

Cancer: The Basics

Cancer is a word applied to different types of abnormal, unhealthy cells that grow in an uncontrolled way in the body's tissues. Cancer causes **malignant tumors** (abnormal growths) and loss of normal body organ function. The cancer cells can **metastasize** (spread) to nearby organs or can spread through the bloodstream or lymph system to other areas of the body, depending on the type of cancer involved and the severity of the disease. In addition to causing changes in and damaging the area where it started, cancer often causes other symptoms, such as fatigue, weight loss, **anemia** (low blood count), pain, weakness, depression, and shortness of breath, and it can be associated with infection. More than 11 million persons in the United States have cancer. Worldwide, more than 12 million individuals are diagnosed with cancer every year. Health care professionals involved in cancer care include **oncologists** and **hematologists** (doctors with specialized education and training in treating cancer and diseases of the bloodstream), surgeons of different specialties including **surgical oncologists** (who focus on surgical management of cancer), **radiation oncologists** (doctors with specialized training in using x-ray therapy to treat cancer), and nurses with special expertise in cancer care. The March 17, 2010, issue of *JAMA* is a theme issue devoted to articles about cancer.

TYPES OF CANCER

- Cancers can be classified based on the body organ they affect or the type of cells that are cancerous.
- The most common types of non-skin cancers are breast cancer in women and prostate cancer in men.
- Cancers of the blood cells include several types of **leukemia** and **multiple myeloma**.
- **Lymphomas** are cancers of the lymphatic system and can affect all areas of the body.

CANCER TREATMENT

Treatment depends on the type of cancer, the organs involved, the extent or spread of the cancer, and the individual's health status. Typical cancer treatments include **chemotherapy** (powerful medications used to kill the cancer cells), **radiation therapy** (use of focused x-rays to shrink tumors), surgical procedures (to remove cancerous tissue), blood product transfusions, bone marrow transplantation, and support programs. **Palliation** (the easing of symptoms) is offered when cancers are incurable. Palliative treatments may include surgery (such as a colostomy to reduce colon blockage or a tracheostomy to help a person breathe more easily), medications, pain treatment, nutritional support (such as enriched liquids or feeding tubes), hospice care, and spiritual and family support.

CANCER PREVENTION

Almost half of cancers can be prevented. To reduce your chances of having cancer:

- Engage in physical activity daily.
- Eat a balanced diet that is rich in fruits, vegetables, and nuts. Limit saturated fats and animal fats. Avoid processed foods.
- Reduce sunlight exposure, especially during the peak sun hours of 10 AM to 4 PM, and use sunscreen. Do not use tanning booths or sun lamps.
- Do not smoke.
- Maintain a healthy weight.
- Follow guidelines to avoid job-related chemical and hazardous material exposures.
- Limit alcohol consumption.
- Know your family history and recognize your risk of cancers with a **genetic** (inherited) component.

FOR MORE INFORMATION

- National Cancer Institute
www.cancer.gov
- American Cancer Society
www.cancer.org
- World Health Organization
www.who.int
- National Comprehensive Cancer Network
www.nccn.org

INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page Index on JAMA's Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on cancer chemotherapy was published in the June 11, 2008, issue; one on preventing cancer was published in the May 26, 2004, issue; one on cancer clinical trials was published in the June 9, 2004, issue; one on radiation therapy was published in the September 14, 2005, issue; and one on smoking cessation was published in the December 12, 2007, issue.

Sources: National Cancer Institute, American Cancer Society, World Health Organization, National Comprehensive Cancer Network

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