ESPEN Congress Lisbon 2015

ESPEN GUIDELINES

ESPEN diagnostic criteria for malnutrition

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Diagnostic Criteria for Malnutrition – An ESPEN Consensus Statement

The Diagnosis of malnutrition – mission or mission imposible?
Objectives

• Define diagnostic criteria for malnutrition
  – *The science and practice of clinical nutrition suffers from the lack of a clear definition*

• Up-date of ICD-10

Working Group:
Tommy Cederholm, Ingvar Bosaeus, Pierre Singer, Rocco Barazzoni, Juergen Bauer, Andre Van Gossum, Marian de van der Schueren, Maurizio Muscaritoli, Ibolya Nyulasi, Johann Ochenga, Stanislaw Klek, Stephane Schneider
ESPEN proposes the following definition of undernutrition:
“A state resulting from lack of uptake or intake of nutrition leading to altered body composition (decreased fat free mass (FFM) and body cell mass (BCM)) leading to diminished physical and mental function and impaired clinical outcome from disease”. In potentially recoverable clinical conditions, such a definition is also helpful in determining the cases in which nutritional support is likely to make a difference.
Rationale

• To achieve diagnostic criteria for the general state of malnutrition that is independent from etiology and clinical setting.

• To unify the language

• To find a diagnosis that enables comparisons between countries, clinical settings etc.

• These criteria do not replace etiology-based concepts or definitions
Poll - 304 ESPEN votes

Terminology

53% - malnutrition
47% - undernutrition
The nutrition care process

• Screening/risk evaluation
• Assessment
• Treatment
• Monitoring
The nutrition care process

• Screening/risk evaluation
• Assessment
  – diagnosis
• Treatment
• Monitoring

A clear diagnostic procedure has been missing
Conclusion: This study shows that there is no full agreement among experts on the elements defining malnutrition. The results of this study may fuel the discussion within the nutritional societies, which will most ideally lead to an international consensus on a definition and operationalism of malnutrition.
ESPEN approach for international consensus

A modified Delphi process:

• Project introduced ESPEN Winter meeting (Jan -13)
• Constitution of the Consensus Group (Feb -13)
• E-mail, face-to-face meeting (spring/summer -13)
• Questionnaires/ballots/Delphi polls (fall -13/winter -14)
• Consensus statement Feb 2014
• General ESPEN Poll spring 2014
• Clinical Nutrition publication spring 2015
• Validation studies ....
Diagnostic criteria for malnutrition

**Step 1. Risk screening** by a validated instrument, e.g. NRS-2002, MUST, MNA(-SF), SGA, SNAQ, ...
i.e. BMI, Weight loss, Reduced food intake, Disease severity

**Step 2. Diagnosis**
- BMI <18.5 kg/m²

Alternative diagnostic trajectory
- **Weight loss** >10% (indefinite time)/>5% last 3 mo combined with either
- BMI <20 (if <70 years)/<22 (if >70 y)
or
- FFMI <15 and 17 kg/m² in women and men, respect.
Rationale

- **Weight loss** gives the dynamic dimension and covers
  - Anorexia, teeth problems, dysphagia
  - Insufficient food intake
- **BMI and/or FFM** gives structural measures
- Functional and biochemical indicators are too unspecific (consensus after extensive discussions)
- **ESPEN Member’s Poll** May 2014
ESPEN Poll - 304 "votes"

~70% ≥ 8/10 agreement

1=strongly disagree, ..., 10=strongly agree
Validation studies

249 acutely ill (58±18 y)
- 30% were at risk for malnutrition (SNAQ)
14% malnourished according to EDC
- 135 outpatient geriatric subjects (81±7y)
10% were at risk
6% malnourished according to EDC
- Healthy old (n=306, 74±3y) and healthy young (n=179, 23±3y); 0.5 and 0 % were at risk and 0.5 and 0 % were malnourished according to EDC
Rojer et al, Clin Nutr 2015

335 general hospital patients
15/19/35% were malnourished or cachectic according to EDC/Evans or Fearon.
3-months and 1-year mortality was well predicted only by EDC
Rondel et al. ESPEN Poster 2015

632 hospitalized patients
NRS-2002: 72% at risk, 48% malnourished
EDC: 12% malnourished. Related to LOS
Amaral et al. ESPEN Poster 2104

Acutely ill geriatric multi-morbid patients (n=71, 85 ±7 y)
93% at risk according to MNA-SF
43% malnourished according to EDU
Sobbestiansky et al. ESPEN Poster 2104
How to align with our American colleagues and friends?

ASPEN/AND consensus statement
Etiology-based definition

Diagnosis of malnutrition independent of etiology and clinical setting/ESPEN

Inflammation present? No / Yes

No

Starvation Related Malnutrition
(pure chronic starvation, anorexia nervosa)

Yes
Mild to Moderate Degree

Chronic Disease – Related Malnutrition
(organ failure, pancreatic cancer, rheumatoid arthritis, sarcopenic obesity)

Yes
Marked Inflammatory Response

Acute Disease or Injury-Related Malnutrition
(major infection, burns, trauma, closed head injury)

White et al JPN 2012;36:275-83
Because no single parameter is definitive for adult malnutrition, the identification of **2 or more of the following 6 characteristics** is recommended for diagnosis:

- Insufficient energy intake
- Weight loss
- Loss of muscle mass
- Loss of subcutaneous fat
- Localized or generalized fluid accumulation that may sometimes mask weight loss
- Diminished functional status as measured by handgrip strength

White et al JPN 2012;36:275-83
Ongoing issues to discuss - etiology

- Nutrition disorders and nutrition-related conditions
  - Malnutrition; syn: Undernutrition
    - Disease-related malnutrition (DRM)
      - Cachexia (=inflammatory-induced DRM)
        » Acute disease or Injury-related malnutrition
        » Chronic disease-related malnutrition
        » Cancer cachexia
      - Non-cachectic DRM (= DRM without inflammation)
    - Starvation – food deprivation
  - Sarcopenia
  - Frailty
Coming steps

• Validation studies...
• Terminology Guidelines
• Align with ASPEN/AND
• Revise if necessary

The story continues...
Thanks
ASPEN/AND consensus statement

Table 4. Characteristics to Diagnose Severe Malnutrition.4

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Acute Illness or Injury Related Malnutrition</th>
<th>Chronic Disease Related Malnutrition</th>
<th>Social or Environmental Related Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight loss</td>
<td>&gt;2%/1 week</td>
<td>&gt;5%/1 month</td>
<td>&gt;5%/1 month</td>
</tr>
<tr>
<td></td>
<td>&gt;5%/1 month</td>
<td>&gt;7.5%/3 months</td>
<td>&gt;7.5%/3 months</td>
</tr>
<tr>
<td></td>
<td>&gt;7.5%/3 months</td>
<td>&gt;10%/6 months</td>
<td>&gt;10%/6 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;20%/1 year</td>
<td>&gt;20%/1 year</td>
</tr>
<tr>
<td>Energy intake</td>
<td>≤50% for ≥5 days</td>
<td>≤75% for ≥1 month</td>
<td>≤50% for ≥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 intensive care unit</td>
<td>Reduced for age/gender</td>
<td>Reduced for age/gender</td>
</tr>
</tbody>
</table>

Not feasible in clinical practice

Table 5. Characteristics to Diagnose Nonsevere (Moderate) Malnutrition.4

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Acute Illness or Injury Related Malnutrition</th>
<th>Chronic Disease Related Malnutrition</th>
<th>Social or Environmental Related Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight loss</td>
<td>1%/2%/1 week</td>
<td>5%/1 month</td>
<td>5%/1 month</td>
</tr>
<tr>
<td></td>
<td>5%/1 month</td>
<td>7.5%/3 months</td>
<td>7.5%/3 months</td>
</tr>
<tr>
<td></td>
<td>7.5%/3 months</td>
<td>10%/6 months</td>
<td>10%/6 months</td>
</tr>
<tr>
<td>Energy intake</td>
<td>&lt;75% for &gt;7 days</td>
<td>&lt;75% for ≥1 month</td>
<td>&lt;75% for ≥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>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Grip strength</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>