

CANCER RESEARCH: HEALTH EXPLAINING THE LINK BETWEEN FOOD, EXERCISE AND THE DEADLY DISEASE

## Poor diet ratchets up cancer risk

**Excess fat can cause up to a third of all cases, study says, putting lifestyle choices on par with quitting smoking**

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The most comprehensive study ever undertaken on the association between cancer and obesity concludes that excess body fat triggers many types of the disease, as does the consumption of even moderate amounts of alcohol, red meats and processed meats.

The study, released yesterday in Washington by the American Institute for Cancer Research and the World Cancer Research Fund, shows food, nutrition and lack of exercise appear critical in causing many cases - perhaps up to one-third - of all cancers. That means controllable lifestyle factors associated with diet and weight have about the same impact on cancer rates as smoking.

"The most striking finding in the report is that excess body fat increases risk for numerous cancers," said Phillip James, one of the study's authors and chairman of the British-based International Obesity Taskforce.


The international team of medical experts, which conducted an exhaustive, five-year review of more than 7,000 research papers that investigated whether food, nutrition or lack of physical exercise had an impact on cancer incidence, made 10 recommendations for preventing the disease. They include eating diets containing large quantities of vegetables and fruits and, most important, staying as thin as possible within the normal range of a person's body weight.

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"Cancer is preventable. There are changes you can make in your daily life that will reduce your chances of developing cancer," Dr. James said. "Let's get more vegetables, fruits. ... Let's get off our backsides, however and whenever we can."

Among the cancers convincingly linked to excess body fat, particularly if it is carried around the waist, are colon, kidney, pancreas, uterine, adenocarcinoma of the esophagus, and postmenopausal breast cancer.

The new research also made some unusual findings about cancer. One is that there is convincing evidence linking being tall to a higher risk of colorectal and

postmenopausal breast cancer. Another is that an association exists between high birth weight and increased risk for premenopausal breast cancer - probably due to body fat.

Although many medical researchers have presented studies before linking cancer to weight and diet, the new study makes the case even more convincingly because it draws together most of the available evidence on the subject. The AICR published a previous study on cancer and body mass 10 years ago, and, at the time, the evidence was only strong enough to link it to uterine cancer - indicating how much scientific research has uncovered in the last decade.

"This report today is showing us that the evidence is becoming more and more clear about the relationship between how we live, what we eat, and our individual risk of developing cancer," said Heather Logan, a spokesperson for the Canadian Cancer Society in Toronto.

The cancer society has long advocated that Canadians do what they can - through diet, smoking cessation, and sensible sun exposure - to reduce the odds of developing the illness. Although not all cancers are caused by such lifestyle factors - others are due to genetics, environmental contaminants and as yet unknown factors - a significant portion appear to be.

Based on the findings, millions of cancer deaths in industrialized countries could be avoided if the public paid more attention to diet, exercise and weight. In Canada alone this year, about 160,000 people will be diagnosed with cancer and about 73,000 will die from the disease.

Given the association between excess weight and cancer, it is likely that many types of the disease linked to body fat will remain at elevated levels unless the public makes a major effort to lose weight. The study said the prevalence of overweight people doubled in many wealthy countries between 1990 and 2005.

Among the recommendations, the study threw cold water on the idea that people should try to prevent cancer by taking supplements, an approach that has been advanced by many in the health food industry. Except for a few isolated examples, such as the need for taking vitamin D, the study said people should get their nutrients through diet alone.

Although there is evidence that high-dose supplements can reduce some types of cancer, the study concluded that, for otherwise healthy people, "the best source of nourishment is foods and drinks, not dietary supplements."

For those who have had cancer, the study advises the best course is to follow the recommendations on weight, diet and exercise in the hopes of preventing further bouts of the disease.

In its recommendations, the study calls for people to adopt a two-pronged attack on excess weight, using both exercise and diet. It says people should engage in moderate physical activity, equivalent to brisk walking, for at least 30 minutes daily, rising to an hour as fitness levels improve.

On the food front, it says to consume sparingly energy-dense foods such as sugary drinks, burgers and pastries. Instead, people should eat large amounts - about 400 grams daily - of non-starchy vegetables and fruits.

"We are recommending five servings or more of vegetables and fruit daily because, like physical activity, they pack a double whammy against cancer," Dr. James said.

The study is titled Food, Nutrition, Physical Activity and the Prevention of Cancer: a Global Perspective. It is available online at <http://www.aicr.org>.

### **Nutritional don'ts and dos**

Limit red meat consumption to no more than seven small (75 grams) servings a week.

This covers beef, pork and lamb. Avoid all types of processed meats such

as bacon, sausage, hot dogs, ham and other lunch meat. Colorectal cancer is the concern; every 50 grams of processed meat eaten daily increases lifetime risk by 21 per cent.

Alcohol from all sources - beer, wine

or spirits - should be avoided because even small amounts raise risk. It has been linked

to cancers of the mouth, throat and esophagus, as well as colorectal in men and breast in women. At most, men should consume

no more than two drinks a day and women no more than one.

Fast food should be eaten sparingly, if at all. Avoid foods that pack a lot of energy, such as pastries, French fries and sugary drinks.

Cut salt consumption to reduce the risk

of stomach cancer. Avoid mouldy cereals or legumes because they may be contaminated with aflatoxins, a cause of liver cancer.

In order to meet daily protein requirements,

give preference to poultry, fish and eggs.

Eat five servings of fruit and non-starchy vegetables daily. Eat relatively unprocessed grains and/or legumes with every meal.

Try to meet your daily nutritional needs through diet, rather than supplements.

### **Ten steps for cancer prevention**

Be as lean as possible within the normal range of body weight.

Be physically active at least 30 minutes daily.

Limit consumption of energy-dense foods; avoid sugary drinks.

Eat mostly foods of plant origin.

Limit intake of red meat and avoid processed meat.

Limit alcoholic drinks.

Limit consumption of salt. Avoid mouldy cereals and bread.

Aim to meet nutritional needs through diet alone rather than through supplements.

Babies should be breastfed.

Cancer survivors should follow the recommendations for cancer prevention.

*Sources: American Institute for Cancer Research, World Cancer Research Fund*

### **A preventable disease?**

A new review suggests that the risk of contracting several forms of cancer - including some that strike tens of thousands of Canadians every year - can be lessened with fairly basic lifestyle changes.

### **NEW CASES OF CANCERS IN CANADA Total 2007 estimates**

Lung	23,300
Breast	22,500
Prostate	22,300
Colorectal	20,800
Non-Hodgkin lymphoma	6,800
Bladder	6,600
Kidney	4,900
Melanoma	4,600
Leukemia	4,200
Uterine	4,100

Thyroid	3,700
Pancreas	3,600
Oral	3,200
Stomach	2,800
Brain	2,600
Ovary	2,400
Multiple myeloma	2,000
Esophagus	1,550
Liver	1,350
Cervix	1,350
Larynx	1,150
Hodgkin lymphoma	880
Testis	830
All other cancers	12,300

Total new cases: 159,900

**CANCER DEATHS IN CANADA Total 2007 estimates**

Lung	19,900
Breast	5,400
Prostate	4,300
Colorectal	8,700
Non-Hodgkin lymphoma	3,100
Bladder	1,750
Kidney	1,650
Melanoma	900
Leukemia	2,400
Uterine	740
Thyroid	170
Pancreas	3,600
Oral	1,100

Stomach	1,850
Brain	1,700
Ovary	1,700
Multiple myeloma	1,000
Esophagus	1,700
Liver	670
Cervix	390
Larynx	510
Hodgkin lymphoma	120
Testis	30
All other cancers	9,300

Total deaths: 72,700

SOURCE: CANADIAN CANCER SOCIETY

### **WHAT IS CANCER?**

Cancer can be either genetic or inherited or both. Mutations can occur in genes, causing normal cells to become cancerous.

### **CELL MUTATION**

Cell seems normal but has a mutation that causes it to proliferate excessively.

### **ANGIOGENESIS**

Each new set of cells grows rapidly, providing further opportunities for mutation. Successive generations of mutated cells may proliferate even more aggressively, causing a tumour to begin growing as the cancerous cells draw blood from neighbouring vessels and crowd out healthy cells.

### **METASTASIS**

A tumour as small as a gram can inject a million cancerous cells into the blood or lymph fluid every day. Fewer than 1 in 10,000 of these will survive, but those that do can attach to tissue far from their source and establish new cancer colonies.

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