

Nutritional Issues in the Cancer Patient

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 Practical Nutrition Workshop for NPs Workshop
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Outline

- What kinds of patients will you encounter?
- Impact of nutrition and weight loss in adult cancer patients
- Screening and assessment of nutritional status
- Symptom management
- Nutritional requirements
- Alternative vs integrative nutrition

Effectively Balancing Goals In Oncology

Identifying patients who are at risk for malnutrition Symptom Management for QOL/independence

- Strategies to maintain nutrition during treatment and in survivorship

Integration of Alternative and Conventional therapies

- Optimize recovery, limit recurrence
- Evidence-based Integrative therapies that may provide benefit
- Handling Myths/alternative practices
 - Does Sugar Feed the Tumor; Ketogenic diets
 - Overstated themes: Immune support, detoxification

Valid themes: Weight management, exercise, plant-based diets in prevention and survivorship

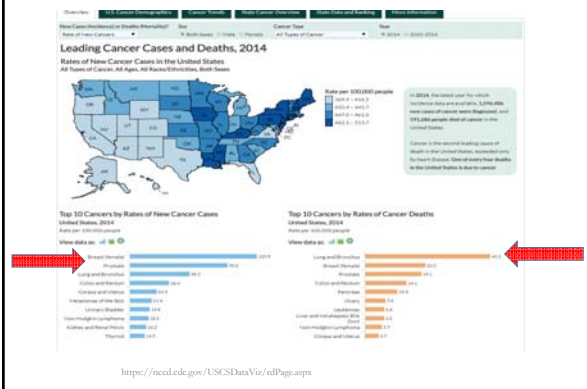
THE PATIENTS KNOW MORE ABOUT THEIR DISEASES THAN ME. I MUST GET FASTER MODERN, HIGHER SPEED INTERNET ACCESS THAN THEM



Who are your patients?

- Cancer patients undergoing treatment
 - What kind of symptoms and issues will they have?
- Cancer survivors
 - What kind of follow up will they need and what kind of issues will they have?
- Healthy adults who are at risk for cancer
 - What kind of questions and concerns will they have?

Cancer cases





Cancers most associated with malnutrition

- US Cancer Statistics Working Group: 85% of gastric cancer, 83% of pancreatic cancer, and 61% of nonsmall cell lung cancer patients exhibit significant weight loss ($\geq 5\%$), loss of muscle mass, and develop cachexia, with or without the presence of anorexia.
- Head and neck, lung and gastrointestinal cancer patients are most commonly identified as malnourished. Comparison of the prevalence of malnutrition diagnosis in head and neck, gastrointestinal and lung cancer patients by three classification methods, Platek ME et al, *Clin Nurs*, 2011 Sept-Oct (34-5), 410-416.

Impact of Malnutrition

- **30-85% of cancer patients are malnourished***
 - Older adults may be at even higher risk
 - Approximately 60 percent of new cancer cases and 70 percent of mortality from cancer occur in patients ≥ 65 years of age (UpToDate, accessed 11/15/16)
- Impairs physical & cognitive function

*<https://www.cancer.gov/about-cancer/treatment/side-effects/appetite-loss/nutrition-hp-pdq>

Impact of Malnutrition

- Increases risk of infection
- Impairs immunity
- Affects wound healing
- Impacts drug metabolism
- Bone marrow replenishment is retarded
- *What do we know is that unplanned weight loss of 5% affects prognosis*
- *In hospitalized patients, malnutrition is associated with increased length of stay*

Significant Weight Loss

- Weight loss as surrogate for malnutrition, correlated with adverse outcomes: severity of treatment side effects & increased risk for infection – may impact survival
- Associated with poor prognosis - cancer cachexia
- Moderate malnutrition (non-severe) based on unintentional weight loss %
 - 1-2% x 1 week / 5% x 1mo / 7.5% x 3 mo / 10% x 6 mo / 20% x 1 year
- Severe malnutrition based on weight loss %
 - >2% x 1 week / >5% x 1 mo / > 7.5% x 3 mo / >10% x 6 mo / >20% x 1 year

<https://www.cancer.gov/about-cancer/treatment/side-effects/appetite-loss/nutrition-hp-pdq>

Screening Tools

- Screening forms: Hospitals required by TJC to have some sort of screening in all admitted patients
 - Weight
 - Symptoms
 - Diet
- ***There is no requirement for screening for nutrition in the out-patient oncology setting***

Screening Tools

- PG SGA – Patient Generated Subjective Global Assessment
 - <http://pt-global.org/wp-content/uploads/2014/09/PG-SGA-Sep-2014-teaching-document-140914.pdf>
- MST (Malnutrition Screening Tool)® - easy to use, validated for use in oncology patients
 - <https://www.andeal.org/template.cfm?key=4185>
- Mini Nutritional Assessment (MNA) MNA® validated nutrition screening and assessment tool that can identify geriatric patients age 65 and > who are malnourished or at risk of malnutrition. Developed nearly 20 years ago and is the most well validated nutrition screening tool for the elderly.
 - http://www.mna-elderly.com/forms/mini/mna_mini_english.pdf
 - validated screening tool often used to assess nutritional status of elderly cancer patients
 - scored - max 14 points: 12-14 pt = normal nutritional risk, 8-11= at risk for malnutrition, 0-7 = indicates malnutrition

Scored Patient-Generated Subjective Global Assessment (PG-SGA)

History: Boxes 1-4 are designed to be completed by the patient. (Boxes 1-4 are referred to as the PG-SGA Short Form (SF).)

1. Weight (See Worksheet 1)

In summary of my current and recent weight:

I currently weigh about _____ pounds
I am about _____ feet _____ inches tall

One month ago I weighed about _____ pounds
Six months ago I weighed about _____ pounds

During the past two weeks my weight has:

decreased not changed increased

2. Food Intake: As compared to my normal intake, I would rate my food intake during the past month as:

unchanged more than usual less than usual

I am now taking:

normal food but less than normal amount little solid food only liquids only nutritional supplements very little or no food only tube feedings or only enteral feeds

3. Symptoms: I have had the following problems that have kept me from eating enough during the past two weeks (check all that apply):

no appetite, just did not feel like eating nausea constipation mouth sores things taste funny or have no taste problems swallowing pain, where? other

4. Activities and Functions: Over the past month, I would generally rate my activity as:

normal with no limitations not my normal self, but able to be up and about with fairly normal activities not feeding up to most things, but in bed or chair less than half the day able to do little activity and spend most of the day in bed or chair pretty much bed ridden, only out of bed

Additional Information:

At about what point in your illness or surgery did you start eating less than you normally eat?

Box 1 max score = 2 points, up to a total of 4 points for the past 2 wks.

Box 2 max score = 2 points, up to a total of 4 points for the past 2 wks.

Box 3 max score = 2 points, up to a total of 4 points for the past 2 wks.

Box 4 max score = 2 points, up to a total of 4 points for the past 2 wks.

Total Score of Boxes 1-4

Scored Patient-Generated Subjective Global Assessment (PG-SGA)

Worksheet 1 - Nutrition Weight (10 pts)

Worksheet 2 - Disease and its relation to nutritional requirements (10 pts)

Worksheet 3 - Metabolic Demand (10 pts)

Worksheet 4 - Physical Exam (10 pts)

Total PG-SGA score

Global PG-SGA Rating (A, B, or C)

Malnutrition Screening Tool® (MST)

1. Have you (the patient) lost weight recently without trying?

Yes, how much (kg)?

0 = 0
1 = 1
2 = 2
3 = 3
4 = 4

2. Have you (the patient) been eating poorly because of a decreased appetite?

Yes 1
No 0

Total Score

Score 2 or more

Action

- Refer to Malnutrition Action Flowchart and/or refer to Dietitian for full assessment and intervention.
- Document.
- Weight patients on admission and:
 - all weekly (acute)
 - monthly (long-term care)
- Re-screen patients:
 - all weekly (acute)
 - monthly (long-term care)

Small weekly weight losses add up to significant weight loss and malnutrition. Note: Overweight/obese residents who have underfilled weight loss and losses can become protein deficient/malnourished too.

Mini Nutritional Assessment

Complete the content by filling in the boxes with the appropriate numbers. Add the numbers for the total. 8 boxes x 17 = 136 points. Combined with the assessment to happen 1 question indicator forms.

1. Appetite

1 = Good appetite (not reduced over the past 3 months) due to loss of appetite, digestive problems, nausea or vomiting

2 = Moderate decrease in food intake

3 = Severe decrease in food intake

2. Weight loss during the last 3 months

1 = weight loss greater than 10% (10 lbs)

2 = weight loss between 5% and 10% (5 lbs)

3 = no weight loss

3. Mobility

1 = Able to walk (aid)

2 = Able to walk (no aid) but has not been out for 1 week

3 = Able to walk (no aid) but has not been out for 2 weeks

4. Recent Psychological Problems

1 = No psychological problems

2 = Psychological problems

3 = Severe psychological problems

5. Body Mass Index (BMI) or weight to height (cm) or waist to hip ratio (WHR)

1 = BMI > 20 or WHR < 0.95

2 = BMI 18.5-20 or WHR 0.95-0.99

3 = BMI < 18.5 or WHR > 0.99

6. Anorexia/psychological problems

1 = No anorexia/psychological problems

2 = Anorexia/psychological problems

3 = Severe anorexia/psychological problems

7. Self-perception of health

1 = Good self-perception of health

2 = Fair self-perception of health

3 = Poor self-perception of health

8. Geriatric Depression Scale (GDS)

1 = No depression with other people of the same age, has been depressed

2 = Mild depression

3 = Severe depression

9. Confusion

1 = No confusion

2 = Mild confusion

3 = Severe confusion

10. Cut-off score (GDS) to use

1 = 10 or greater

2 = 11-13

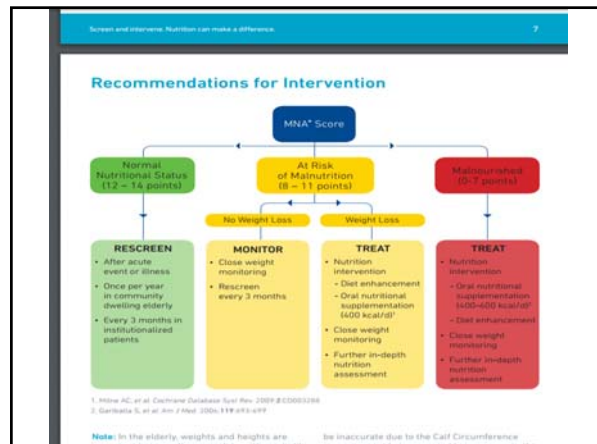
3 = 14 or greater

11. Malnutrition Indicator Score

1 = 14-16 points

2 = 11-13 points

3 = 0-10 points



Assessment – Clinical Parameters

- Weight
- Comparing UBW w/ CBW (can use IBW if UBW not known)
- Treatments
 - (Surgery, XRT, Chemotherapy)
- Comorbidities
- Functional status
- Medications/polypharmacy
- Use of vitamins, herbs, supplements
- Lab values
- Nutritional deficiencies
- Immunosuppressed
- Diet recall
- Sarcopenia – muscle loss related to aging, rate of muscle loss may increase in elderly cancer patients
- Poor dentition
- Dysphagia

Assessment - Psychosocial

- Availability/access of food/nutrition/lack of transportation to purchase foods
- Alternative/restrictive diets (e.g. “no sugar” or low sodium)
- Cultural issues r/t food
- Financial status
- Use of drugs, alcohol
- Depression, anxiety
- Social situation – isolation
- Altered mental status/dementia

Symptom Management



Symptoms

- Mucositis
- Xerostomia
- Taste alterations/aversions
- Anorexia
- Dysgeusia/ageusia
- Thrush (may be associated w/older age and malnutrition)
- Early satiety
- Altered GI motility
- Esophagitis
- Acid reflux
- Fatigue
- Nausea & vomiting
- Dyspnea
- Pain
- Depression/anxiety
- Diarrhea/constipation
- Poorly controlled blood glucose (hyper and hypo)

Cancer Cachexia

- Loss of appetite and wasting
- Causes: cytokines, increased catecholamine activity, hyper-metabolism, gluconeogenesis, alterations in fatty acid metabolism
- Contributing factors: adjuvant treatments, surgery, obstructions, hyper-metabolism
- Anorexia-cachexia syndrome
 - metabolic changes
 - changes in REE
 - weight loss
 - sarcopenia

Appetite Stimulants

- Progestational agents
 - Megace
- Cannabinoids
 - Marinol (less effective w/pancreatic cancer)
- Anabolic agents
 - Oxandrin
- Glucocorticoids
- Nontraditional
 - Antidepressants/ serotonin antagonist
 - Remeron
 - Antihistamine
 - Peractin
 - Melatonin
 - EPA
 - Thalidomide
 - Medical marijuana
 - Anamorelin, an oral ghrelin mimetic

<https://www.uptodate.com/contents/pharmacologic-management-of-cancer-anorexia-cachexia>

Calorie Requirements

- How to determine calorie needs
 - Equations: e.g. Harris-Benedict
 - Quick method:
 - Maintain: weight in kg x 25-35 = calorie range
 - Gain: add 500 calories/day to maintenance needs
 - Lose: decrease caloric intake by 300-500 calories/day for gradual, sustainable weight loss if current weight is in overweight or obese category



<http://www.bmi-calculator.net/bmr-calculator/>

Fluid Requirements

- 2/3 of the body is water
- Symptoms of dehydration: fatigue, dry mouth, light headed, headaches, irritability, constipation, nausea
- ~ 64 oz a day for most
- Calculation: Estimated calorie needs ÷ 240 = cups/day fluid

- Grape vs raisin



Survivorship

- American Institute for Cancer Research and American Cancer Society guidelines
- Routine monitoring for other diseases
 - Lipids, A1c, Vitamin D, bone density, pulmonary function, etc.
 - Reduce risk for second cancers: diet and lifestyle changes
 - Monitor and address late effects and chronic issues related to cancer: peripheral neuropathies, lymphedema, fatigue, deconditioning, swallowing issues (dysphagia), dental / oral health, weight gain (common in breast cancer patients who have been treated with chemo and/or are on hormone therapy), unintentional weight loss, new onset diabetes

American Institute of Cancer Research Nutrition Guidelines (these apply to older adults as well as younger people)

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 consuming 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**

http://www.aicr.org/site/PageServer?pagename=dc_home_guides



When I was diagnosed I googled my symptoms...

Alternative Practices

Concerns:

- Interactions w/chemotherapy, radiation and medications e.g. antioxidants
- Lack of purity and standardization: contamination, variable amounts of compounds e.g. Chinese herbals
- Restrictive and alternative diets e.g. Gerson, Budwig, Macrobiotics, Ketogenic, no sugar/white flour diets, etc...
- Questionable practices: coffee enemas, oxygen therapy, chelation therapy, etc...
- **Don't believe everything you read on the internet**

Plant-based diets – not just a fad



"I started my vegetarianism for health reasons, then it became a moral choice, and now it's just to annoy people."

<https://wcrf.org/int/research-we-fund/continuous-update-project-findings-reports/continuous-update-project-cup-matrix>

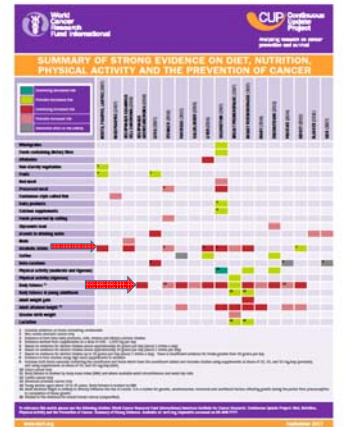
The strongest risk factors for most cancers are body fatness and alcoholic drinks

The most convincing factors for decreasing risk for a variety of cancers include foods containing dietary fiber, whole grains, non-starchy vegetables. Physical activity (moderate and vigorous) may be protective.

Consumption of processed meats and red meat are associated with increased risk for colorectal and stomach cancers but not other cancers

The take away message: prevent excessive weight gain during young adulthood and maintain a healthy body weight throughout the continuum of adulthood. Limit or avoid alcoholic beverage intake.

Eat lots of fruits, vegetables and whole grains which will provide dietary fiber. Be active.



Evidence-based integrative approaches

- Plant-based diets, does not have to be vegan or vegetarian
- Use of acupuncture, Reiki, aromatherapy when provided by a reliable and trained practitioner*
- Botanical/herbal/dietary supplements when provided by a reliable and trained MD who collaborates with the oncology clinicians
- Traditional Chinese Medicine (TCM) and Ayurvedic Medicine – potential interactions and toxicities

<https://nccih.nih.gov/health/chinesemed>

<https://nccih.nih.gov/health/ayurveda/introduction.htm>

*<https://integrativeonc.org/>

What can working with an oncology RDN do for your patients?

- Address cultural issues, access to food, restrictive diets
- Nutrition support (tube feedings and IV nutrition)
- Provide reliable information regarding alternative nutrition therapies
- Wellness nutrition and cancer protective diets
- Provide medical nutrition therapy appropriate for cancer patients
- Nutrition expert and resource for evidence-based nutrition information
- To find a registered dietitian-nutritionist and consumer information: <http://www.eatright.org/> look for RDNS who have the Certification of Oncology Specialist (CSO)

Working collaboratively to provide comprehensive cancer care

Common responsibilities

- Providing education and support to the patient and family
- Identifying special needs (access to food, need for oral nutrition supplements, feeding issues, etc.)
- Developing patient care plans that are appropriate all along the continuum of care
 - Coordinating with multidisciplinary care team
 - Nutrition suggestions and recommendations to help manage nutrition impact symptoms
- Serving as resource for survivorship and end-of-life nutrition
- Providing evidence-based nutrition recommendations and dispelling nutrition "myths"
 - Helping improve quality of life

Thank you!

