Chordoma and Nutrition: Living Healthy After Diagnosis

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You are unique!
AGENDA

- Nutrition Hot Topics in Cancer
  - Organic vs. Conventional
  - Sugar and cancer: Is there a connection?
  - Soy and Flax
  - Alternative and Complementary Medicine
  - Should you take antioxidant supplements?

- Balanced Diet During & After Treatment
  - American Cancer Society Guidelines
  - Body Weight
  - The Power of Protein
  - Know Your Fats
  - Phytochemicals & Antioxidants

- Nutritional Management of Treatment/Cancer-Related Side Effects
  - Nausea
  - Diarrhea
  - Constipation
  - Taste changes
  - Mouth/throat Pain
  - Fatigue
Hot Topics

Are organic foods better?

Recommendations:

- **Go organic, if possible:**
  “Dirty dozen” - Apples, Cherries, Grapes, Nectarines, Peaches, Pears, Raspberries, Strawberries, Bell Pepper, Celery, Potato, Spinach/Kale/Lettuce, Carrot

- **Conventional is OK:**
  Bananas, Kiwi, Mango, Papaya, Pineapple, Asparagus, Avocado, Broccoli, Cauliflower, Corn, Onions, Peas
Hot Topics

Does sugar feed cancer?

Recommendations:

- Reduce intake of simple sugar by consuming more whole grains, fruits and vegetables, and beans.
- Pair carbohydrates with protein, fat, or fiber. Your dietitian can help.
Hot Topics

Should you avoid soy and flax?

Recommendations:

- Limit intake of whole soy foods (tofu, tempeh, miso, soy milk) to 25 g soy protein per day. With ER+ cancer, avoid highly processed soy foods (soy supplements, soy dogs, soy chips, soy fortified cereals).

- Limit flax intake to 1-2 Tbsp per day.
Hot Topics

Complementary and Alternative Medicine

- What is CAM?
  - “A group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine” (10).
Hot Topics

Complementary and Alternative Medicine

- What is included in CAM?
  - Natural Products (include dietary supplements) i.e. herbs, vitamins, minerals, probiotics
  - Mind and Body Medicine i.e. meditation, yoga, acupuncture, hypnosis
  - Manipulative Body Based Practices i.e. spinal manipulation, massage therapy
Dietary supplements:

“Under the Dietary Supplement Health and Education Act of 1994 (DSHEA), the dietary supplement or dietary ingredient manufacturer is responsible for ensuring that a dietary supplement or ingredient is safe before it is marketed “(11).
Complementary and Alternative Medicine

- **Bottom Line:**
  - Although most are not well regulated or researched, dietary supplements may help with medical ailments; however, with unknown doses, sources, processing, and inadequate research, they may also worsen ailments on interact negatively with treatments or disease states.
  
  - **Please speak with your doctor before starting any dietary supplements.**
Should you take antioxidant supplements?

May protect cancer

- Chemotherapy & radiation work by creating free radicals that kill rapidly dividing cancer cells.
- Antioxidants scavenge free radicals, and therefore may interfere with therapy.

May fight cancer

- Cancer cells grow in an environment of oxidative stress. Antioxidants combat oxidative stress.
- Boost effects of cancer therapy.

Recommendation:

- Obtain nutrients through food, not supplements.
Balanced Diet During & After Diagnosis & Treatment

Let thy food be thy medicine and let thy medicine be thy food

-Hippocrates
American Institute of Cancer Research

Recommendations for Cancer Prevention

1. Be as lean as possible without becoming underweight.
2. Be physically active for at least 30 minutes every day.
3. Avoid sugary drinks. Limit consumption of energy-dense foods (particularly processed foods high in added sugar, or low in fiber, or high in fat).
4. Eat more of a variety of vegetables, fruits, whole grains and legumes such as beans.
5. Limit consumption of red meats (such as beef, pork and lamb) and avoid processed meats.
6. If consumed at all, limit alcoholic drinks to 2 for men and 1 for women a day.
7. Limit consumption of salty foods and foods processed with salt (sodium).
8. Don't use supplements to protect against cancer.
9. It is best for mothers to breastfeed exclusively for up to 6 months and then add other liquids and foods.
10. After treatment, cancer survivors should follow the recommendations for cancer prevention.
Body Weight & Cancer Survival

Underweight

- Weight loss has been shown to contribute to poorer response to chemotherapy, decreased quality of life, decreased ability to heal, and increased loss of muscle mass.

- Weight loss can result in malnutrition (2)
  - 50% of cancer patients develop malnutrition
  - Wasting accounts for 30% of all cancer deaths
Overweight / Obesity

- Excess weight may play a role in several cancers.
  - Weight gain is more common in breast and prostate cancers.

- Weight loss or Maintenance?

- Be sure to work with your Oncologist and Registered Dietitian
## Figure Your Body Mass Index

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http://www.freebmiicalculator.net

- Underweight
- Nomal
- Overweight
- Obesity
Body Weight & Cancer Survival

The Bottom Line

Aim for a Healthy Weight
The Power of Protein

- Estimated protein needs increase 30-60% during cancer.

- Choose lean sources of protein:
  - Skinless chicken and turkey
  - Fish
  - Beans
  - Low fat milk, yogurt
  - Soy
  - Lean beef

Bottom Line: Eat protein with every meal or snack
Fats: Make them Work for You

● Benefits of fat:
  ➢ Helps with weight maintenance.
  ➢ Certain types are anti-inflammatory.
  ➢ Helps with absorption of fat soluble vitamins i.e. Vitamins A, D, E, & K
  ➢ Improves flavor and texture of food
Know Your Fats

Saturated fat:

- High intake of animal fat (red meat & high fat dairy) related to breast cancer risk (7)
- Men consuming the most saturated fat have 3x the risk of death from prostate cancer (8).

Where is it?

- Solid at room temperature

- Animal Fats such as cheese, red meat and whole milk, Solid Shortenings, Butter Fat Containing Products
- Tropical Oils such as Palm Oil, Coconut Oil, Cocoa Butter
Know Your Fats

Omega-3 Fats:

- May be toxic to cancer cells and protect normal cells.
- Animal studies show decreased cancer risk and delayed tumor progression in many cancers.
- Eating fatty fish decreased risk of prostate cancer three fold (9)

Where is it?

- Fatty fish salmon, sardines
- Plant sources flaxseed, walnuts, soy
Phytochemicals – What are they?

• Bioactive substances found in plants

• May reduce cancer development and progression:
  ➢ Function as antioxidants
  ➢ Repair DNA damage
  ➢ Slow the growth of cancer cells
  ➢ Promote cancer cell death
  ➢ Enhance action of anti-cancer enzymes
  ➢ Anti-angiogenic and anti-metastasis

* Taxol and Diindolylmethane (DIM)
# Foods with Phytochemicals

## Vegetables
- Broccoli
- Brussel Sprouts
- Cabbage
- Carrots
- Cauliflower
- Celery
- Collard Greens
- Corn
- Kale
- Onions
- Peas
- Peppers
- Romaine lettuce
- Spinach
- Tomatoes
- Watercress
- Shitake & maitake mushrooms

## Fruits
- Apples
- Blackberries
- Cantaloupe
- Cherries
- Currants
- Grapefruit
- Kiwi Fruit
- Limes
- Mangos
- Oranges
- Papaya
- Pears
- Plums
- Strawberries
- Watermelon
- Red Grapes

## Others
- Whole Grains
  - Flaxseed
  - Walnuts
- Cilantro
- Garlic
- Ginger
- Parsley
- Tumeric
- Tea Leaves
- Soy
Antioxidants – what are they?

- Antioxidants work by slowing or preventing damage from oxygen.
- This damage is caused by substances called free radicals.
- Such damage can lead to problems like heart disease, diabetes, and cancer.
- Antioxidants may also improve immune function and perhaps lower your risk for infection and cancer.

*Think of an apple browning...*
Foods with Antioxidants

- Beta-carotene
- Lutein
- Lycopene
- Selenium
- Vitamin A
- Vitamin C
- Vitamin E
- Selenium
- Ellagic acid
Balanced Diet During & After Treatment

In summary,

- **Calories**
  - Maintain weight

- **Protein**
  - Maintain lean body mass
  - Healing

- **Choose Healthy Fats & Limit Saturated Fats**
  - Reduce inflammation and provide other anti-cancer benefits

- **Plant-based diet**
  - Increase intake of phytochemicals & antioxidants

*See your dietitian for individualized recommendations.*
Nutritional Management of Nausea

- Small, frequent meals
- Avoid foods with a strong odor
- Avoid foods that are overly sweet, fatty, fried, or spicy

A dietitian can help with these and more tips
Nutritional Management of Diarrhea

- Limit
  - Fried, sugary, and fatty foods
  - Fresh fruits and vegetables
  - Caffeine

- Try
  - Well cooked vegetables
  - White bread & rice
  - Lean proteins

*A dietitian can help with these and more tips*
Nutritional Management of Constipation

- Eat whole grain breads and cereals.
- Drink plenty of fluids.
- Increase activity as tolerated

A dietitian can help with these and more tips
Nutritional Management of Taste Changes

- If you have a bitter or metallic taste while eating, try using plastic and glass flatware
- Try flavoring foods with new tastes or spices
- Rinse your mouth with baking soda mouthwash before eating to help improve the tastes of foods.

A dietitian can help with these and more tips
Nutritional Management of Mouth or Throat Pain

- Avoid acidic foods: orange, lemon, tomato, chocolate, wine etc.
- Choose moist soft foods
- Add sauces to any meat, fish, or poultry
- Avoid drinking 30 minutes before eating to improve intake of adequate nutrition at meals
- Eat Small frequent meals.
Nutritional Management of Fatigue

- Eat small frequent meals or snacks
- Pair carbohydrates with protein for each balanced meal/snack
- Drink throughout the day: \(~8\) cups (1 cup=8 oz) per day
- Avoid excess caffeine intake
Questions?
References


