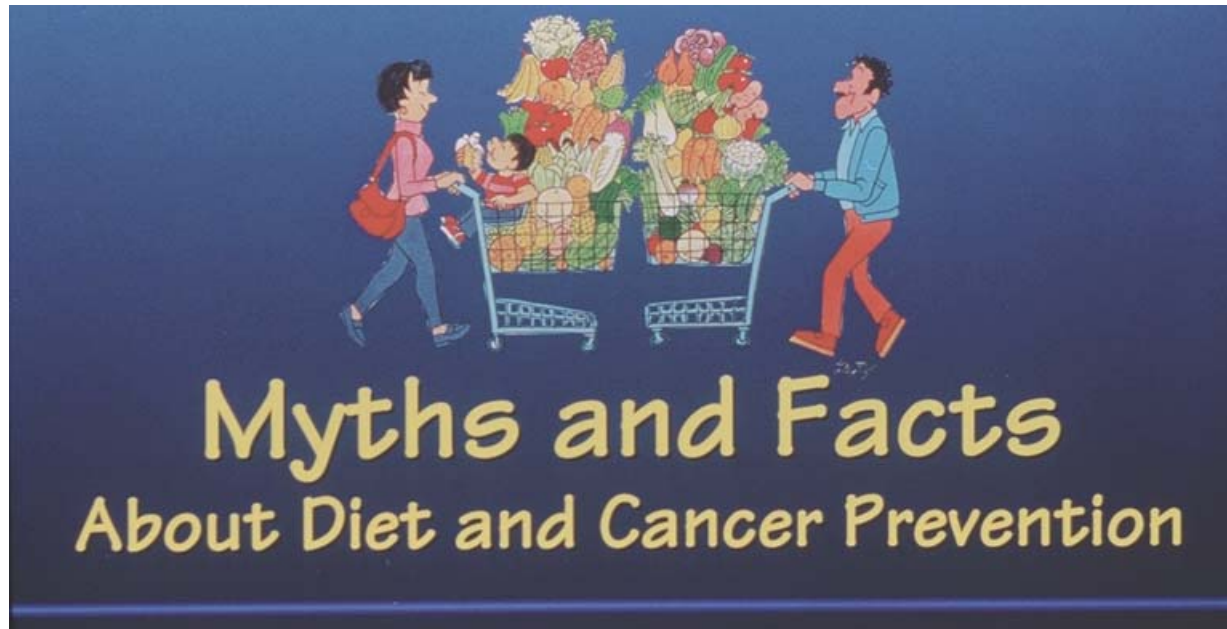

Myths & Facts



**Food, Nutrition
and the Prevention
of Cancer: a global perspective**



- ◆ Based on more than 4,500 research studies from around the world
- ◆ Many cancers are preventable
- ◆ Diet and lifestyle do make a difference

In The News...



Myths & Facts

About Diet and Cancer

- Understand the relationship between lifestyle and cancer risk
- Clarify confusing diet and cancer messages
- Take action with dietary changes that can improve your health and lower cancer risk

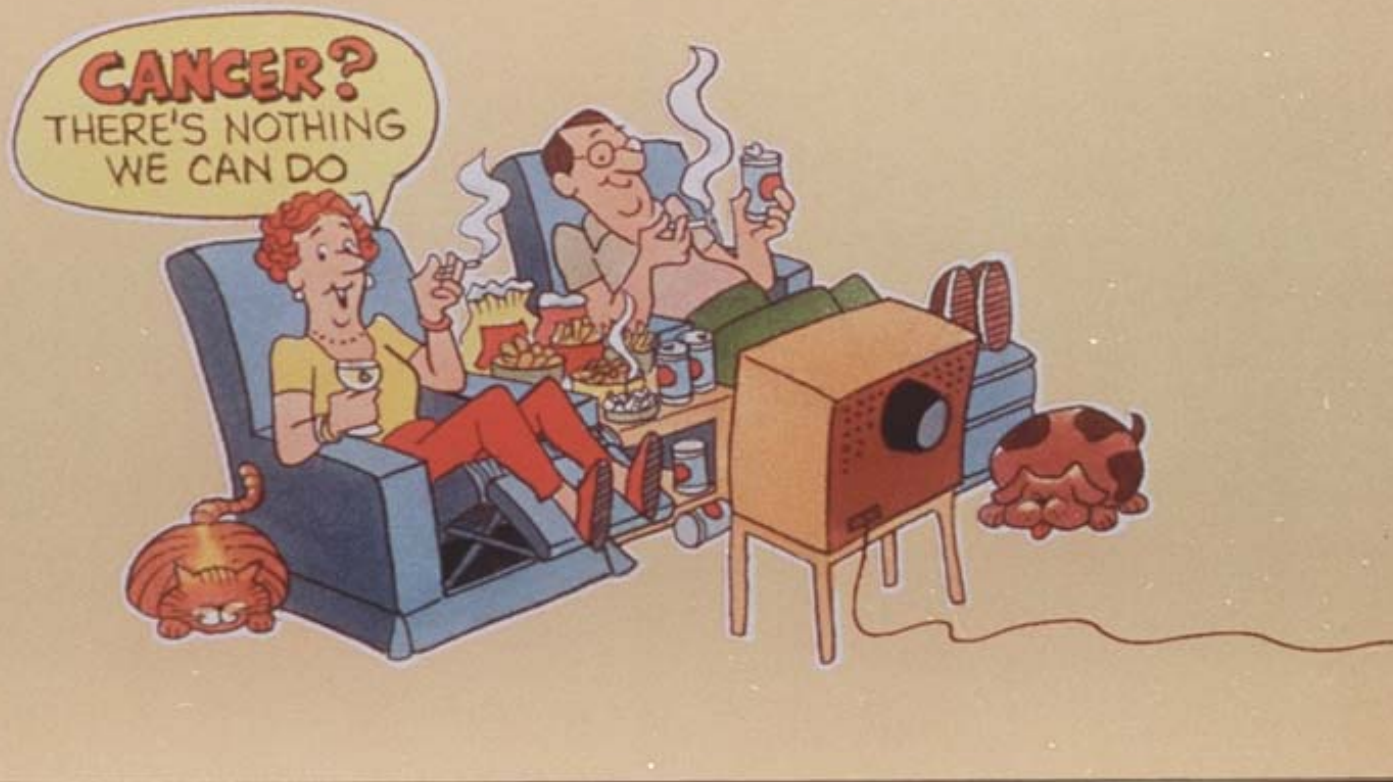
The Most Dangerous Myth: Everything Causes Cancer



Fact

There are only a few major causes of cancer

**Myth:
Cancer is unpreventable.**



Fact

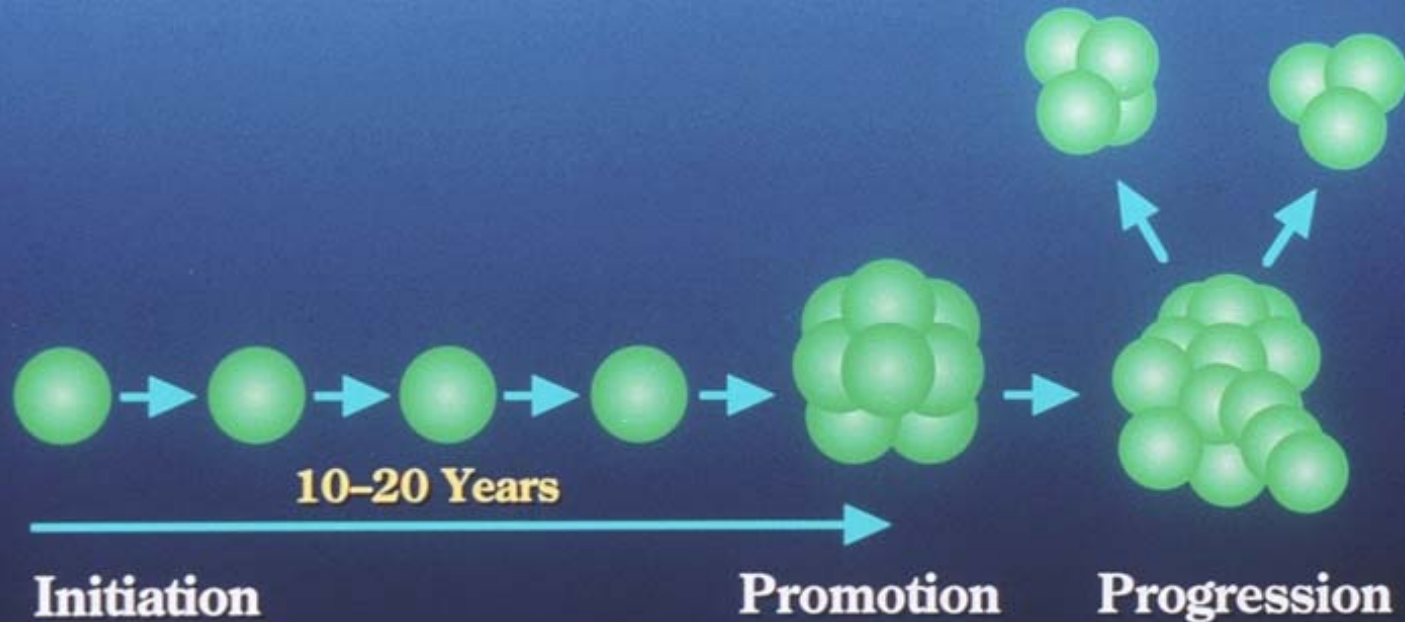
The major causes of cancer are diet and tobacco

60-70% of all cancer cases can be prevented through dietary change, weight control, exercise and not smoking

Diet-related Promoters

- Alcohol
- Charred meat
- Obesity
- Animal fat
- Sedentary lifestyle

Multi-step Development of Cancer



American Institute for Cancer Research

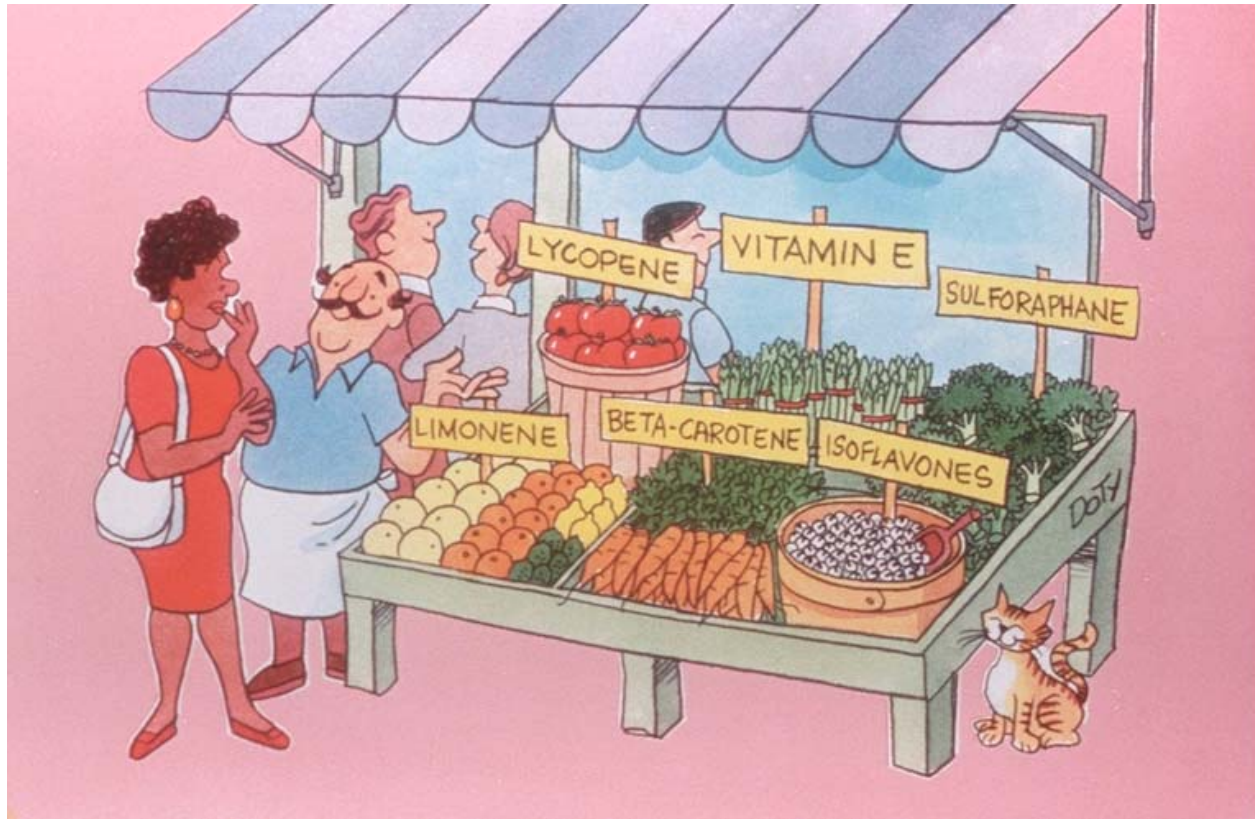
Diet & Health Recommendations for Cancer Prevention

- Choose a diet rich in a variety of plant-based foods
- Eat plenty of vegetables and fruits
- Maintain a healthy weight and be physically active
- Drink alcohol only in moderation, if at all
- Select foods low in fat and salt
- Store and prepare foods safely
- Do not use tobacco in any form

Possible Protectors

- Vegetables, fruits, beans, whole grains
 - Phytochemicals
 - Antioxidants
 - Dietary fibre
- Physical activity

Phytochemicals



Phytochemicals

- Sulforaphane in cabbage, cauliflower, broccoli, and broccoli “sprouts;”
- Allicin in garlic, onions, and chives;
- Limonene, found mostly in the peels of citrus fruits;
- Isoflavones and saponins in soybeans; and
- Lycopene in tomatoes (especially cooked tomatoes) which current research suggests may protect against prostate cancer in men

Phytochemicals

Lycopene

- found in tomato products, tomato juice, V-8 juice, spaghetti sauce, and ketchup, also guava, grapefruit, papaya, watermelons
- scavenges free radicals to reduce tissue damage
- inhibits multiplication of prostate cancer cells
- supplements appear to increase cancer risk

Phytochemicals

Lycopene

How much do I need?

- Positive changes indicated with 30 mg lycopene daily
 - 3/4 cup of tomato sauce
 - 12 fl oz tomato juice
 - 8 raw tomatoes
 - 4 cups watermelon

Phytochemicals

Soy

- high in genistein & daidzien
- decrease blood androgen levels
- restrict other enzymes associated with cell growth
- cause direct tumor destruction, starve tumor
- dietary sources: tofu, soy cheese, soy nuts, soymilk

Antioxidants

- Chemical substances that prevent the formation of or destroy cancer-causing compounds known as free radicals
- Antioxidants include vitamins and minerals such as vitamin A and beta carotene, vitamin C, vitamin E and selenium

Dietary Sources of Antioxidants

- Beta carotene
 - Carrots, spinach, cantaloupe, apricots, pumpkin
 - one of 600 carotenoids that can be partially converted to vitamin A into body
 - may reduce prostate cancer if combined with diet rich in fruit & vegetables and low in fat
 - supplements have not been shown to have beneficial properties in relation to prostate cancer

Dietary Sources of Antioxidants

- Vitamin C
 - Citrus fruits, potatoes, broccoli, sweet peppers, kale, cabbage, cauliflower, tomatoes, kiwi, strawberries
 - may prevent formation of free radicals that could cause DNA damage
 - helps repair damaged DNA
 - test tube studies observed inhibition of proliferation and survival of tumor cells
 - supplements containing 25-500 mg taken once daily appear to be safe

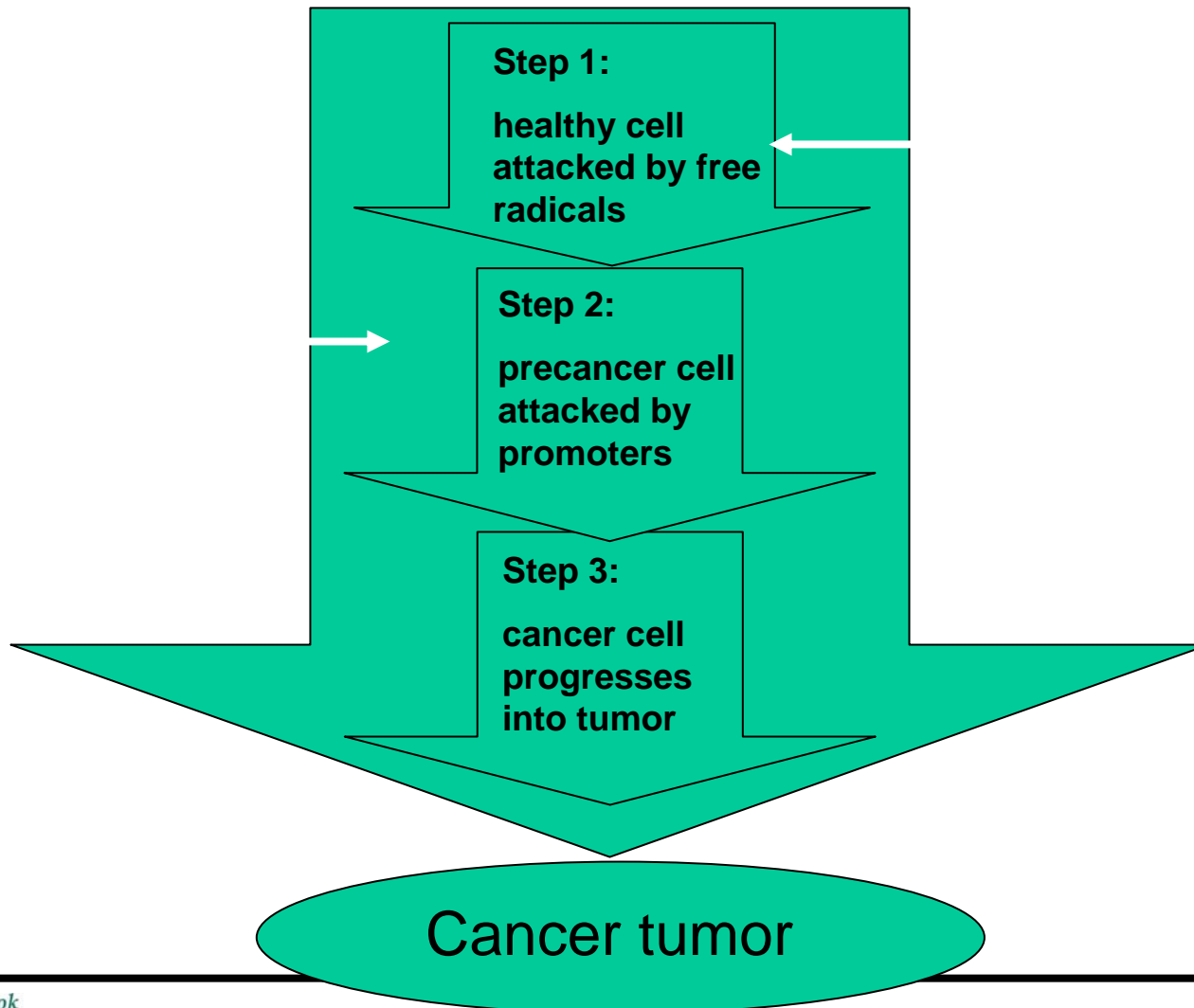
Dietary Sources of Antioxidants

- Vitamin E
 - vegetable oils, nuts, seeds, wheat germ, eggs
 - studies show vitamin E (50-100 IU) to inhibit prostate cancer
 - may lower the rate of conversion from latent to aggressive forms of prostate cancer
 - supplementation decreases serum androgen concentrations
 - supplement containing mixed tocopherol (d-alpha, gamma, beta) is preferred

Dietary Sources of Antioxidants

- Selenium

- whole grains, brazil nuts, seeds, wheat germ, eggs
- scavenges free radicals & suppresses damage due to oxidation in tissues
- low plasma selenium is associated with 4-5 fold increased risk
- plasma selenium decreases with age
- selenium supplements have been shown to decrease recurrence of prostate cancer by 2/3
- most research used a 200 mcg supplement (2 Brazil nuts)
- take supplement with food



Dietary Fibre

- Choose foods high in fibre rather than fibre supplements
- Fruits, vegetables, legumes and whole grains are all sources of dietary fibre
- Aim for 25-30 grams of fibre daily
- may bind to toxic compounds & carcinogens

Fact

Eating 5 or more servings of vegetables and fruits could prevent at least **20%** of cancer cases.

Recommendations

- Choose a diet rich in a variety of plant-based foods
- Eat lots of vegetables and fruits

Legumes

- Beans, peas, lentils e.g. split peas, kidney beans, chickpeas, soybeans
- Excellent source of many vitamins, plant protein and fibre
- Low fat, protein alternative to meat

Myth: A little bit is plenty.



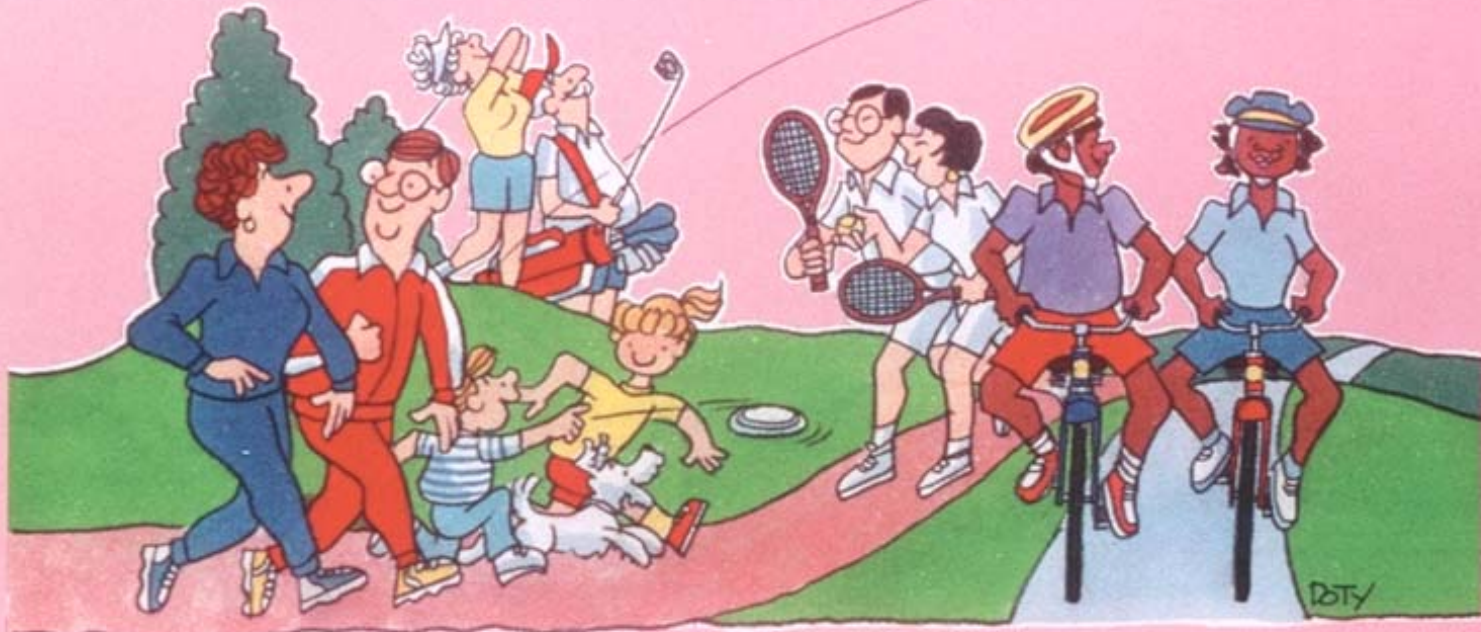
Fact

Vegetables, fruits and whole-grain products should be the major components of your diet.

Recommendations

- Maintain a healthy weight and be physically active
- Follow Canada's Physical Activity Guide

Choose activities you like
and can do comfortably.



Myth:
Alcohol: it's a health food or poison.



Recommendation

- Drink alcohol only in moderation, if at all:

women - 1 drink per day

men - 2 drinks per day

Recommendation

- Select foods low in fat and salt
- Choose modest amounts of appropriate vegetable oils

Fact

Fat-free foods still have calories

Type of Fats

- **Polyunsaturated fat**

- Mainly found in vegetable oils such as safflower, sunflower, corn and soybean oils
- Contains essential fatty acids which cannot be produced by the body

- **Monounsaturated fat**

- Found mainly in olive oil, canola oil and avocado

- **Omega 3 fats**

- Omega 3 fats are a type of polyunsaturated fat
- Fish sources: salmon, sardines, herring, mackerel, halibut
- Plant sources: flax, wheat germ, canola and olive oil

Type of Fats

Omega 3 fats

- Omega 3 fats are a type of polyunsaturated fat
- Fish sources: salmon, sardines, herring, mackerel, halibut
- Plant sources: flax, wheat germ, canola and olive oil
 - induce apoptosis(cell death)
 - suppress cancer cell initiation
 - compete with arachidonic acid, which limits harm from arachidonic acid

Type of Fats

Omega 3 fats

- Omega 3 fats are a type of polyunsaturated fat
- Fish sources: salmon, sardines, herring, mackerel, halibut
- Plant sources: flax, wheat germ, canola and olive oil

Incorporate one of the foods on a regular basis to achieve sufficient omega 3 fatty acids:

- 1 oz of walnuts
- 1/2 to 1 cup cooked soybeans
- 1-2 tbsp. ground flaxseed

Type of Fats

Flaxseed

- plant estrogen source
- may work to block tumor growth, inhibit angiogenesis, and enhance immune system
- appear to bind with testosterone, lower circulating levels of testosterone
- animal study found that flaxseed inhibited growth & progression of prostate cancer
- **Dosage:** 1-3 tablespoons ground flaxseed daily

Type of Fats

- **Saturated fat**

- Found in animal food sources such as meat, butter, dairy products
- Also found in some types of processed foods
- Usually solid at room temperature
- appear to be related to increased risk of metastatic prostate cancer

- **Trans fat**

- Found in many processed and frozen convenience foods that contain partially hydrogenated fats, such as some margarines, cookies, crackers, french fries, potato chips and some frozen meals.
- Have a similar effect to saturated fat

Meat

- Limit serving size to 3 ounces per day
- It is preferable to choose fish, poultry, or meat from non-domesticated animals in place of red meat

Vitamin D & Calcium

Vitamin D

- Believed to be important in protection of prostate cells
- sources: salmon, trout, sardines, fortified products (soymilk, cereals) & sunlight
- absorption declines with age

Calcium

- do not exceed 2000 mg daily, less than 500 mg daily

Myth:
You must give up your favorite foods.



Fact

There are **no** foods you must give up completely. The amount and proportion of various foods in your diet is what counts.

Recommendation

- Store and prepare foods safely

Tips for Safe Grilling

- Prevent formation of Heterocyclic Amines (HCA's)
 - Remove fat
 - Do not let juices drip
 - Do not let flames touch food
 - Use foil
 - Use microwave first, then grill
 - Use marinades

Myth:
Vitamin/mineral supplements are the best insurance against disease.

BUT IT'S
EASIER THIS
WAY!



Fact

A **variety** of plant-based foods provide the best balance of nutrients and cancer fighting dietary substances

Myth:
**Eating a healthier diet means a dramatic
change in the foods you eat.**



Fact

Small changes make a **BIG** difference!

Original Lunch

Fried chicken leg and
breast

French Fries

Salad with dressing

Calories: 900

Fat (grams): 50

Improved Lunch

Baked skinless chicken
breast

Baked potato with sour
cream







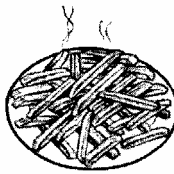









Salad with reduced
calorie dressing

Calories: 550

Fat (grams): 15

SUMMARY

PORTION SIZES

	 1		 4
	 2³/₄		 5¹/₄
	 2		 4
	 3		 8¹/₄

Remember Diet & Health Recommendations for Cancer Prevention

- Choose a diet rich in a variety of plant-based foods
- Eat plenty of vegetables and fruits
- Maintain a healthy weight and be physically active
- Drink alcohol only in moderation, if at all
- Select foods low in fat and salt
- Store and prepare foods safely
- Do not use tobacco in any form

Conclusion

- Small changes make a **BIG** difference!

Helpful websites:

www.cancer.ca

www.dietitians.ca

www.aicr.org