

# Myths and Evidence of Cancer Nutrition: Healthful Eating for Cancer Survivors

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# American Cancer Society: Nutrition and Cancer Risk

## Nutrition factors for developing cancer:

- **High salt diet** (>2400mg per day)
  - Salt-preserved / pickled / cured / smoked foods
- **Added / refined sugars**
  - Sweets & treats, concentrated sources of sweets
- **Red meats** (>18oz per week)
  - Especially processed meats (e.g. canned meats, sausage)
- **Alcohol**
  - Avoid consumption if possible
  - If consumed, limit intakes
    - Up to 2 drinks per day for men
    - Up to 1 drink per day for women

# American Cancer Society: Nutrition and Cancer Risk

- Outcomes with cancer appear to be improved with:
  - Obtaining & maintaining a healthy body weight
    - Body Mass Index >30 is an increased risk for most cancers
    - Emphasis on lean body mass, less adipose/fat mass
  - Physical activity
    - Moderate activity, 150-300minutes per week
  - A healthy diet:
    - Rich in phytonutrients and fiber (whole fruits/veggies/grains)
    - Lower in saturated fats
      - Less red meats / less processed meats
        - » Incorporates plant-based proteins
      - Low-fat dairy products
    - Rich in unsaturated fatty acids (MUFA & PUFA)

# Nutrition Basics: Fiber

## Fiber

- Insoluble: adds bulk, acts like a cleaning brush and “get things moving.”
  - Skins of fruit, vegetables,
  - whole grains, legumes
- Soluble: adds bulk, slows down GI transit time, improves BG control, reduces cholesterol
  - Flesh of fruits and vegetables,
  - whole grains, psyllium husk
- Fiber is also known as a “pre-biotic” and provides nourishment to our internal microbiome, keeping us healthy from the inside-out



# Nutrition Basics: Organic Foods

???Question???

Is organic produce healthier than “regular” produce?

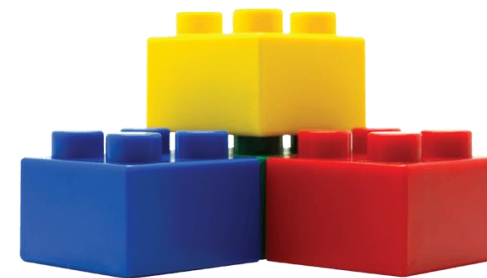
Evidence:

- Organic foods may contain higher levels of phytonutrients
- Phytonutrients are biologically active compounds found in plant-based foods. They can interrupt cancer development and are nutrition’s way of “phyt-ing” (fighting) against cancer.

**Verdict:** Vegetables, fruits, and whole grains should form the central part of a person's diet, regardless of whether they are grown conventionally or organically.

# Nutrition Basics: Protein

- Contains amino acids, building blocks for proteins:
  - Immunity
  - Cell repair
  - Muscle growth
- Increased needs during periods of injury or inflammation
- Excessive protein can have draw backs:
  - Calcium depletion from bone
  - Accelerated kidney disease
- Animal sources: beef, pork, chicken, seafood, eggs, dairy
- Plant sources: soy, legumes, seeds, nuts



# Nutrition Basics: Protein

- Oral Nutrition Supplements
  - May be helpful to obtain Calories, protein
  - May be helpful to maintain lean body mass
  - May be expensive



Product	Calories	Protein (grams)	Net Carbs (grams)
Ensure Original	220	9	32
Glucerna	180	10	12
Premier Protein	160	30	2

# Nutrition Basics: Fats and Oils

- Saturated Fats

- Whole dairy products
- Poultry skins
- Red Meats

- Trans Fats

- Fried foods
- Hydrogenated Oils



- Monounsaturated Fatty Acids (MUFA)

- Olive, canola, soy
- Avocado
- Natural peanut butter

- Polyunsaturated Fatty Acids (PUFA)

- Omega-6
  - Pro-inflammatory
- Omega 3
  - Anti-inflammatory



# Nutrition Basics: Fats and Oils

- **Anti-inflammatory Oils**
  - Cold water fish
    - Salmon, herring, trout, sardines
    - Krill
    - Marine oil supplements
  - Fortified foods
    - Eggs (orange-colored yolks)
    - Milk / Margarine / Yogurt
    - Juice
  - No conversion required (highly efficient)



# Nutrition Basics: Fats and Oils

- Source of Alpha Linolenic Acid (ALA)
  - Nuts
    - Walnuts, Almonds
  - Seeds
    - Flax
    - Chia
    - Hemp
    - Pumpkin
  - Requires conversion for utilization (less efficient)



# The Mediterranean Diet

- Western dietary patterns
  - Diet typically consists of:
    - Saturated fats (red meats, processed meats, high fat dairy)
    - refined grains
    - Added/processed sugars
  - Linked with increased inflammation, cardiovascular disease and cancer progression/recurrence
- “High-quality dietary patterns”
  - Diet typically consists of:
    - predominance of plant-based foods, including vegetables and fruit, and whole grains
    - de-emphasize red and processed meat intake
    - Less refined grains, encourage whole grain consumption
  - Linked with decreased inflammation, cardiovascular disease and decreased risk of cancer progression/recurrence

# The Mediterranean Diet

- A Mediterranean Diet PROMOTES:
  - Plant-based
    - whole fruits: 3 servings per day
    - Whole vegetables: 3 servings per day
    - Whole grains: 3-6 servings per day
  - Legumes (beans and lentils)
    - 3 servings per week
  - Extra Virgin Olive Oil (EVOO)
    - 1-4 servings per day
  - Moderate in seafood, especially rich sources of omega-3 fatty acids
    - 3 servings per week
  - Nuts
    - At least 3 servings per week



# The Case for a Mediterranean Diet

- A Mediterranean Diet LIMITS:
  - Poultry
    - Up to 1 serving daily
  - Dairy
    - Up to 1 serving daily
  - Eggs
    - Up to 1 egg yolk per week
  - Red meat
    - No more than 3 ounces per week
  - Sodium
    - <2400mg daily
  - Little to no sweets/concentrated sources of sugar
  - Moderate wine intake with meals (not required)
    - Up to 1-2 servings per day



# Weight Management

???Question???

Does weight status play a role in cancer development?



Evidence:

- Obesity, especially central-obesity, is linked with increased risk of certain types of cancers including post-menopausal breast, esophageal, GI, prostate, kidney, gallbladder, liver, cervix/ovary, non-Hodgkin's lymphoma, multiple myeloma

# Weight Management

## Evidence (continued):

- **Physical Inactivity**
  - Sedentary lifestyle is linked with an increased risk of cancer
  
- **Overweight / Obesity increases the risks of:**
  - Insulin resistance and diabetes
  - Increased estrogen and leptin production
  - Gastro Esophageal Reflux Disease / Barrett's Esophagus
  - Chronic inflammation

# Weight & Physical Activity

Verdict: Physical activity and weight management are crucial to a healthy lifestyle, a healthy body weight and reducing the risk of cancer

- **Aerobic activities may assist with:**
  - obtaining and maintaining a healthy body weight
  - improved lung capacity / respiratory status
  - reducing lymphedema
  - dealing with stress, anxiety and depression
- **Weight resistance training**
  - May improve bone density
  - Increase in lean body mass



# The American Cancer Society Guidelines for Nutrition & Physical Activity

## Achieve and maintain a healthy weight throughout life

Weight reduction if overweight

Support lean body mass / musculature

## Adopt a physically active lifestyle

Moderate intensity for 150-300minutes per week

Check with your physician before starting any new activity program

## Choose a healthy diet with emphasis on plant-based foods

Whole fruits, whole vegetables, whole grains

## Avoid alcohol. If you are to drink alcohol, limit the consumption

Serving Sizes: Beer = 12oz, wine = 5oz, hard liquor 1.5oz

Men: up to 2 drinks/day    Women: up to 1 drink/day

# Intermittent Fasting

## Can intermittent fasting enhance the outcomes of cancer?

Scientific data: “There is little evidence that intermittent fasting, without any reduction in body weight and proper balanced diet and exercise can enhance cancer outcomes”.

## Can it help prevent the reoccurrence of tumor formation?

Scientific data: There is no evidence that intermittent fasting has beneficial effects after chemotherapy, as well as tumor recurrence in breast cancer patients.

## Can the intermittent fasting diet help prevent cancer?

Scientific data: There is currently no diet that can prevent cancer or prevent the recurrence of cancer or cure cancer

# Intermittent Fasting Conclusion

There is currently no data to suggest that intermittent fasting has an impact on cancer outcomes such as recurrence or the development of secondary cancers.

However, weight reduction through physical activity and diet can play a role in reducing the risk of cancer



# Sugar

Does sugar feed cancer?

Evidence:

- Sugar or glucose is converted into energy which is used to support cell processes including cell growth
- There is no strong evidence showing causation between sugar and cancer.
- Sugar is broken down from carbohydrates which also include fruits, vegetables, milk, and whole grains.



# Sugar

Verdict: Much research shows that sugar's relationship to increased insulin levels and related growth factors may influence cancer cell production. This may encourage to avoid eating all carbohydrates

- **Quality/complex carbohydrates vs. Refined sugars**
  - Whole grains, fruits, vegetables
  - Limiting or avoiding soda, candy, chips
- **Spreading carbohydrate intake**
  - Having wholesome snacks (protein + carb) to control appetite
- **Be more active**
  - Moderate intensity for 150-300minutes per week
- **Maintaining healthy weight**