Learning Objectives

- Cite the new Academy/A.S.P.E.N. malnutrition guidelines and the rationale for development
- Describe one Medical Center's process for identification of "at risk" patients and documentation capture of nutritional status
- Develop a process for a team approach to insure new malnutrition requirements are documented
Collaboration

• Academy Malnutrition Workgroup
  − Maree Ferguson, MBA, PhD, RD
  − Annalynn Skipper, MS, PhD, RD, FADA
  − Louise Merlino, MS, RD, CDN
  − Terese Scollard, MBA, RD, LD
  − Sherri Jones, MS, MBA, RD, LDN
  − Ainsley Malone, MS, RD, LD, CNSD
  − Jane White, PhD, RD, FADA, LDN, Chair
  − Staff: Pam Michael, MBA, RD

• ASPEN Malnutrition Task Force
  − Gordon L. Jensen, MD, PhD, Co-Chair
  − Ainsley Malone, MS, RD, CNSD, Co-Chair
  − Rose Ann Dimaria-Gaillini, PhD, RN, CNSN
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  − Jennifer Wooley, MS, RD, CNSD
  − Jay Merkle, RPh, BCNSP, Board Liaison
  − Staff: Peggi Guenter, PhD, CNSN

Rationale for Development of Academy/A.S.P.E.N Characteristics to Identify Malnutrition

No standardization
  − Multiple definitions
  − Multiple diagnostic (ICD-9) codes
  − Multiple characteristics used to diagnose
  − Limited evidence base

Emerging role of inflammation
  − Influence on assessment parameters
  − Influence on response to nutrition intervention
  − Anti-inflammatory interventions
  − Nutrition interventions outcomes divergence

NCHS/CMS Concerns

• The National Center for Vital and Health Statistics (NCHS) received multiple requests to clarify the malnutrition diagnosis codes and define their appropriate use
• Each hospital determined its own criteria/characteristics using the ICD-9 codes/definitions as a base
  − A broad range of descriptors were being used across healthcare facilities
  − Prevalence and incidence of malnutrition varied widely among institutions – same locale/ZIP code
Academy/A.S.P.E.N. Member Inquiries

- Academy/A.S.P.E.N received numerous requests from RDs, physicians, nurses, and other professionals regarding:
  - How to diagnose malnutrition
  - How to document malnutrition
  - Correlation of current definitions with existing diagnostic coding terminology
  - Which characteristics to use
    • Why not serum proteins (albumin/prealbumin, etc.)?

Why Not Serum Albumin/Visceral Proteins?

- Inflammatory disease/illness/injury elicit a cytokine-mediated acute phase response
  - Alters hormone secretion and target organ function
  - Favors a catabolic state that results in metabolic alterations
    • Over the short run the acute phase metabolic response with resulting catabolism is likely an appropriate adaptive response
    • If the underlying stressor is severe, protracted, or repeated, then adverse outcomes will result

Academy’s Evidence Analysis: Albumin

- Does serum albumin correlate with weight loss in four models of prolonged protein-energy restriction: anorexia nervosa, non-malabsorptive gastric partitioning bariatric surgery, calorie-restricted diets, or starvation?
  - In the four models of prolonged protein-energy restriction, there was no correlation between serum albumin and weight loss
  - Grade II

Inflammation can blunt favorable responses to nutrition intervention

Nutrition alone is ineffective in preventing muscle loss in inflammation
Academy's Evidence Analysis: Prealbumin

- Does serum prealbumin correlate with weight loss in four models of prolonged protein-energy restriction: anorexia nervosa, non-malabsorptive gastric partitioning bariatric surgery, calorie-restricted diets, or starvation?
  - In the four models of prolonged protein-energy restriction, there was no correlation between serum prealbumin and weight loss
  - Grade III

Vision for the Identification of Malnutrition in All Settings

- Wouldn’t it be amazing to have standardized definitions/characteristics and to know the prevalence of adult malnutrition in...

Proposal by ADA/A.S.P.E.N.

- Define the characteristics of adult malnutrition syndromes in developed countries using an etiology-based approach that incorporates an appreciation of the continuum of inflammatory response
- Recognize the contributors to the development of malnutrition:
  - Semi-starvation
  - Inability to assimilate nutrients consumed
  - Systemic inflammatory response

Etiology-Based Malnutrition Definitions

<table>
<thead>
<tr>
<th>Nutritional Risk Identified</th>
<th>Inflammation present?</th>
<th>Starvation-Related Malnutrition</th>
<th>Chronic Disease-Related Malnutrition</th>
<th>Acute Disease or Injury-Related Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compromised intake or loss of body mass</td>
<td>No/Yes</td>
<td>Mild to moderate degree</td>
<td>Marked inflammatory response</td>
<td>Major infection, burn, trauma, closed head injury</td>
</tr>
</tbody>
</table>

Jensen G.L. JPEN 2009;33:710
Progress to Date

• The National Center for Vital and Health Statistics (NCHS) has received multiple requests to clarify the malnutrition diagnosis codes and use of the codes
  – Academy and A.S.P.E.N. submitted recommendations (September 2010 and March 2011 public hearings)
  – No change

• 2011 decision regarding proposed revisions
  – No change at this time to 262 (Severe malnutrition) and 263 (Other and unspecified protein-calorie malnutrition)
  – ICD-9/ICD-10 transition in 2014 – new codes possible at this time
  – Continue to try to identify language that allows development of proposed pre-coordinated codes
  – Language to qualify the use of kwashiorkor and marasmus provided
    • Pediatric populations
    • Poorly resourced countries, typically

Attributes of Characteristics to Identify Malnutrition

Definition:
• Basic parameters (hallmarks, few in number)
• Support diagnosis
• Characterize severity
• Change as nutritional status changes
• Evidence-based (when possible) or expert opinion
• Will change over time as evidence of validity accrues

Academy/A.S.P.E.N. Characteristics to Diagnose/Document Malnutrition

• Inadequate nutrient intake
  – Estimated % calories consumed/administered
• Unintended weight loss
  – Can occur at any BMI
• Physical exam
  – Loss of muscle
  – Loss of fat
  – Fluid accumulation
• Measure of physical function
  – Hand grip strength

Minimum of 2 needed for diagnosis
### Severe Malnutrition in Adults


<table>
<thead>
<tr>
<th>For example: ICD-9 Code 262*</th>
<th>Acute Illness/Injury</th>
<th>Chronic Illness</th>
<th>Social/Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Loss</td>
<td>&gt;7%/1 week</td>
<td>&gt;7.5%/3 months</td>
<td>&gt;7.5%/3 months</td>
</tr>
<tr>
<td></td>
<td>&gt;5%/1 month</td>
<td>&gt;7.5%/3 months</td>
<td>&gt;7%/1 year</td>
</tr>
<tr>
<td></td>
<td>&gt;5%/1 month</td>
<td>&gt;7.5%/3 months</td>
<td>&gt;20%/1 year</td>
</tr>
<tr>
<td>Energy Intake</td>
<td>&gt;5% for &lt; 5 days</td>
<td>&gt;7.5% for &gt; 1 month</td>
<td>&gt;5% for &gt; 1 month</td>
</tr>
<tr>
<td>Body Fat</td>
<td>Moderate Depletion</td>
<td>Severe Depletion</td>
<td>Severe Depletion</td>
</tr>
<tr>
<td>Muscle Mass</td>
<td>Moderate Depletion</td>
<td>Severe Depletion</td>
<td>Severe Depletion</td>
</tr>
<tr>
<td>Fluid Accumulation</td>
<td>Moderate → Severe</td>
<td>Severe</td>
<td>Severe</td>
</tr>
<tr>
<td>Grip Strength</td>
<td>Not Recommended in ICU</td>
<td>Reduced for Age/Gender</td>
<td>Reduced for Age/Gender</td>
</tr>
</tbody>
</table>


### Non-Severe Malnutrition in Adults


<table>
<thead>
<tr>
<th>For example: ICD-9 Code 263.8</th>
<th>Acute Illness/Injury</th>
<th>Chronic Illness</th>
<th>Social/Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Loss</td>
<td>1-2%/1 week</td>
<td>7.5%/3 months</td>
<td>10%/3 months</td>
</tr>
<tr>
<td></td>
<td>5%/1 month</td>
<td>7.5%/3 months</td>
<td>20%/1 year</td>
</tr>
<tr>
<td>Energy Intake</td>
<td>&lt; 7.5% for &gt; 7 days</td>
<td>&gt; 7.5% for &gt; 1 month</td>
<td>&gt; 7.5% for &gt; 3 months</td>
</tr>
<tr>
<td>Body Fat</td>
<td>Mild Depletion</td>
<td>Mild Depletion</td>
<td>Mild Depletion</td>
</tr>
<tr>
<td>Muscle Mass</td>
<td>Mild Depletion</td>
<td>Mild Depletion</td>
<td>Mild Depletion</td>
</tr>
<tr>
<td>Fluid Accumulation</td>
<td>Mild</td>
<td>Mild</td>
<td>Mild</td>
</tr>
<tr>
<td>Grip Strength</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>


### Resources

Practical Approach to the Implementation of the Academy/A.S.P.E.N. Malnutrition Consensus Recommendations

Challenge of New Definition

- Moved from simple laboratory value-based definition to one that is strictly clinical
  - UTMC previously using albumin levels
- How are you going to get your busy physicians to obtain and record all six parameters of the new definition?
  ☹ NOT GOING TO HAPPEN!!!
- How then are you going to get the diagnosis of malnutrition documented in the medical record when present?

Ahh, the Light Bulb!

- Don’t we have nutritionists at UTMC?
- Could I possibly get them to do this stuff instead of the physicians?
- Joint Commission (JC) guidelines recommend nutritional screening of all patients within 24 hours of hospital admission
  - JC further recommends full nutrition assessment if at-risk situation discovered
- Doesn’t this mean someone already has to be doing this at UTMC?

This Left Three Questions

Q#1 Could I get the UTMC nutritionists to do the history taking and physical exam that the physicians will probably not do?
Q#2 How does the person who performs the needed history taking and physical exam transfer that information to the treating provider?
Q#3 Will treating providers interpret the history and physical exam findings to make a diagnosis and then document that diagnosis?
Q#1 Will Nutrition Do It?

- How many patients do they see per day?
- How long does it take to perform the needed history taking and physical exam?
- Do they have time to do this on every patient or only the at-risk patients?
- Will they and/or their director buy into this idea or put up roadblocks?
- Is this a realistic request of nutritional services?
  – “Nutritionists don’t like to peek under the covers”
  ☛ Need nutritional services buy-in for this new program to start

Q#2 How to Transfer the Info?

- Providers do not want to be called/paged every time nutritionist thinks a patient is malnourished
- Nutritionists do not want to call providers and potentially get yelled at
- Providers do not check email during rounds
- Providers may not answer emails they feel are unimportant
- Must prove a diagnosis exists to auditors
  ☛ Need form to document & transfer nutritionists’ findings to the providers for their interpretation

Q#3 Will Docs Read/Use the Form?

- Doctors don’t like anybody telling them what their patients have or do not have
- Doctors frequently too egocentric to listen to the suggestions/recs of a “non-provider”
- Doctors don’t want to hear about another problem they must address with a given patient
- Doctors unlikely to participate with anything perceived as increasing their time constraints
  ☛ Need physician buy-in for this new program to be successful

The Strategy

- Met with clinical nutrition manager
  – Discussed new malnutrition definition
  – Discussed SOI/ROM impact if malnutrition no longer documented
  – Discussed nutritionists taking on challenge of doing history and PE for new definition
  – Discussed how a new form for documentation of those findings might be structured
  ☛ Very positive meeting
  – Only minimal hesitancy expressed due to time
The Form

- Translate new requirements into understandable & readable document
- Input obtained from all parties
- Repeatedly reviewed by Dr. White
- Multiple revisions & changes required

Getting Provider Buy-in

- Met with medical director of metabolic support services (MSS), which handles parenteral and enteral needs in our ICUs
  - Experienced & respected trauma surgeon
  - Never happy with previous albumin definition
- Very positive, with only two concerns after reviewing proposed process & form
  - Is the physical exam on ICU patient accurate?
  - How to get the history if intubated & sedated?
- Therefore, wanted disclaimer that MSS personnel could make diagnosis of malnutrition without form

Getting Provider Buy-in

- Made presentation at quarterly medical staff meeting and new intern orientation regarding new definition parameters & significance
  - Emphasized that lab values no longer considered appropriate markers
  - Emphasized no choice but to follow new clinical definition
    - Put forth by recognized experts in the field and the combined governing bodies of that field
    - Suspected auditors would quickly latch on to new definition in effort to increase denials

- Introduced new form with detailed demonstration regarding how it worked
  - Emphasized that this would not adversely impact physicians’ time constraints
  - Emphasized provider only had to total the number of findings in highest category & then write the corresponding diagnosis in chart
  - Metabolic support service director made similar presentation to surgery residents & colleagues
Results

- Compared ...
  - Number of times “malnutrition” documented from January 1, 2012, to July 22, 2012 (before introduction of new form)
  - Number of times “malnutrition” documented from July 23, 2012 (date of new form introduction) to December 31, 2012

<table>
<thead>
<tr>
<th>ICD Code</th>
<th>1/1/12–7/22/12</th>
<th>7/23/12–12/31/12</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>261</td>
<td>297</td>
<td>173</td>
<td>-41.8</td>
</tr>
<tr>
<td>262</td>
<td>51</td>
<td>41</td>
<td>-19.6</td>
</tr>
<tr>
<td>263.0</td>
<td>367</td>
<td>71</td>
<td>-80.7</td>
</tr>
<tr>
<td>263.1</td>
<td>69</td>
<td>24</td>
<td>-65.2</td>
</tr>
<tr>
<td>263.9</td>
<td>523</td>
<td>392</td>
<td>-25.0</td>
</tr>
<tr>
<td></td>
<td>1307</td>
<td>701</td>
<td>-46.4</td>
</tr>
</tbody>
</table>

Why the Difference?

- Previous UTMC malnutrition definition more easily obtainable than new definition
  - One lab value vs. comprehensive evaluation
- Prior to new def./form, all providers made Dx
  - Now only have 5.2 FTEs completing ~ 9 evals per FTE per day M-F only
- Reviewing only at-risk patients, not all patients
- Time needed for nutritional services to adapt their workday to new process & form
- Time needed for physicians to become familiar & comfortable with new process & form

Impact on Nutrition Services

- Decision made before rollout to only complete form on at-risk patients
  - Not enough man power to do on all patients
- Average time required to take the needed history, perform the physical exam, and complete the form ~ 45 minutes
- Did not reduce number of patients seen per day by nutrition services staff, but did increase the length of their average day by ~ 30 minutes
- Nobody “went postal” or quit!!!
CDI Lessons Learned

- Make sure you understand significance and ramifications of any new initiative/definition
- Make sure all involved/vested parties are included with development of any new initiative
  - Can't successfully implement in a vacuum
- Providers more likely to participate in any new CDI initiative if:
  - Evidence or guideline based
  - Time neutral
  - There is no other option

\* Be patient! \*

Final Analysis

- Overall, consider this fairly successful initiative
  - Initially thought malnutrition would no longer be diagnosed or coded at all
  - While overall incidence of malnutrition coding significantly decreased, this program represents a > 50% increase over not capturing the diagnosis at all
  - UTMC medical staff has adopted more accurate definition of malnutrition

Special Thanks!

- Brian J. Daley, MD, MBA, FACS, FCCP, CNSC
  - Director of Metabolic Support Services
- Jim Kennedy, MD, CCS, CDIP
  - Managing Director for FTI Healthcare
- Lisa Peterson, RHIT
  - Medical Records Manager
- Virginia Turner, MS, RD, LDN
  - Clinical Nutrition Director
- Jane White, PhD, RD, FADA, LDN
  - Professor Emeritus, UTMC

Double Special Thanks!

- UTMC Nutritional Services staff (the gracious people actually filling out the forms)
  - Mendy Cobb, RD, LDN
  - Amy Curran, MS, RD, LDN
  - Jayne Hillhouse, MS, RD, LDN, CNSC
  - Janet Hinkle, MS, RD, LDN, CDE
  - Linda Quimby, MS, RD, LDN
  - Janet Seiber, RD, LDN, CDE
Appendix 1: Definitions of “At Risk”

I) Nursing admission screen:
- Patient lost wt. w/in last 30 days w/out trying?
  No (0 points)  Unsure (1 point)  Yes (2 points)
- If “yes” or “unsure,” how much weight loss?
  2–13 lbs (1 point)  14–23 lbs (2 points)
  24–33 lbs (3 points)  > 33 lbs (4 points)
  Unsure (2 points)
- Patient eating poorly in past 30 days because of decreased appetite?
  No (0 points)  Yes (1 point)
* Score of 2 or greater = automatic nutrition consult

II) Any patient with BMI < 18.5

Appendix 2: ICD-9-CM Codes

- 260 – Kwashiorkor
- 261 – Nutritional marasmus
  - 260 & 261 preferably for pediatric cases only
  - However ... 261 still includes “Severe Malnutrition NOS”
- 262 – Other severe protein-calorie malnutrition
- 263.0 – Malnutrition of moderate degree
- 263.1 – Malnutrition of mild degree
- 263.2 – Arrested development following protein-calorie malnutrition
- 263.8 – Other protein-calorie malnutrition
- 263.9 – Unspecified protein-calorie malnutrition

Appendix 3: UTMC Nutritional Status Evaluation Form

Should be full 8.5 by 11 inch reproduction of the form from slide 32 in audience’s slide handouts

Appendix 4: Adult Severe & Non-Severe Malnutrition Tables

Should be 2 full 8.5 by 11 inch reproductions of the tables from slides 20 & 21 in audience’s slide handouts
Thank you. Questions?

In order to receive your continuing education certificate(s) for this program, you must complete the online evaluation. The link can be found in the continuing education section at the front of the workbook.