

# Cancer Anorexia Cachexia Syndrome (CACS)

Amanda Werner, RN, BSN  
Supportive Care and Vitality Clinics  
Moffitt Cancer Center



# Objectives

- Define CACS
- Identify contributing factors in CACS
- Describe the effects of CACS on patient outcomes



**58 year old**

**Male**

**Lung Cancer**

**No appetite**

**Significant weight loss:**

*muscle and fat*

**Decreased physical ability  
and function**

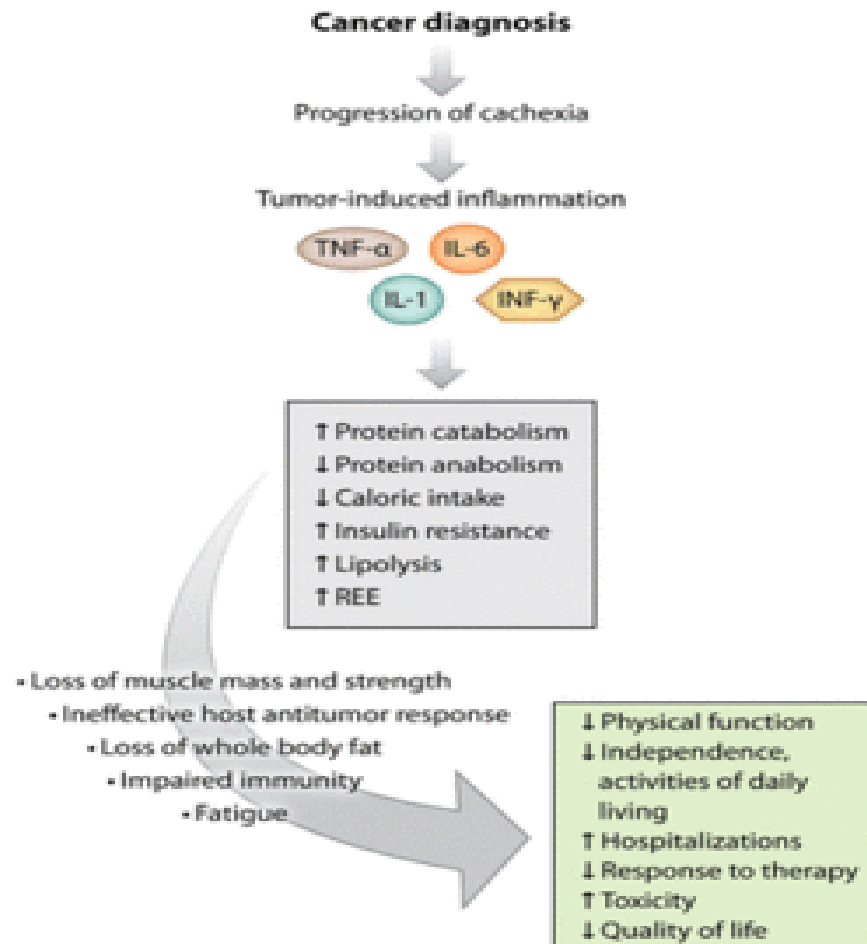
**Family forcing food**

**Patient socially withdrawn**

# Cancer Anorexia Cachexia Syndrome (CACCS)

- Multifactorial syndrome
- Negative protein and energy balance
- Ongoing loss of skeletal muscle mass (with/without loss of fat mass)
- Leads to progressive functional impairment

# Underlying Mechanisms



Dodson S, et al. 2011.

Annu. Rev. Med. 62:265–79

# Definition and Classification of Cancer Cachexia

## *An International Consensus*

Normal



Death

### Pre-cachexia

Weight loss  $\leq 5\%$   
Anorexia and metabolic change

### Cachexia

Weight loss  $> 5\%$  or BMI  $< 20 \text{ kg/m}^2$  and weight loss  $> 2\%$  or sarcopenia and weight loss  $> 2\%$   
Often reduced food intake/systemic inflammation

### Refractory cachexia

Variable degree of cachexia  
Cancer disease both procatabolic and not responsive to anticancer treatment  
Low performance score  
 $< 3$ -month expected survival

# Symptoms of CACS

- Poor appetite
- Involuntary weight loss
- Increased fatigue
- Loss of physical strength

# Cachexia is NOT...

- Starvation
- Fully reversed by conventional nutritional support or artificial nutrition
- Intentional

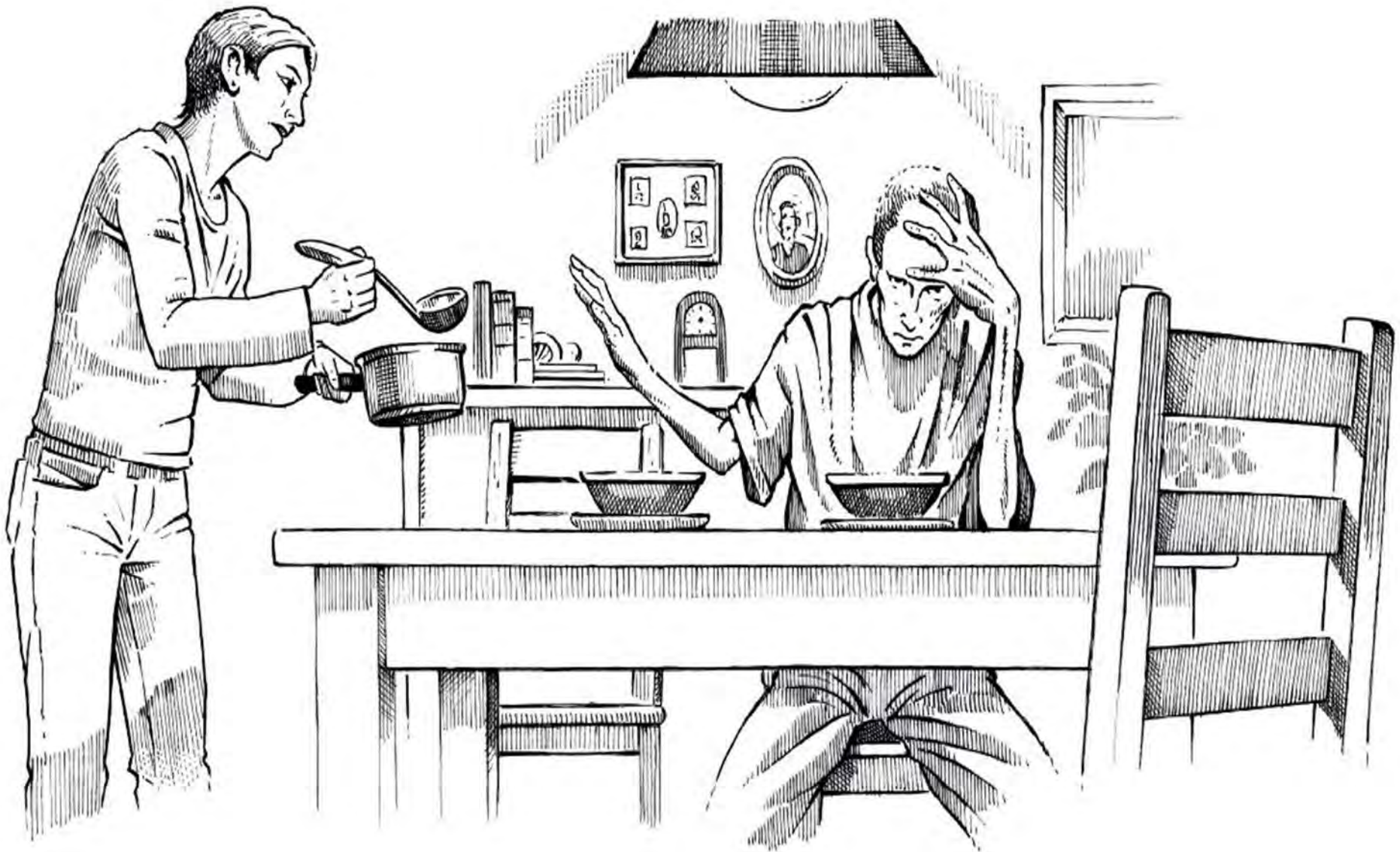




# Negative Outcomes

- Treatment
  - Poor tolerance to treatment options
  - Not eligible for treatment due to performance status
- Physical
  - Decreased function and ability to complete ADLs
- Psychosocial
  - Decreased quality of life
  - Altered body image
  - Source of patient/family emotional distress and conflict




# PATIENTS & CAREGIVERS NEED SUPPORT TO COPE WITH THE DISTRESS OF CACHEXIA



# Prevalence

- Varies by tumor type
- Under recognized
  - 1/2 of cancer patients have cachexia
  - Approx. 30% die from cachexia
- Under treated
  - Condition could be present in an obese patient

# CACS Nutritional Impact

- Primary Cachexia  CACS direct impact on nutrition
- Secondary Cachexia  Impact of cancer & treatment
- Tertiary Cachexia  Psychosocial impact

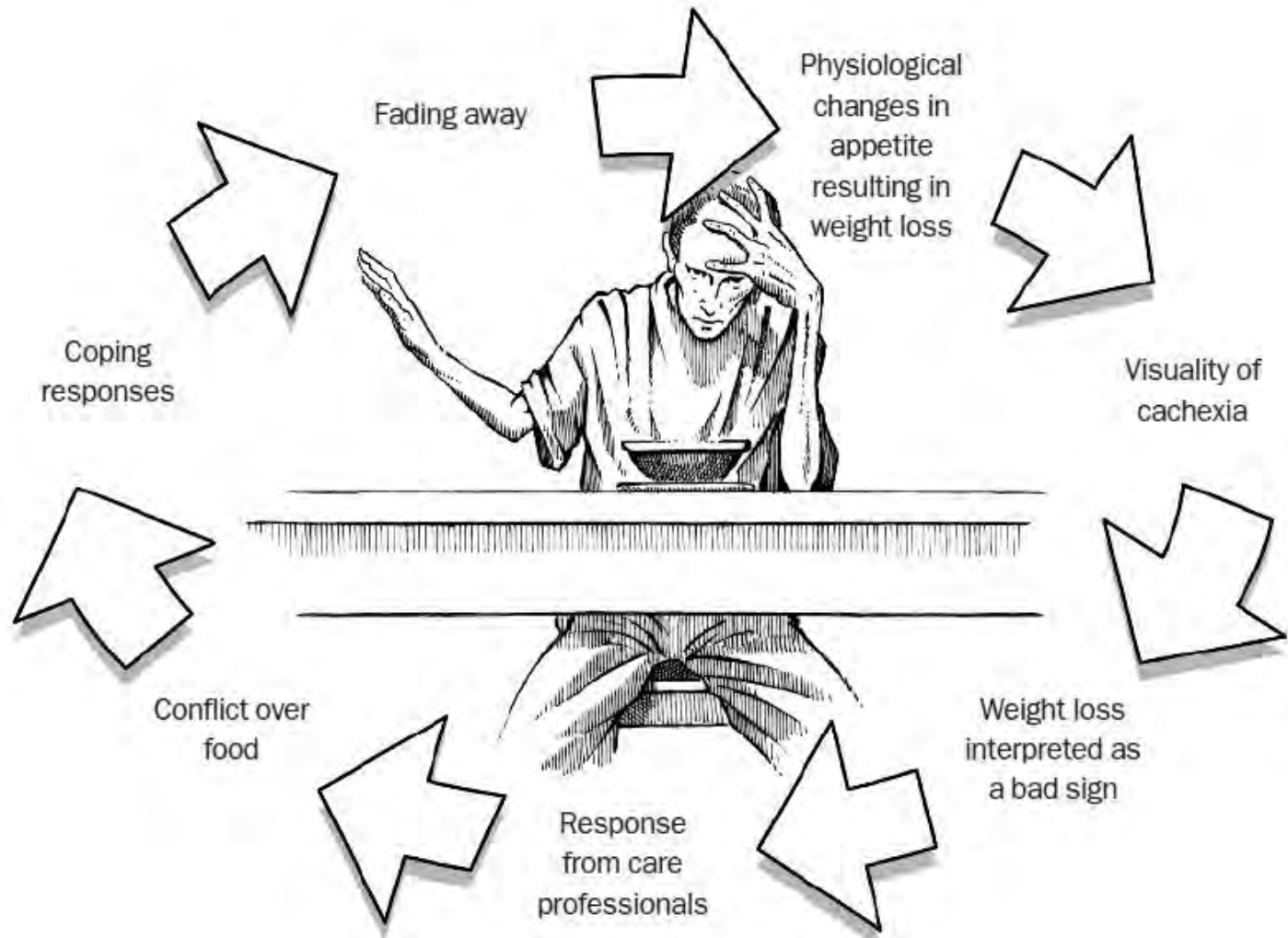
# Obstacles Leading to Malnutrition

- Primary Cachexia
  - Metabolic obstacles
    - Inflammatory cytokines decrease drive to eat (anorexia) while slowing GI motility (feels full quickly)
- Secondary Cachexia
  - Physical obstacles
- Tertiary Cachexia
  - Psychosocial obstacles

# Secondary Cachexia

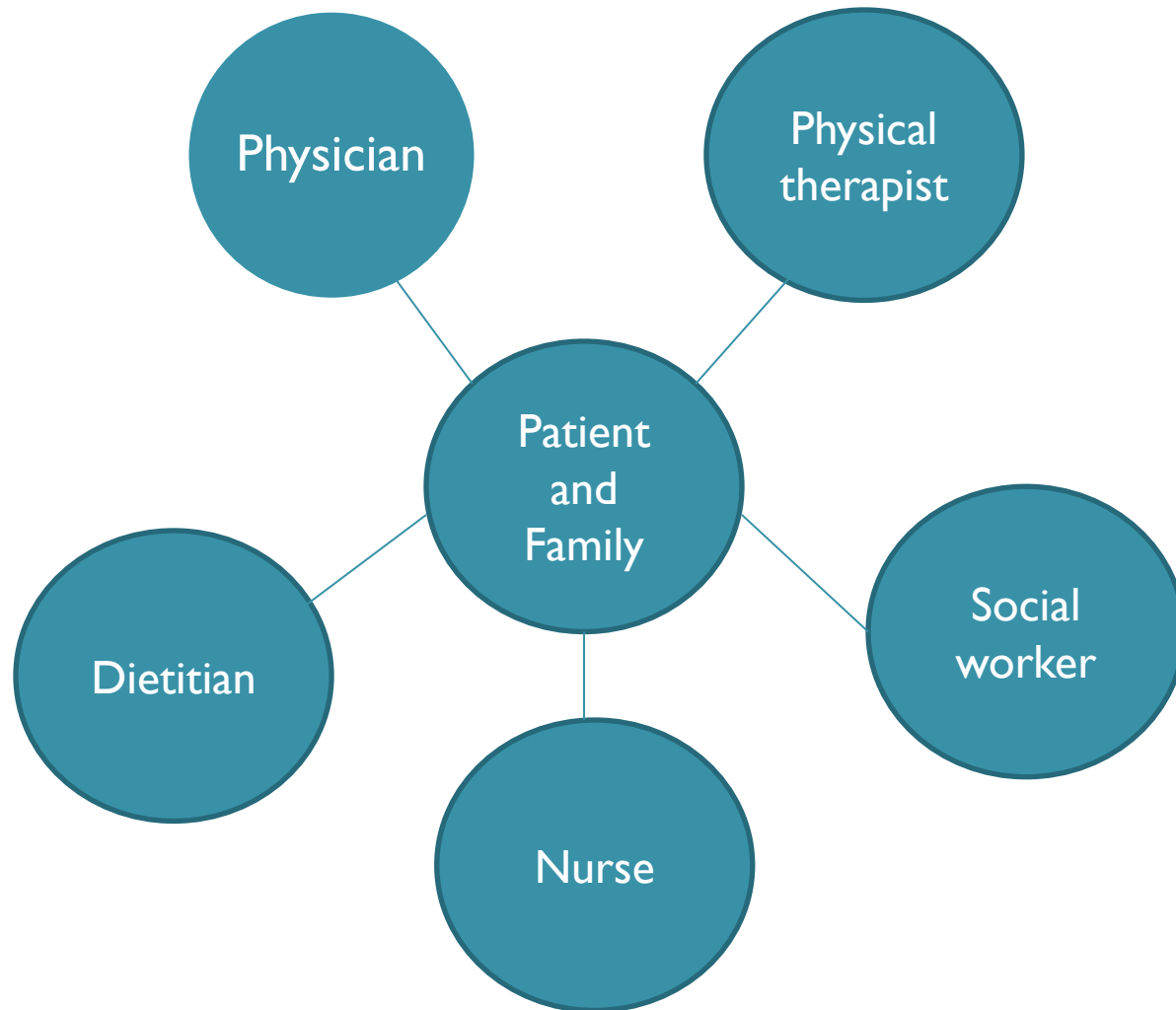
- Contributing factors that lead to malnutrition
  - Constipation, nausea, vomiting, diarrhea, pain, taste & smell alterations, depression or dysphagia
- Other causes may decrease appetite/lean body mass
  - Abnormal TSH, serum vitamin B12, testosterone, and cortisol

# Tertiary Cachexia: Psychological impact





# Multidisciplinary Approach





# Moffitt Approach

- **V**igor-promoting rehabilitation
- **I**nformation & guidance for patients & caregivers
- **T**reatment of symptoms that interfere with eating
- **A**ppetite enhancement strategies
- **L**everaging of energy conservation techniques
- **I**nterventions to support best nutrition
- **T**esting to optimize care
- **Y**our individualized vitality plan



# How Can Nurses Help?

- Early identification
- Education
- Appropriate referrals



# Questions?

[Amanda.Werner@Moffitt.org](mailto:Amanda.Werner@Moffitt.org)

# References

- Bruggeman, A. R., Kamal, A. H., LeBlanc, T. W., Ma, J. D., Baracos, V. E., & Roeland, E. J. (2016). Cancer Cachexia: Beyond Weight Loss. *Journal of Oncology Practice*, 12(11), 1163-1171. <http://dx.doi.org/10.1200/JOP.2016.016832>
- Cancer Cachexia Hub. (n.d). About Cancer Cachexia. Retrieved on September 27, 2017 from: <http://www.cancercachexia.com/about-cancer-cachexia-hcp>
- Cancer Cachexia Hub. (n.d). Impact. Retrieved on September 27, 2017 from: <http://www.cancercachexia.com/impact-hcp>
- Dodson, S., Baracos, V. E., Jatoi, A., Evans, W. J., Cella, D., Dalton, J. T., & Steiner, M. S. (2011). Muscle Wasting in Cancer Cachexia: Clinical Implications, Diagnosis, and Emerging Treatment Strategies. *Annual Review Of Medicine*, 265.
- Fearon, K., Strasser, F., Anker, S. D., Bosaeus, I., Bruera, E., Fainsinger, R. L., & Baracos, V. E. (2011). Review: Definition and classification of cancer cachexia: an international consensus. *Lancet Oncology*, 12, 489-495. doi:10.1016/S1470-2045(10)70218-7
- Hopkinson, J. (n.d). Psychosocial impact of cancer cachexia. *Journal Of Cachexia Sarcopenia And Muscle*, 5(2), 89-94.

# References

Hopkinson, J. B., Wright, D. M., & Foster, C. (2008). Management of weight loss and anorexia. *Annals Of Oncology: Official Journal Of The European Society For Medical Oncology*, 19 Suppl 7vii289-vii293. doi:10.1093/annonc/mdn452.

Mondello, P., Mian, M., Aloisi, C., Famà, F., Mondello, S., & Pitini, V. (2015). Cancer Cachexia Syndrome: Pathogenesis, Diagnosis, and New Therapeutic Options. *Nutrition & Cancer*, 67(1), 12-26. doi:10.1080/01635581.2015.976318

Oberholzer, R., Hopkinson, J. B., Baumann, K., Omlin, A., Kaasa, S., Fearon, K. C., & Strasser, F. (2013). Psychosocial effects of cancer cachexia: a systematic literature search and qualitative analysis. *Journal of pain and symptom management*, 46(1), 77-95.

Portman, D. G., Thirlwell, S., Donovan, K. A., Alvero, C., Gray, J. E., Holloway, R., & Ellington, L. (2016). Leveraging a Team Mental Model to Develop a Cancer Anorexia-Cachexia Syndrome Team. *Journal Of Oncology Practice*, 12(11), 1046-1052.

Walz, D. (2010). Cancer-related anorexia-cachexia syndrome. *Clinical Journal of Oncology Nursing*, 14(3), 283-287.

<http://dx.doi.org/10.1188/10.CJON.283-287>