

LEAVEY CANCER CENTER

Evolution of Cancer Treatments Past, Present and Future

Cancer treatments have certainly evolved since ancient times when they could be considered barbaric. For example, if you had cancer in 1,600 BC, you'd have it cut out with a knife or burned with red-hot irons—without anesthesia—ouch!

"Today, cancer patients at Northridge Hospital Medical Center's **Thomas and Dorothy Leavey Cancer Center** have many advanced and non-invasive treatment options," says **J. Gary Davidson, MD**, Medical Director.

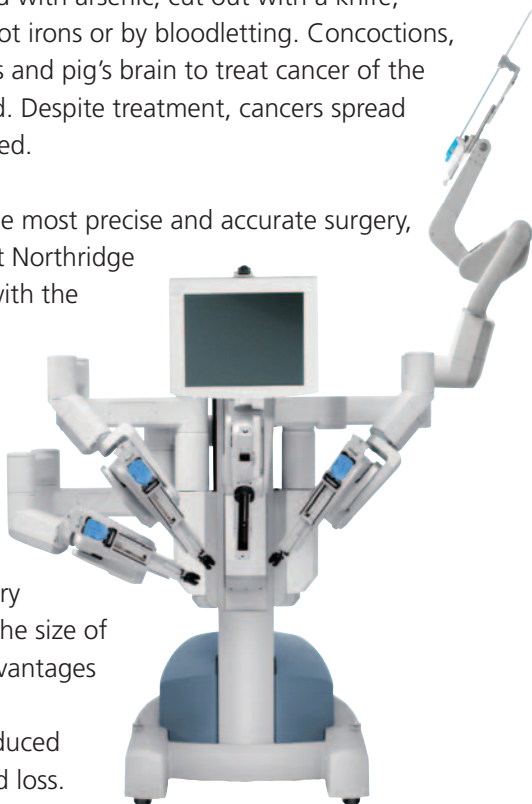
In fact, patients can have some cancers removed without surgery. Take a look at these historic cancer treatments—past and present.

1,600 BC

Cancer was treated with arsenic, cut out with a knife, burned with red-hot irons or by bloodletting. Concoctions, such as fresh dates and pig's brain to treat cancer of the uterus, also existed. Despite treatment, cancers spread and tumors returned.

Today For the most precise and accurate surgery, physicians today at Northridge Hospital operate with the assistance of the **da Vinci Robot**.

The 3D high-definition vision system helps physicians perform laparoscopic surgery through incisions the size of a dime. Patient advantages include a shorter hospitalization, reduced pain and less blood loss.



1895 AD

X-rays were discovered accidentally by German Physicist Wilhelm Conrad Rontgen using a glass tube, a wire and a black paper box. When his hand came in contact with the tube, dark shadows represented the bones—the world's first X-ray picture.



Today Digital X-rays are viewed during surgery. Our **Brain LAB Image-guided surgery** for head and neck cancers allows surgeons to follow their instrument movements in the body on a computer screen, which displays real-time and pre-operative images concurrently in 2D and 3D planes. The result is safer procedures and faster recovery times.

1976 Northridge Hospital's Cancer Center begins its comprehensive program, which is later dedicated in 1993 as the Leavey Cancer Center. Today, it is fully-accredited by the American College of Surgeons, the American College of Radiation Oncology, the Association of Community Cancer Centers and recently received Nuclear Accreditation from the American College of Radiology.

For more information on the Cancer Center, call 818-885-5431 or visit www.NorthridgeHospital.org/cancercenter.

1898 AD

While radiation oncologists first cured cancer in 1898, the recurrence of tumors was high due to the unrefined nature of the radiation application methods and the massive doses of radiation given.

Today The **Harold & Carole Pump Department of Radiation Oncology** can now precisely deliver high doses of radiation while avoiding healthy tissue. We are the first radiation treatment center in the Valley with an impressive variety of technological advancements to successfully treat cancer.

Intensity Modulated Radiation Therapy (IMRT) – mapping information from a Computed Tomography (CT) scan produces a 3D image of the tumor. **Benefit:** This eliminates the former trial-and-error method to achieve the optimal dose. Instead, computer planning helps radiation oncologists deliver beams of high-dose radiation that target a tumor from many angles while bending around important healthy tissues.

Image Guided Radiation Treatment (IGRT) – takes IMRT to another level by compensating for any tumor movement.

Brachytherapy – a high-dose of internal radiation is placed directly at the site of the tumor within the body. **Benefit:** There is less damage to normal cells and side effects are often less severe than conventional radiotherapy.

Prostate Seed Implant – low-level radiation “seeds” are injected into the prostate. **Benefit:** The radiation dose is constantly updated on the treatment planning computer for the most accurate distribution.

Mammosite – internally administered radiation by a balloon catheter for breast cancer. **Benefit:** It’s completed in five days opposed to six or seven weeks required for traditional breast radiation.

The Cancer Center also offers interventional radiology procedures (a subspecialty of radiology). For example, **Radiofrequency Ablation** for liver cancer is an image-guided procedure that heats and destroys cancer cells.

THE CANCER CENTER IS SOARING TO NEW HEIGHTS! WATCH FOR DETAILS AND BE ONE OF THE FIRST TO WITNESS THE UNVEILING OF OUR REMODELED CANCER CENTER THIS FALL.

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Late 1940s

Charged particles were propelled through a vacuum tunnel called a linear accelerator and used to kill cancer cells. The downfall was the inability to precisely locate the tumor and accurately deliver radiation.

Today “The most technologically-advanced linear accelerator available today is the **Trilogy Linear Accelerator Stereotactic System**,” explains **Mi Kyung (Micki) Ko, MD**, Radiation Oncologist. “It delivers stereotactic radiosurgery with pinpoint accuracy and offers IGRT and IMRT. Instead of 20-30 minutes, some patients may be treated in three to five minutes.”



1945

The first chemotherapy drugs were based on a poisonous gas called nitrogen mustard. They caused lymphomas to shrink, but had toxic side effects.

Today “Chemotherapy is a vital part of cancer treatment,” says **David Kim, MD**, Hematologist/Oncologist. “We have the newest generation chemotherapy agents that effectively kill many types of cancer. We also treat patients with a variety of non-chemotherapy drugs that directly target cancer cells, often without significant harm to normal cells. This is the idea behind ‘targeted therapy’, which allows us to maximize treatment of cancer and minimize side effects. In addition, we are researching new targeted agents through clinical trials that we run in our practice.” Contact us to learn more: **818-773-6363**.



1967

The gold standard in brain surgery, **Gamma Knife**, was invented in 1967 by Lars Leksell, a Swedish neurosurgeon.

Today At Northridge Hospital, this safe, effective procedure is performed without a single cut or even shaving the hair. Gamma Knife focuses 201 beams of gamma radiation at the precise lesion or tumor in the brain while sparing surrounding healthy tissue.



Learn More!

Receive a FREE Gamma Knife DVD and get more insight into this bladeless brain surgery procedure from our expert physicians.

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THREE TIPS CAN SAVE YOUR LIFE



J. Gary Davidson, MD,
Medical Director,
Leavey Cancer Center

Wellness Tip: "Do your research. Choose a cancer treatment center that not only has the most advanced

technology, but also offers alternative healing methods. The Leavey Cancer Center features music therapy, massage therapy and several workshops, like acupuncture to promote healing."



David Kim, MD,
Hematologist/
Oncologist

Wellness Tip: "Being diagnosed with cancer can be frightening, debilitating and often life-changing. The

process of healing involves the whole person—mind, body and spirit. In addition to receiving medical therapy, find a listening ear and nurturing friends and family. Tap into your support network of family and friends or find a support group (see page 14). Nurturing the spirit can be a great source of strength."



Mi Kyung (Micki) Ko, MD,
Radiation Oncologist

Wellness Tip: "Early detection is always the best way to fight cancer, so get screened regularly. For example,

women should have a pap test to screen for cervical cancer every three years or as recommended by your physician. And everyone should receive a colon cancer test such as a colonoscopy beginning at age 50."

MEET OUR CANCER-FIGHTING TEAM

Medical Director, Surgical Oncology:

Walid Arnaout, MD, General Surgeon,

Medical Director, Leavey Cancer Center:

J. Gary Davidson, MD, Hematologist/Oncologist

Medical Director, Gamma Knife:

Mark A. Liker, MD, Neurosurgeon

Medical Director, Radiation Oncology:

Afshin Safa, MD, Radiation Oncologist

THE FOLLOWING ACTIVE, ASSOCIATE AND PROVISIONAL PHYSICIANS HELP THE CANCER CENTER SOAR:

Philip Chatham, MD, Hematologist/Oncologist

Sheldon J. Davidson, MD, Hematologist/Oncologist

David Huang, MD, Radiation Oncologist

Thomas P. Joseph, MD, Hematologist/Oncologist

David Kim, MD, Hematologist/Oncologist

Mi Kyung (Micki) Ko, MD, Radiation Oncologist

Shamel Sanani, MD, Hematologist/Oncologist

Carl L. Singerman, MD, Hematologist/Oncologist

Draupadi Talreja, MD, Oncologist

Rangachari Vasan, MD, Oncologist