Lifestyle Strategies for Preventing Cancer Studied

Of the 1.3 million cases of cancer that will be diagnosed this year in the United States, as many as half could be prevented—and for a fraction of what treatment would cost.

The American Cancer Society estimates that 180,000 deaths this year will be due to tobacco use. Tens of thousands of Americans will die of skin cancers due to sun exposure. And about one-third of the 556,500 cancer deaths estimated this year will be related to lifestyle factors such as nutrition, physical inactivity and obesity.

“Many cancers can be prevented,” says Patricia Ganz, M.D., director of the Division of Cancer Prevention and Control Research at UCLA’s Jonsson Comprehensive Cancer Center and a professor of public health and health services. “Every time a doctor sees a patient, there’s an opportunity to prevent cancer.

“The physician has to be an educator. The most powerful factor in people deciding to do something good for their health is their doctor telling them to do it. If a doctor says get a mammogram, they’ll get a mammogram. Physicians have the respect and trust of their patients and we need to take advantage of that.”

Physicians need to strongly encourage patients to stop smoking, and offer cessation aids and programs. Doctors should insist that patients use appropriate sun protection. These two strategies alone could help prevent lung, head and neck, esophageal, bladder, pancreatic and skin cancers.

Doctors also should recommend diets rich in fruits and vegetables with strategies to avoid weight gain that—in addition to promoting good cardiovascular health—may help prevent cancers of the breast, colon and prostate. They should question patients about alcohol consumption, which may be linked to increased risk of breast, bladder and colorectal cancers.

Researchers currently are focusing on three areas in cancer prevention—diet and exercise, use of supplements and chemopreventive agents, and the use of natural or synthetic substances to reduce the risk of cancer.

Although nothing conclusive has yet been

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Patricia Ganz, M.D.

been exercising or eating healthily—ate a diet that contained less than 10 percent of calories from fat. Participants also walked at a quick pace for 30 to 60 minutes four to five days a week.

Prostate cancer cells exposed to serum taken from volunteers after they completed the diet and exercise regimen grew 30 percent slower than cells put into serum taken before the regimen.

“It’s too early to say that diet and exercise can prevent prostate cancer, but our study strongly suggests that a low-fat diet and exercise regimen favorably affects the levels of hormones or growth factors that influence prostate cancer growth,” Dr. Aronson says.

Linking diet to breast cancer has long been a controversial issue.

Women in Japan who eat a traditional Japanese diet have a relatively low incidence of breast cancer. Yet, when those women come to the U.S. and adopt a higher-fat, lower-fiber Western diet, their frequency of breast cancer equals that of American women within a single generation.

John Glaspy, M.D., an associate professor of hematology/oncology, conducted a study of 25 women with breast cancer who adopted a three-month, low-fat diet heavy in soy products, fish oils and vegetables, including green leafy vegetables, broccoli, cauliflower and carrots.

The study found that the diet increased the ratio of omega-3 polyunsaturated fatty acids to omega-6 fatty acids in human breast tissue—a result attributed to the fish oil, a primary source of omega-3 fatty acids.

Studies have shown that omega-3 fatty acids are metabolized into hormone-like substances that can inhibit cancer cell growth. Omega-6 fatty acids—those found in vegetable oils, shortening and other foods with high corn oil content—are believed to metabolize into hormone-like substances that can promote cancer cell growth.

In addition to increasing the intake of omega-3 fatty acids by taking fish oil capsules, the women in Dr. Glaspy’s study ate a diet low in foods containing omega-6 fatty acids.

“We’ve shown that at least one aspect of human breast composition in American women can be altered to approximate the breast composition of women in certain Asian countries,” Dr. Glaspy says. “In those countries, the incidence of breast cancer is much lower than it is here. So one thing doctors can do is tell their patients to eat more foods that contain omega-3 fatty acids, such as tuna, salmon and mackerel.”

Researchers at the Jonsson Cancer Center have shown that low-fat diets can slow the growth of prostate cancer cells and change the composition of human breast tissue to make it more resistant to cancer.

William Aronson, M.D., an associate clinical professor of urology, showed that a low-fat, high-fiber diet paired with regular exercise slowed the growth of prostate cancer cells by up to 30 percent.

Dr. Aronson and his colleagues evaluated blood serum from study volunteers who adhered to a strict diet and exercise regimen. The serum—the hormones and growth factors found in blood—was combined with prostate cancer cells in test tubes and evaluated.

Study volunteers—overweight men aged 42 to 73 who hadn’t previously

Preventing Cancer

- Eat a low-fat, high-fiber diet with no more than 15 to 20 percent of calories from fat.
- Choose fats wisely—eat foods high in omega-3 fatty acids, such as tuna, salmon and mackerel. Fish oil supplements with omega-3 fatty acids also are available.
- Eat at least seven servings of fruits and vegetables a day.
- Drink green tea.
- Do at least 30 to 60 minutes of moderate to heavy cardiovascular exercise four to five days a week.
- If you smoke, quit now.
- Wear sunscreen with a SPF of 15 or higher whenever you go outside. Sun damage in fair-skinned people can occur in just 15 minutes.
- Limit alcohol consumption.

Dr. Aronson says perhaps the most interesting data on supplements comes from studies of lycopene, one of the most potent beta-carotene antioxidants. Lycopene is found in high levels in cooked tomato products, as well as in watermelon, red peppers, pink grapefruit, apricots, guavas and papayas. It’s available in pill form, but
is better absorbed through eating more products like tomato paste, he says.

Other supplements that may have anti-cancer properties include green tea, which early research by epidemiologist Zuo-Feng Zhang, M.D., of UCLA showed decreased the risk of both chronic gastritis and stomach cancer. Green tea extract also is being studied at UCLA in bladder and breast cancers.

“Men should put more tomato paste in their diet instead of filling up on refined sugars,” Dr. Aronson says. “In general, doctors can advise their patients to eat a diet that includes only 15 to 20 percent of calories from fat and combine that with higher fiber, eating seven servings a day of fruits and vegetables. And they can advise patients to drink green tea.”

Research into chemoprevention—the use of natural or synthetic substances to reduce the risk of cancer—started in the early 1980s and has grown considerably since then.

Several large studies are underway to see if existing drugs can prevent cancers. The anti-inflammatory Celebrex® (cecloxib) is being studied as a lung cancer prevention agent at UCLA’s Jonsson Cancer Center. Other institutions are testing the drug to see if it prevents the colon polyps that lead to cancer.

Dr. Ganz and her colleagues are seeking hundreds of women at high risk of breast cancer to participate in a prevention study comparing the proven cancer fighter tamoxifen against the osteoporosis drug raloxifene.

The Study of Tamoxifen and Raloxifene, or STAR, seeks women 35 and older who are postmenopausal, not taking hormone replacement therapy and who are at higher than usual risk of breast cancer. Participants will take either tamoxifen or raloxifene daily for five years, and will be followed for two years after completion of the study.

“The 50 percent reduction in breast cancer risk we’ve seen with tamoxifen is extremely encouraging,” Dr. Ganz says. “But if we could have something that had a 75 percent or 90 percent reduction, that would be even better.”

In all, the STAR study will include 19,000 postmenopausal women.

A recent study of Proscar® (finasteride) indicated it cut incidence of prostate cancer by 25 percent. While that clearly is good news, the men on Proscar who did develop prostate cancer had higher-grade tumors, says Mark Litwin, M.D., a professor of urology.

“This is a conflicting message for men,” says Dr. Litwin, who works with Dr. Ganz in the Division of Cancer Prevention and Control Research.

“It remains to be seen if specific high-risk groups of men, such as African Americans or those with a family history of the disease, might benefit from taking this drug.”

Dr. Aronson was more enthusiastic about the study, calling the results “overall, very encouraging.” However, he believes more analysis of the data is required to further evaluate whether there is a higher risk of faster-growing tumors in the Proscar study group.

Officials from Merck & Co., which makes Proscar, said they plan to ask the U.S. Food and Drug Administration to approve the drug for use in cancer prevention.

Vitamin A, which belongs to the family of drugs called retinoids, also is being studied for cancer prevention, as is aspirin. Earlier this year, a study demonstrated that low doses of aspirin can prevent pre-cancerous polyps in people with a family history of colorectal cancer.

Additionally, the FDA recently approved Photofrin® (porphimer sodium) for use in killing abnormal and possibly pre-cancerous cells in patients with Barrett’s esophagus, an ailment related to acid reflux.

Like all drugs, the chemopreventive agents being studied have potential side effects, and some of them can be serious.

Raloxifene has caused hot flashes, leg cramps and, in rare cases, blood clots in the veins. Celecloxib can cause diarrhea. Even aspirin has caused bleeding and an increased risk of stroke in some people. That’s why many doctors urge only patients at high risk of cancer to enter chemoprevention studies. It’s also why focusing on lifestyle factors makes good sense in the primary care setting.

“I think we are making headway in preventing cancer,” Dr. Ganz says. “The anti-smoking efforts in California have been successful. We’ve seen a very substantial decline in smoking, which has now translated into lower cancer rates. Definitely, the trend in cancer prevention is heading in the right direction. Obviously there’s been some blips on the road, but we’re getting there.”

Recommended Reading


For the latest about cancer prevention and clinical trials:


www.crab.org/select/: The website for a prostate cancer prevention trial using vitamin E and selenium.

www.breastcancerprevention.org: Find information about a clinical trial studying tamoxifen and raloxifene in preventing breast cancer.


www.nci.nih.gov/clinicaltrials/: Lists many ongoing cancer prevention trials, including skin cancer and lung cancer screening.
Targeted Cancer Therapies Hold Promise

Although advances in conventional cancer treatments have resulted in small incremental survival benefits for most common tumors, cancer researchers have long believed that the future of treatment rests in targeted therapies—“smart” drugs that, unlike the non-discriminating chemotherapy approach, take aim at the proteins, enzymes and pathways unique to cancer. This strategy, seemingly more rational and less toxic, was widely heralded in 1998 after the breast cancer drug Herceptin® (trastuzumab) provided an early proof of principle, slowing tumor progression in women with extra copies of the HER-2/neu gene. Herceptin was approved by the U.S. Food and Drug Administration (FDA) the same year, and is now standard treatment for the 20 to 25 percent of breast cancer patients who fit the genetic profile.

Five years later, a handful of other targeted therapies have won FDA approval and are more progressing through clinical trials, including several at UCLA’s Jonsson Cancer Center, where Dennis Slamon, M.D., conducted much of the investigational work that led to Herceptin, and Charles Sawyers, M.D., was among the first to test the leukemia drug Gleevec® (imatinabmesylcitr) on patients. Despite gains that have tended to be less than spectacular—along with some disappointments— UCLA researchers remain steadfastly optimistic about the future of the approach as it moves beyond its infancy.

The strategy that has received arguably the most media attention targets not the cancer cells but the blood vessels that deliver oxygen and nutrients to these cells, enabling them to thrive. A tumor can’t grow larger than a pinhead unless it establishes an independent blood supply through the process of angiogenesis. Angiogenesis inhibitors operate on the principle that cutting off the new blood supply at the molecular level can starve, or even kill, the cancer. When combined with standard chemotherapy in a Phase II trial, Avastin proved superior to chemotherapy alone in treating advanced colorectal cancer. “The Avastin group did better regardless of the endpoint we used—whether it was response rate, time to tumor progression, or survival,” says Fairoz Kabbinavar, M.D., associate professor of hematology/oncology and Jonsson Cancer Center researcher who headed the trial and has studied the drug in both the lab and the clinic for the last decade. Dr. Kabbinavar found similar effects—including a 33 percent improvement in median survival, as well as statistically significant improvements in response rates and time to tumor progression—in a Phase III trial of nearly 1,000 patients, the results of which were presented at this year’s meeting of the American Society for Clinical Oncology.

“I have become a firm believer in this class of drugs,” says Dr. Kabbinavar. “There was a lot of hype a few years ago and the enthusiasm of quite a few researchers was dampened when some of the anti-angiogenic agents failed to live up to that hype. Avastin has shown that targeting VEGF is a very sound and relatively less toxic strategy that can complement the existing therapies.” In the laboratory, Dr. Kabbinavar has also explored dual-targeted therapy strategies, including aiming at both VEGF and the Epidermal Growth Factor Receptor (EGFR), also known as HER-1, a protein found on the surface of many tumor cells.

Two other Jonsson Cancer Center researchers have taken the dual-target approach to the clinic. Their Phase II trial is focused on breast cancer patients indicated for treatment with Herceptin. Rather than being administered with chemotherapy, Herceptin is combined with Tarceva® (erlotinib HCI), which blocks HER-1 signaling. “There are multiple contributors to breast cancer and its ability to spread,” says Mark Pegram, M.D., director of the Women’s Cancer Program Area for the Jonsson Cancer Center, who is conducting the study with colleague Carolyn Britten, M.D., the principal investigator. “Targeting just one of these contributors is probably not going to be enough to be clinically meaningful for most cases.”

Dr. Pegram is following the two-front strategy in other, earlier-phase studies. A Phase I trial he heads pairs Herceptin with Avastin for HER-2/neu-positive advanced breast cancer patients. Research in Dr. Slamon’s lab showed that HER-2 can promote angiogenesis, feeding the tumor. “If we can hit the growth factor receptor and stop the tumor cells from growing and, at same time, prevent the blood supply from forming to the tumor, we would expect to see great efficacy,” he explains. Another trial tests the experimental colon cancer drug NB-1011, which...
combats the resistance that patients eventually develop to standard chemotherapy with 5FU. NB-1011 is inert on its own, but is converted into a toxin by thymizylate synthase, an enzyme that is up-regulated by 5FU.

UCLA has also been a key site for trials of Iressa® (gefitinib) recently approved for the treatment of non-small cell lung cancer. “Almost all of these lung cancers have receptors for the EGFR pathway, which seems to be important for non-small cell lung cancer growth, and we know from the laboratory that Iressa seems to block this pathway,” explains Diane Prager, M.D., associate professor of hematology/oncology and a Jonsson Cancer Center member. Iressa has also proved easy for patients to tolerate.

In the Phase II trial at UCLA headed by Dr. Prager, patients whose disease had progressed after two previous types of chemotherapy were given Iressa; approximately 10 percent responded with tumor shrinkage of 50 percent or more, and disease was stabilized in 40 percent of patients, roughly the same proportion that showed improvement in symptoms. “If you compare it with second-line chemotherapy, Iressa stacked up pretty favorably,” Dr. Prager notes. A separate trial yielded less encouraging results—Iressa was paired with chemotherapy as a first-line treatment, with no significant impact on survival or response rate. Dr. Prager is involved in several other trials of targeted agents for non-small cell lung cancer.

“For the first time in 20 or more years, we have different pathways that we can tackle and new drugs that we hope will make an impact,” she says. “We still have a long way to go, but I am very encouraged.” The most pressing challenge, Dr. Prager explains, is to determine how to predict who will respond to the medication. “This is called a targeted therapy, but we don’t really know which patients should be targeted, because just having the receptor for this drug on the cell doesn’t predict success,” she says.

Indeed, notes Dr. Pegram, when targeted drugs produce disappointing results, there’s a good chance it’s because they are not properly aimed. “The ability to select the right patients and to understand why some from a particular group respond while others do not is critical,” he says. “If we would have done Herceptin studies in patients who weren’t HER-2 positive, we would have never recognized its benefit.”

For information on studies available at UCLA’s Jonsson Cancer Center, call the clinical trials hotline at 1-888-798-0719. Studies also can be found at www.cancer.mednet.ucla.edu/patientinfo/crudb.html.

**Recommended Reading**

Proceedings of ASCO, 2003, abstract # 3646

Effectively Managing Symptoms During Cancer Treatment

With improvements in treatment, more people are living longer with cancer and more attention is being paid to managing the symptoms of cancer treatment, including fatigue, pain, cognitive dysfunction and depression. While further research is needed to better understand the causes and, thus, improve the management for some cancer-related symptoms, others are easily treatable, with the potential to vastly improve patients’ quality of life, according to John A. Glaspy, M.D., associate professor of hematology/oncology in the Department of Medicine at the Geffen School of Medicine at UCLA and medical director of the Outpatient Oncology Center at UCLA’s Jonsson Comprehensive Cancer Center.

“It’s now very clear from data gathered from patients and physicians that the number-one problem for cancer patients in terms of symptom management is fatigue,” says Dr. Glaspy. But recent data also shows that in approximately 25 percent of cancer patients who complain of this symptom, anemia is to blame. “We need to make sure we’re taking care of those patients whose fatigue is due to anemia,” Dr. Glaspy asserts. In fact, he notes, anemia management represents the biggest unexploited opportunity to improve supportive cancer care: In the United States, fewer than half of cancer patients with anemia are being treated in adherence to American Society of Hematology guidelines.

More research is needed to better understand the causes of fatigue not related to anemia so that the remaining three-fourths of patients complaining of this symptom can be helped to a greater extent, Dr. Glaspy says. In the meantime, physicians can serve these patients in a variety of ways, including assisting in budgeting daily activities and prioritizing tasks so that they use their limited energy wisely; providing those who are experiencing sleep problems with proper medicines to avoid sleep deprivation; and ensuring that these patients are getting sufficient calories so that they are not malnourished.

A second often-cited symptom for cancer patients—and one that, like anemia-related fatigue, tends to be undertreated—is pain. “There is a huge difference in the quality of life for cancer patients who are treated with enlightened, aggressive, and expert pain management and patients who aren’t,” Dr. Glaspy contends. “We’re at the point now where we have everything we need in order to do a very good job with pain, and it’s time to make sure that’s integrated into everyone’s practice. We need to make sure we don’t accept a patient being left in pain—that it’s something we keep working on, even if the first attempt to control it is unsuccessful. That means utilizing all of the tools at our disposal, including long-acting pain medications, local pain treatments and nerve blocks, where appropriate. When we do that, we have a very high success rate in terms of bringing cancer pain under control.”

Cancer researchers and oncologists are also just beginning to learn about the cognitive dysfunction that affects many patients. Thus far, data on so-called “chemo brain” is limited to breast cancer patients, Dr. Glaspy notes, and even there, it’s not clear that the chemotherapy is the culprit; it could instead be related, for example, to the menopausal sleep disturbances that some women experience while being treated for breast cancer. “We don’t really even know the extent of the problem yet, particularly in men, let alone the cause,” Dr. Glaspy says. “We’re not yet at the point where treating it is possible because we don’t know how to define it or, if we do find it, what the cause was. But this is likely to attract more attention as time goes on and we learn more about it.”

Physicians should also be attuned to the signs of depression in their cancer patients—particularly those being treated with interferon, Dr. Glaspy notes. Interferon therapy induces the body’s white cells to produce an inordinate number of cytokines, some of which move into the brain and make patients prone to depression. “Identifying depression and treating it aggressively helps these patients tremendously,” Dr. Glaspy says.

In general, Dr. Glaspy notes, there is greater recognition than ever before of the importance of addressing the human costs of cancer treatment. “The best example of the changed thinking is on pain,” he says. “We’ve finally gotten it through our heads that it’s the patient who defines pain, not the doctor. We stopped trying to figure out if we thought the patient was in too much pain or not, stopped worrying about addiction, and started focusing on reducing the pain. If you look back 10 years ago, there was controversy within oncology circles as to whether we should even be treating cancer pain. That’s no longer a debate.”

Recommended Reading
**Digital Mammography**

“D**igital mammography holds promise to provide earlier detection of breast cancer, but a large study is necessary to see whether digital mammography is better or as effective as conventional mammography,” says Lawrence Bassett, M.D., a national breast imaging expert and medical director, Iris Cantor Center for Breast Imaging at the Jonsson Cancer Center. “Despite some limitations, mammography remains the most effective way to detect breast cancer. It is the only detection method that has been studied in large trials and proven to reduce deaths from breast cancer. So working to improve mammographic images is critical to improving accuracy in breast cancer detection.”

The National Institutes of Health-sponsored Digital Mammographic Imaging Screening Trial (DMIST), of which UCLA is a part, is recruiting nearly 50,000 women to participate in a study that will compare digital mammography to conventional mammography for the detection of breast cancer.

Mammography’s effectiveness can be limited in women who have very dense breasts, explains Dr. Bassett, who is principal investigator for the UCLA study. Dense tissue appears white on a standard mammogram, which is printed out on a dark-colored X-ray film. Abnormalities such as cancer or other masses also appear white, so without a contrasting background, radiologists may have difficulty seeing and characterizing such abnormalities.

“One possible advantage of digital mammography is that it may be more effective in detecting cancers in women with dense breasts because the digital mammogram images have a wider contrast range than images on conventional mammograms,” Dr. Bassett says. “Digital mammography uses computers and specially designed detectors to produce a digital image of the breast that can be displayed and manipulated—enlarged, magnified, lightened or darkened —on high-resolution monitors.

Digital mammography offers other advantages. Since the original images are not stored on film, they cannot be misplaced or lost; are not subject to processing artifacts, and can be acquired faster since there is no film processing.

“Perhaps the most important advantage is that digital mammograms can be transmitted rapidly to other sites by a DSL line or the PACS system for second opinions or comparison with the patient’s other mammograms,” Dr. Bassett points out. “In the changing medical environment, medical practices often encompass more than one geographical site. Digital mammography allows immediate access to diagnostic images regardless of where the patient is seen.”

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For more information on this study, call the NLST hotline at 1-877-222-6578.

For more information on this study, call 310-794-1702 or toll-free at 1-888-798-0719.
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**UCLA Clinical & Research Advances**

**Medicine**
- Using an innovative model, UCLA’s Palliative Care Program provides comprehensive, compassionate, patient-focused care for those with serious life-limiting illnesses.

**Neurosciences**
- UCLA researchers seek volunteers for a study of testosterone treatment for men with relapsing remitting or secondary progressive multiple sclerosis.
- UCLA researchers discover the role of common painkillers, such as ibuprofen and naproxen, in protecting against Alzheimer’s disease.
- Epilepsy specialists are recruiting patients for the first multicenter randomized controlled trial of epilepsy surgery—the Early Randomized Surgical Epilepsy Trial.

**Oncology**
- New molecular imaging applications combining whole-body Positron Emission Tomography scanning with 18F deoxyglucose demonstrate more accurate diagnosing, staging, and restaging of cancers than anatomic imaging.
- UCLA’s Jonsson Cancer Center seeks patients with advanced breast cancer to participate in a promising clinical trial that combines treatment with Herceptin and Avastin.
- UCLA surgeons use new techniques in reconstructive surgery to improve outcomes for patients with head and neck tumors.
- The UCLA Women’s Reproductive Cancer Program provides innovative therapy that produces noticeably increased rates of survival for patients with ovarian cancer.

**Pain Management**
- A multidisciplinary team of pain specialists at UCLA evaluates patients with cancer or chronic pain for permanent, programmable, implantable devices for pain control.

**Pediatrics**
- Specialists at the Mattel Children’s Hospital at UCLA offer clobation tonsillectomy as a gender and less invasive alternative to traditional methods.

**Transplant Services**
- At UCLA Medical Center, the highly selective adult-to-adult living donor liver transplant program has demonstrated results that are among the best in the nation with regards to the donors as well as the recipients.

**Urology**
- UCLA urologists perform an effective, new treatment for female stress incontinence using a polypropylene distal urethral sling that offers advantages over other sling methods.
- UCLA urologists are specifically trained to treat lower urinary tract dysfunction by performing a new, minimally invasive “bladder pacemaker” procedure with a high likelihood of success.
- UCLA is one of a limited number of medical centers with breast surgeons trained to perform ductal lavage as a diagnostic adjunct to mammography.
- The Female Sexual Medicine Center at UCLA takes a ground-breaking approach to this highly specialized area of women’s urogenital health.

**News and Literature**

**Journal Reprints from UCLA Healthcare**
- Re-Engineering Primary Care Practice
  - Scott F. Bateman, M.D.
- Hereditary Hemolytic Anemia
  - Alexander C. Black, M.D.
- Granulosa Cell Tumors
  - Erie Vann Boorman, M.D.
- CHF and Severe Mitral Regurgitation after Mitral Valve Replacement
  - Ravi Dave, M.D.
- Mifepristone (RU 486) for Early Pregnancy Termination
  - Camelia A. Davtyan, M.D.
- Disseminated Coccidiomycosis
  - Matteo Dinolfo, M.D.
- Lung Disease in Women
  - Gerard W. Frank, M.D.

**Newsletters**
- UCLA Jules Stein Eye Institute Clinical Update Newsletter, Volume 12, Number 2, May 2003
  - Features an article on optic neuritis and a case report of retinal angioma and secondary exudative maculopathy.
- UCLA Pediatric Update—A Resource for Physicians, Volume 10, Number 1, Summer 2003
  - Features articles on improved drug treatment for juvenile arthritis, the use of hormones to treat some growth disorders and an update on pediatric organ transplantation.
- UCLA Epilepsy News—The Newsletter of the UCLA Seizure Disorder Center, Volume 8, Number 1, Spring 2003
  - Includes discussion of transcranial magnetic stimulation (TMS) and current recommendations for surgical treatment.

**Patient Education**

The following patient education pamphlets, published by UCLA Healthcare, are free to you. Check the box next to the topics your patients might find useful and you will receive five copies of each.

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  - January 29 – 31, 2004
  - Santa Monica, California
- 9th Annual Primary Care Update
  - April 2 – 4, 2004
  - Las Vegas, Nevada

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Click on <Patients> then <Health Information>
Welcome to the Fall 2003 issue of UCLA Physicians’ Update, a newsletter designed to keep physicians abreast of changes in specialty fields of medicine. In this edition, we feature current issues in oncology.

In addition, look inside for Clinical Advances, your connection to:

- news about cutting-edge research and clinical innovations from UCLA Healthcare
- patient education materials
- continuing education courses
- news and literature written by UCLA Healthcare physicians

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Access the Physician’s Handbook for Patient Referral at UCLA at www.healthcare.ucla.edu

U.S. News & World Report ranks UCLA Medical Center the #1 hospital in the West and the #3 hospital in the nation.