

The **cost of cancer treatments** are increasing at an alarming rate, proving difficult for the average family without private insurance to pay for treatment. The cost of cancer treatment drugs currently range from \$25,000 to \$81,000.



Despite the sharply increasing cancer rates in Fort Chipewyan, Alberta, a community downstream from **oil sands**, there has been no correlation found between the oil sands pollution and the increasing cancer rates.

Scientists have recently developed an effective way of **tailoring breast cancer treatment** for individual women. By analyzing the network of protein interactions in breast tissue, a doctor can evaluate how aggressive treatment should be, and how effective this treatment will be.

A recent study at the University of Nottingham found a correlation between frequent sexual intercourse and **risk of prostate cancer**: increased activity in a man's 20s is associated with greater risk of prostate cancer, whereas increased activity in a man's 50s seems to be protective against prostate cancer.

A recent study has confirmed that having **Hepatitis C** significantly increases the risk of various types of liver cancer.

Currently, **liver cancer** is the third leading cause of cancer deaths around the world. Lung cancer is the first.

A study conducted by researchers at the Fred Hutchinson Cancer Research Center reveals that **marijuana** use may be linked with nonseminoma, a particularly aggressive and difficult to treat form of testicular cancer. It was found that those having taken the drug at a younger age were at an increased risk.

Researchers at Washington University have developed a **genomic test** that can help personalize treatment for breast cancer. By analyzing a set of 50 genes, doctors can determine which of the four main tumor types a patient possesses. Treatment can be designed for that particular type.

A baby in Britain was **screened for BRCA1 mutations** before birth. Although this does not completely protect the child from breast cancer in the future, it does lower the risk for the child and possibly for future offspring.

The World Cancer Research Fund calculates that a daily intake of **150g of processed meats** increases the risk of bowel cancer by 63%.

Researchers from the University of Washington have developed a drug that **selectively kills cancer cells**. A "chemical homing device" was added to the drug artemisinin, which comes from the sweet wormwood plant used in Chinese medicine. This novel drug binds to the protein signal found on the cell surface, attracts iron, and subsequently reacts with this iron to destroy the cell.

CANC

Researchers have found that stem cells responsible for the **proliferation of leukemic cells** exploit the mechanism of division used by embryonic stem cells; normal blood stem cells use a different mechanism for multiplication. Identifying this difference allows scientists to develop drugs that specifically target leukemic stem cells and spare normal blood stem cells.

A recent international study has concluded that **vitamin E and selenium** do not reduce the risk of prostate cancer. The study was shut down in October after its results suggested an association between vitamin E and increased risk of developing prostate cancer, as well as an association between selenium intake and diabetes.

Glioblastoma brain tumour cells release microvesicles called exocytosis. Researchers at Massachusetts General Hospital have discovered RNA and proteins within these vesicles that are associated with the tumour cells. This means that the exocytosis could be used as biomarkers to assist therapy and monitor how the cells respond to treatment.



Researchers have identified the **DNCR-1 receptor** on the dendritic immune cell as being responsible for signaling an immune response against areas of excessive necrotic cell death, which is common in the blood deficient tumor environment. This discovery will help researchers develop anti-cancer drugs that harness the immune system.

Researchers from the Keck School of Medicine urge patients undergoing bortezomib therapy from **drinking green tea**. Bortezomib is an anti-cancer drug, specifically against blood and brain cancers, that can induce tumour cell death. The polyphenols within green tea products seem to counteract the therapeutic effects of the drug.



Researchers in Cuba have developed a vaccine that **extends the life** of terminal lung cancer patients by an average of four months or even several years. It has already been approved for use in the general public.

After a review of 52 studies, US scientists have concluded that active people are **24% less likely** to develop colon cancer than the least active.

In the Women's Antioxidant Cardiovascular Study, no association was found between **antioxidant supplements** and decreasing cancer incidence or mortality. The study followed 7,627 women for almost ten years as they took beta-carotene, vitamin C, vitamin E, or a combination of them every other day.

A study in Sweden found that breast cancer patients participating in **art therapy** have improved quality of life and health. It is believed that these women, who received radiation therapy, were given artistic freedom to express themselves, thereby reducing stress and countering the psychological side effects of radiation.

Researchers are at the early stages of developing a **urine test for prostate cancer** patients. It would help identify the specific type of cancer by detecting a metabolite called sarcosine, which is more prevalent in more aggressive forms of the cancer. This would allow doctors to better determine whether or not a patient requires urgent treatment (ie. surgery) or not.

The Journal of the National Cancer Institute released a report suggesting that **mammograms may do more harm** than good for those who carry a *BRCA* mutation. Since patients are exposed to radiation during the procedure, researchers are now trying to determine the point at which screening is no longer beneficial.

A study in the Australian Dental Journal found that **alcohol-containing mouth washes** increase the risk of developing oral cancers. This occurs because the ethanol in the mouthwash burns the lining of the mouth, exposing it to carcinogenic substances.

While **exercise** has been heralded as an important cancer-preventing activity, present research suggests that exercise is only effective in conjunction with enough rest. With regular exercise and sleep, a woman's overall cancer risk decreases.

Researchers at the Roswell Park Cancer Institute have found that **broccoli provides a protective effect** against cancer in smokers. Decreases in risk ranged from 20%-55% reduction depending on the vegetables consumed and the smoking habits of the patient. Greater risk reduction was found in heavy smokers.

Imatinib, a **drug used to fight leukemia**, has been found to reverse the effects of type 1 diabetes in mice. Since this type of autoimmune diabetes depends on tyrosine kinases in the immune system, this drug acts as a tyrosine kinase inhibitor, preventing progression of the disease even after treatment is discontinued.



Instead of getting surgery to remove a tumour, doctors can now use an **electric current** to heat and destroy it. By following medical images and inserting a needle into the tumour, the cancerous tissue can be destroyed and the patient would only need to stay in the hospital for one night.

Researchers in British Columbia found a correlation between **environmental contaminants** and non-Hodgkin Lymphoma (NHL). Patients with NHL had higher levels of organochlorine pesticides and polychlorinated biphenyls in their blood. Exposure to these contaminants seems to double the risk of getting NHL.

A new study published in Cancer claims that **obese women** may be at greater risk of ovarian cancer in comparison to women with average weights.

EW

In the news

A recent survey by the American Cancer Society suggests that the **high cost of cancer treatments** play a greater role than lapses in medical science in preventing many patients from overcoming the disease. The caps on insurance benefits and the loss of employment during treatment are central to patients' inability to raise the necessary funds.

A study conducted in Japan found that **drinking coffee** may have a protective mechanism against cancers developing in the oral cavity or throat. Those drinking one or more cups of coffee a day had a reduced risk of getting these cancers when compared to those who do not drink coffee.

Researchers in Sweden trained dogs to **sniff out early-stage ovarian cancer**. This was inspired by a previous study, in 2004, where dogs could detect bladder cancer by sniffing the urine of affected patients. However, these dogs will probably not be used in clinical practice due to varying accuracy rates.

