CRT). CRT can be given along with systemic chemotherapy.

When choosing a treatment plan, your doctor has to 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 CRT 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 such as:

- Nausea and vomiting
- Loss of appetite
- Mouth sores
- Diarrhea
- Hair loss
- Increased risk of infection (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 drugs, 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.
Biologic Therapy (Immunotherapy) for Kaposi Sarcoma

Biologic therapy, also known as immunotherapy, uses chemicals made naturally by the body (or man-made forms of these chemicals) to help the immune system attack cancer cells.

One of the first drugs used to treat Kaposi sarcoma (KS), interferon alfa, is an example of biologic therapy. For KS, interferon is injected daily into a muscle (called IM) or under the skin (called sub-q). Interferon seems to work by preventing viruses from reproducing and by activating immune system cells that attack and destroy the virus.

About half of patients with good immune function improve when given high doses of these drugs, but patients with fevers, infections, weight loss, or low CD4 counts rarely respond to interferon. Even when treatment does work, it can take several months or more to see a response.

The most common side effects of interferon therapy are flu-like symptoms (fever, pain, and weakness). Treatment with interferon can also cause low blood counts, liver problems, and confusion.

Interferon alfa is not often used now because of its side effects and because it doesn’t work well in many patients with AIDS. Other forms of immunotherapy are now being studied for use in treating KS (see What’s new in Kaposi sarcoma research and treatment?).
General Considerations in the Treatment of Kaposi Sarcoma

Different treatment options for Kaposi sarcoma (KS) were discussed in the previous sections. Deciding which treatment to use depends on a number of factors, such as

- The type of KS (which helps predict how fast the disease may grow and spread)
- The number and location of the KS lesions
- What kinds of problems the KS is causing
- The person's overall health

These factors need to be considered because certain treatments, such as chemotherapy, can have serious side effects. Someone who is weak or sick from other problems may not be able to tolerate chemotherapy. In a case like this, the chemo may do more harm than good.

AIDS-related Kaposi sarcoma

For someone with AIDS, the most important part of KS treatment is treating the HIV infection with modern 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

For chemotherapy, paclitaxel or one of the liposomal anthracyclines is usually given. If those drugs do not work, other chemotherapy drugs can be tried (see the section about chemotherapy).

**Classic Kaposi sarcoma**

Classic KS grows and spreads slowly, so lesions are more often treated with surgery, radiation therapy, or another local treatment like intralesional chemotherapy.

Chemotherapy may be used for widespread skin lesions or for KS that is in the lymph nodes, the lungs, or the digestive tract. Liposomal anthracyclines or paclitaxel are the drugs most often used for chemotherapy.

**Transplant-related Kaposi sarcoma**

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 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.
Kaposi sarcoma in HIV-negative men having sex with men

This form of the disease is similar to classic KS, but it occurs in younger men. It is treated like classic KS.

- References
See all references for Kaposi Sarcoma

Last Medical Review: August 8, 2014 Last Revised: February 9, 2016

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