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Nutrition Matters: Enhancing Cancer Treatment Outcomes

Renee Stubbins PhD, RD, LD, CSO
Clinical Oncology Dietitian Educator at Houston Methodist Neal Cancer Center
Assistant Professor of Nutritional Sciences in Medicine, Institute for Academic Medicine, Houston Methodist Hospital
Faculty Fellow, Center for Health & Nature, Houston Methodist Research Institute

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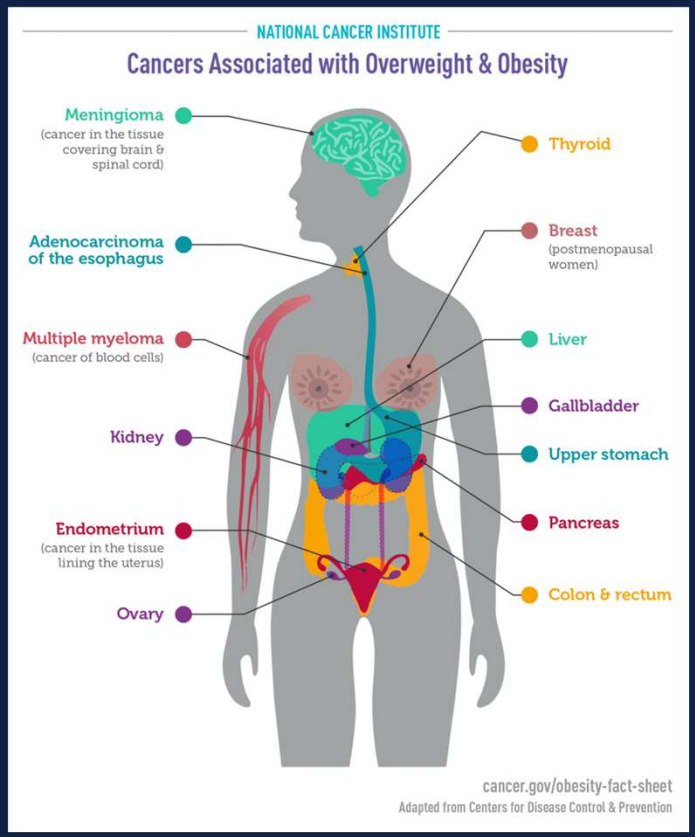
Disclosures

- I have nothing to disclose

The American Lifestyle and Cancer

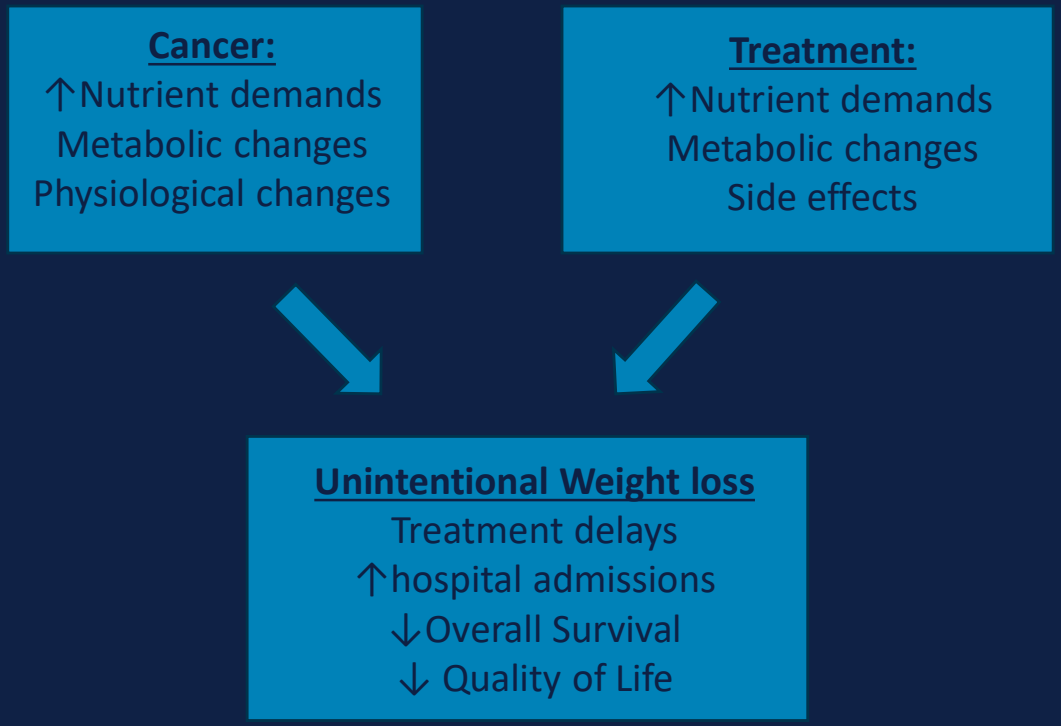
- 2 in 5 U.S. adults have obesity (BMI >30).
- Many adults with obesity have other serious chronic diseases, including diabetes, heart disease and CANCER!
- 18% of all cancers diagnosed in the US are related to body fatness, physical inactivity, alcohol consumption, and/or poor nutrition, and thus could be prevented.[1]
  - Modifiable factors



Weight stability despite BMI status

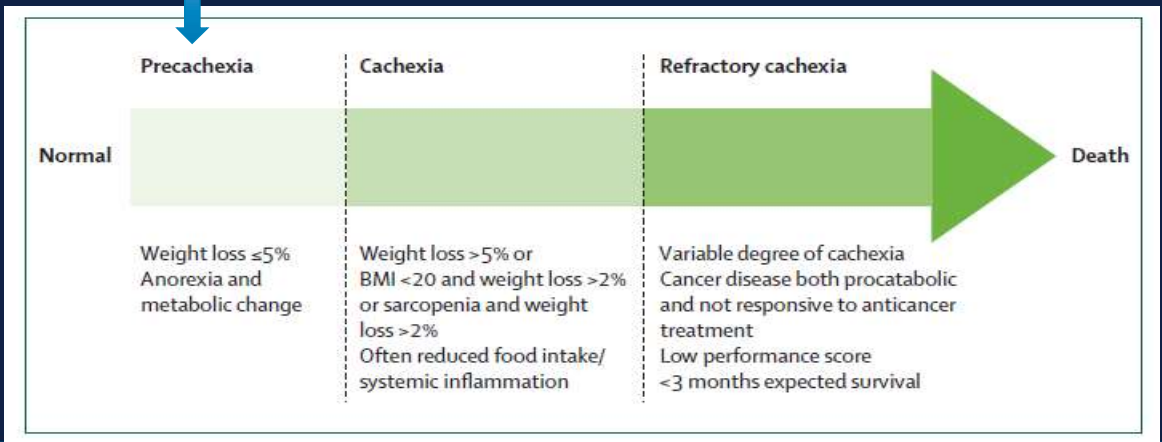
- Up to 80% of oncology patients present with weight loss at diagnosis.[2]

- Cancer treatment regimens can result in further weight loss.
  - Surgery
  - Chemotherapy/immunotherapy
  - Radiation



Malnutrition & Cancer Cachexia

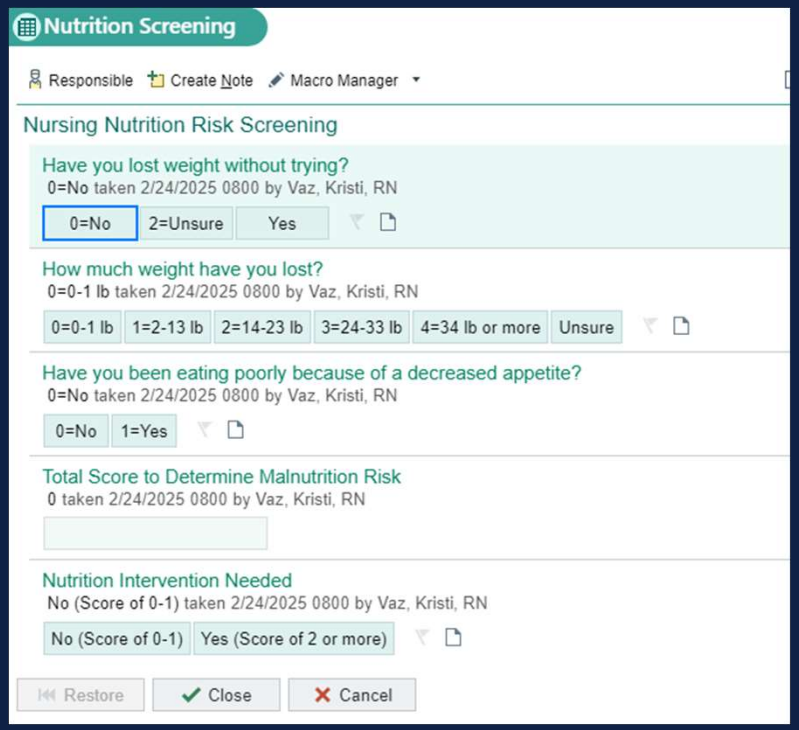
- Malnutrition incidence: 40-80%[3]
  - At diagnosis: 15–20%
  - up to 80–90% of patients with advanced-stage disease
- Cancer cachexia-an inflammatory driven complex disorder, includes skeletal muscle loss (with or without fat) and progressive functional impairment.[2]
  - 20% of cancer patient will die due to cancer cachexia.[4]

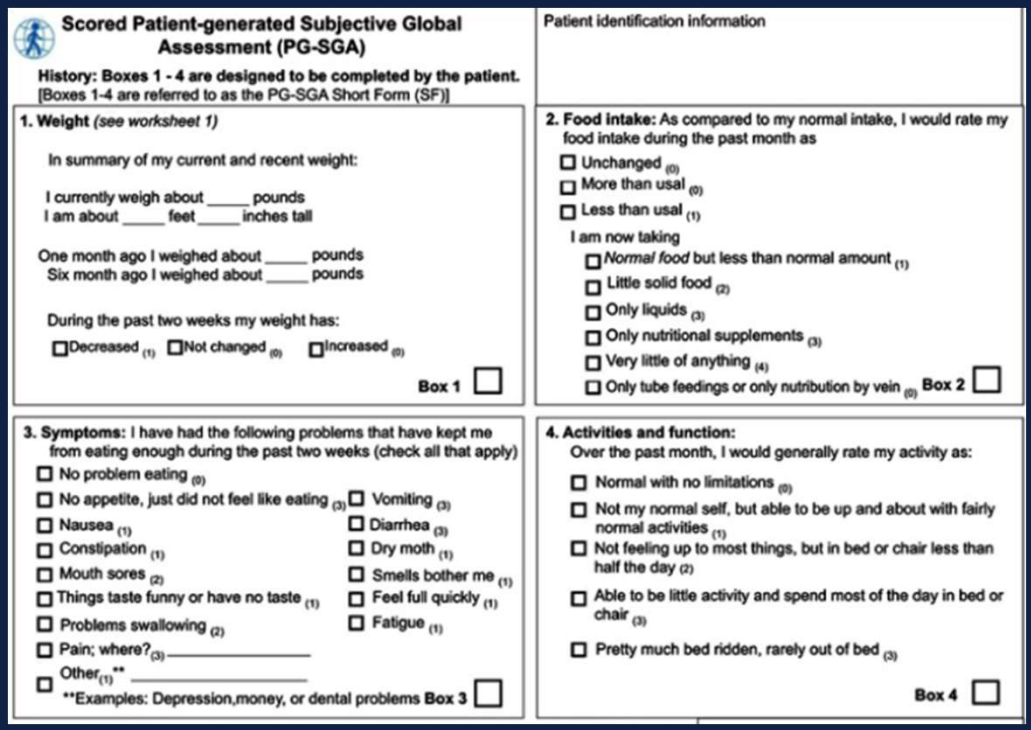


Screening for Malnutrition

- 90% of cancer treatments are in outpatient centers, but malnutrition screening is lacking![8]
  - Only 53% of cancer centers screen for malnutrition.
  - Only 35% use validated tools for malnutrition screening.
- Six screening tools are valid for malnutrition screening in oncology ambulatory settings.
  - **MST, PGSGA_SF**, MUST, Nutrition Risk Screening-2002, NUTRISCORE, and Mini Nutritional Assessment.[8]
  - Screening should occur before treatment and regularly during treatment depends on diagnosis

MST and PGSGA

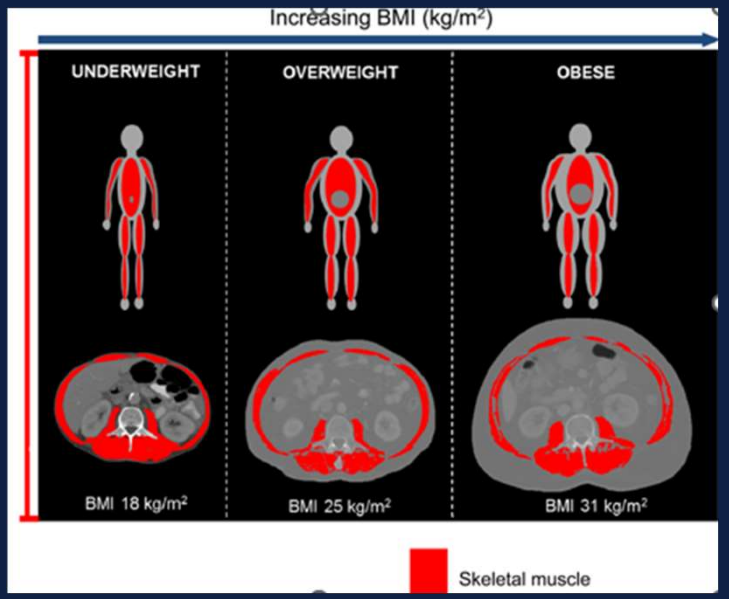




MST >2 or PGSGA-SF >7/8 then refer to Dietitian

Sarcopenia and Obesity

- Characterized by decreased muscle function, mass, and quality.
- Prevalence: 15-89%, depends on age and cancer type and stage.[6]
- Criteria:[7]
  - low hand-grip strength (HGS) + low skeletal muscle mass index (LSMI)
  - low HGS plus low skeletal muscle radiodensity (LSMD)
- Increases mortality and decreases quality of life.



Adapted from Prado et al.[5]

Screening for Sarcopenia

- SARC-F Questionnaire:
  - This is a simple and quick screening tool that assesses five components: strength, assistance with walking, rising from a chair, climbing stairs, and falls. Each component is scored from 0 to 2, with a total score of 4 or more indicating a need for further evaluation

Component	Question	Scoring (0-10 points)
Strength	How much difficulty do you have in lifting and carrying 10 pounds?	None=0 Score=1 A lot or unable=2
Assistance in walking	How much difficulty do you have walking across the room?	None=0 Score=1 A lot or uses aids, or unable=2
Rise from chair	How much difficulty do you have transferring from a chair or bed?	None=0 Score=1 A lot or unable without help =2
Climb stairs	How much difficulty do you have climbing a flight of 10 stairs?	None=0 Score=1 A lot or unable=2
Falls	How many times have you fallen in the last year?	None=0 1-3 falls = 1 4 or more falls = 2

Dietitian assessment

- Food and nutrition-related history
- Anthropometric measurements
- Biochemical data/medical tests and procedures
- Nutrition-focused physical findings
- Client history: personal, medical/health, family and social

Dietitian interventions

- Goals of care
  - Discuss with patient and caregivers
  - Weight stability
  - Side effect management
- Exceptions: Overweight/obese breast cancer patients
  - Supporting intentional 1-2lb weight loss per week is considered safe with active monitoring by dietitian and approved by oncologist.[9]

The benefits of a dietitian during cancer treatment[10]

- **Reduced Treatment Toxicities**
  - Proper nutrition can reduce the severity of treatment-related toxicities
- **Shorter Hospital Stays**
  - Fewer complications
- **Better Surgical Outcomes**
  - Improvement in recovery times and outcomes after surgery
- **Lower Mortality Rates**
  - Addressing malnutrition early can decrease mortality rates
- **Improved Physical Functioning**
  - Helps maintain muscle mass and strength and helps patients stay active and independent

Barriers to Oncology Nutrition Care

- Standard 4.7: Oncology Nutrition Services[11]
  - Oncology nutrition services are provided, on-site or by referral, by Registered Dietitian Nutritionists (RDN) with knowledge and skills to address nutrition and hydration requirements and recommendations throughout the continuum of cancer care, including prevention, diagnosis, treatment, survivorship, and palliative care.

- Barriers:
  - **Limited RDN services (1 RDN: 2308 patients with cancer)[12]**
  - **Lack of screening tools and implementation consensus**
  - Non-standardized patient referral protocols
  - Limited staff support and competing staff time constraints
  - **Reimbursement for nutrition services.**
    - **Many centers do not bill for nutrition services**
    - **The Centers for Medicare and Medicaid Services do not reimburse nutrition services for oncology patients.**

Costs of Malnutrition vs. Costs of a Dietitian

- Malnutrition is expensive[13]
  - reduced tolerance and efficacy of treatment
  - increased risk for clinical and surgical complications
  - reduced quality of life
  - lower survival rates
  - longer hospital stays
  - increase in health care costs
  - Total costs: $$$$
- Dietitian staffing can be a cost-effective intervention.
  - A low risk intervention with significant cost-saving effects

Final thoughts and next steps

Nutrition can be a powerful tool to educate our patients and other healthcare professionals to help reduced cancer incidence, morbidity mortality.

Goals:

- **Improve access to a dietitian.**
- **Early and frequent malnutrition screening.**
- **Advocating with policy makers for Medicare reimbursement for MNT for oncology nutrition.**
- **Collaborating with professional oncology organizations to identify research gaps in oncology nutrition.**

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Thank you!

Restubbins@houstonmethodist.org

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