Trainer Demonstration

Malnutrition Management

Interdisciplinary team

• Quick identification of malnutrition
• Prioritizing a plan for malnutrition management
• Optimizing the patient experience
• Planning for the discharge
• Long-term results

CTCA Interdisciplinary team meeting, 8/10/18

NCP Step 2—Nutrition Diagnosis

• Documentation
  • Screening
    • When, by who, tool used, who is alerted
  • Assessment
    • When, by who, how identified, what is next
1. Insufficient energy intake
2. Weight loss parameters
3. Loss of muscle mass
4. Loss of subcutaneous fat
5. Localized or generalized fluid accumulation that may mask weight loss (in case no weight loss identified)
6. Diminished functional status as measured by hand grip strength

2 of these 6 have to be and the context for which the malnutrition is found must be identified for diagnosis.

*Not officially accepted by CMS and have not been validated

NCP Step 3—Nutrition Intervention

**Patient A**
- Poor oral intake for 2 wks
- Mouth sores identified
- Poor appetite reported
- 18 kg wt loss—undetermined time frame
- 16% of UBW

**Patient B**
- Poor oral intake for 2 wks
- Mouth sores identified
- Poor appetite reported
- Wt loss present but unable to report how much
- Muscle wasting present to mild degree
- Fat loss not present

Adult Malnutrition PES statement
Nutrition Diagnosis - Pediatric Malnutrition

- **Five key domains to identify**
  1. **Anthropometric variables**
     - Wt, length or Ht, TSF, MUAC, FOC
     - Define using z scores
     - WHO reference chart for 0 to 2 years
     - CDC reference chart for 2-20 years use
  2. **Growth**
     - WHO child growth standards or Pediatric Nutrition Handbook from AAP
  3. **Chronicity of malnutrition**
     - Acute (<3 months) vs chronic (>3 months)
  4. **Etiology of malnutrition**
     - Illness vs non-illness related
     - Non-illness related includes behavioral, environmental, and socioeconomic factors
     - Consider mechanism/pathogenesis
     - Malabsorption
     - Starvation
     - Nutrient loss
     - Hypermetabolism
  5. **Impact on functional status**
     - Grip strength
     - Developmental milestones

AND/ASPEN Consensus - Primary Indicators of Pediatric Malnutrition

- **When one data point available**
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mild Malnutrition</th>
<th>Moderate Malnutrition</th>
<th>Severe Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z score for wt/ht or length</td>
<td>-1 to -1.9</td>
<td>-2 to -2.9</td>
<td>-3 or below</td>
</tr>
<tr>
<td>BMI/Age z score</td>
<td>-1 to -1.9</td>
<td>-2 to -2.9</td>
<td>-3 or below</td>
</tr>
<tr>
<td>MUAC</td>
<td>-1 to -1.9</td>
<td>-2 to -2.9</td>
<td>-3 or below</td>
</tr>
</tbody>
</table>

- **When 2 or more data points available**
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mild Malnutrition</th>
<th>Moderate Malnutrition</th>
<th>Severe Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z score decline for wt/ht</td>
<td>1 z score</td>
<td>2 z scores</td>
<td>3 z scores</td>
</tr>
<tr>
<td>Inadequate nutrient intake</td>
<td>5-75% est energy/protein intake</td>
<td>25-50% est energy/protein intake</td>
<td>&lt;25% est energy/protein intake</td>
</tr>
</tbody>
</table>

Pediatric Malnutrition PES Statement

- **MALNUTRITION (Chronic, Acute) (Mild, Moderate, Severe)**
- **RELATED TO**
- **(Etiology/Pathogenesis)**
- **IN THE SETTING OF**
- **(Illness related or Non-illness related)**
- **AS EVIDENCED BY**
- **(Indicator)**

- Example: Chronic, Moderate malnutrition related to cholestasis associated malabsorption and increased energy expenditure in the setting of medical illness as evidenced by NFPE findings of subq fat loss to triceps, length for age Z score of -2.5, wt/length Z score of -2.6, decline in wt/length Z score of -1.5.
NCP Step 4—Nutrition monitoring/outcome

• Results: where are these documented, who is consulted, what is the follow-up

Pediatric Case Study

• 12m Male with Biliary Atresia followed closely in clinic.
  • At last visit, Mom instructed to provide 27 cal/oz Pregestimil. Mom currently offering Gerber Soothe, mixing 1 scoop to 2 oz d/t financial strain. Pt takes 7oz bottles 5-6x/day.
  • Mom has not offered advanced textures. Pt eats puffs, yogurt melts, stage 1 baby foods. Mom reports giving puffs in place of meals d/t ease.
  • Pt sits unassisted, crawls, pulls up, not walking yet.
  • Mom instructed at last visit to supplement c Vitamin E but states she forgot to start.

• NFPE: darkened circles under eyes, severe subq fat loss to tricep, thoracic, and lumbar areas; temporal muscle wasting noted
• Labs: Vit E 4.8, Vit A 8, Vit D 8.4
• Wt trends: Length trends: Wt/length: MUAC: FOC:
  5/29: 7.67 kg 70.5 cm 12 cm 43.25 cm
  4/3: 7.59 kg 68.9 cm 12 cm
  1/28: 7.09 kg 67 cm 12 cm
  2%ile wt/age 1%ile length/age 10%ile wt/length 0%ile/age 1%ile/age
  Z score: -2.08 Z score: -2.21 Z score: -1.27 Z score: -2.56 Z score: -2.2
  • Wt gain velocity <2 gm/day (expected for age 6-11 gm/day)

Pediatric Case Study: Nutrition Diagnosis

• Chronic, Severe malnutrition related to malabsorption, increased nutrient needs, and knowledge deficit in the setting of medical illness and socioeconomic factors as evidenced by <25% expected wt gain, MUAC z score of -2.2, NFPE findings of severe subq fat loss, vitamin A, D, and E deficiencies.

Impact of malnutrition documentation and coding on payment and CMI

Terminology:
• CMS: centers for Medicare and Medicaid services
• ICD-10: International Classification of Diseases, 10th edition
• CMI: Case Mix Index
• RW: Relative Weight
• DRG: Diagnosis Related Group (payment system)
• MS-DRG: Medicare Severity-DRG
• CC: complications or comorbidities
• MCC: major complications or comorbidities

*reference: www.cms.gov
MS-DRG Example | MS-DRG RW PAYMENT (base rate: $8,800)
---|---
DRG w/In CC or MCC 195-simple PNA | 0.7028 | $6,184.64
DRG w/In CC vs MCC 194-Simple PNA w/ CC | 0.9469 | $8,332.72
DRG w/ >/=1 MCC 193-Simple PNA w/ MCC | 1.3860 | $12,196.80

CC, MCC increases the severity level of the MS-DRG

Now we know!

Next steps: consider the following resources to help guide you for implementing NFPE and malnutrition management in your hospital
- **Host Academy run NFPE Hands-On Training Workshop**
- **Participate in MQii**
- **Participate in Cleveland Clinic Advanced Practice Residency**
- **Keep your eyes peeled for more trainings: conferences, webinars and tools**
- **Get yourself a Pocket Guide**

Action items
- What does your hospital have in place?
- Survey to understand: [malnutrition care assessment and decision tool](#)
- Audit yourself
- Find your team—who is involved
- Start with NFPE—just start...don't over think it

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