Clinical Validation Guidelines

## MALNUTRITION

**Definition**: An imbalance (deficiency or excess) in nutrient or essential nutrient intake or impaired nutrient utilization.

**Diagnostic Criteria** [1,2]: To clinically validate the following diagnoses a registered dietician (RD) must document the presence of either ASPEN or GLIM Criteria by level of severity as well as the diagnosis in the medical records.

**(E43.0)** Unspecified severe protein calorie malnutrition (ONE or more of the following Criteria #1 OR Criteria #2 + Criteria #3 is needed to make the diagnosis).

1) American Society for Parental and Enteral Nutrition (ASPEN) Criteria (at least two of the following from the Severe Malnutrition column in Supplement A below)[3]:
   a. Insufficient energy intake
   b. Weight loss
   c. Loss of muscle mass
   d. Loss of subcutaneous fast
   e. Localized or generalized fluid accumulation (edema) which may mask weight loss
   f. Diminished functional strength (measured by calibrated hand grip strength)
2) Global Leadership Initiative on Malnutrition (GLIM) Criteria (one phenotypic criteria and one etiologic criteria for diagnosis from Supplement B below) [4].
   a. Phenotypic Criteria: % of unintended weight loss, low BMI, reduced muscle mass. The phenotypic criteria assist in grading severity. One criteria from the severe level GLIM criteria must be met (see Supplement B).[5]
   b. Etiologic Criteria: reduced nutritional intake, inflammation.
3) **Additionally**, any patient with the diagnosis of severe malnutrition would have a documented aggressive treatment approach such as a supervised nutritional diet, daily calorie counts, at least 2-3 daily liquid supplements, appetite stimulants, frequent follow-up with a nutrition, enteral or total parenteral nutrition (TPN).

**(E44.0)** Moderate protein calorie malnutrition (ONE or more of the following Criteria #1 OR Criteria #2 + Criteria #3 is needed to make the diagnosis).

1) American Society for Parental and Enteral Nutrition (ASPEN) Criteria (at least two of the following from the Moderate Malnutrition column in Supplement A below)[3]:
   a. Insufficient energy intake
   b. Weight loss
   c. Loss of muscle mass

      d. Loss of subcutaneous fast
      e. Localized or generalized fluid accumulation (edema) which may mask weight loss
      f. Diminished functional strength (measured by calibrated hand grip strength)

2) Global Leadership Initiative on Malnutrition (GLIM) Criteria (one phenotypic criteria and one etiologic criteria for diagnosis from Supplement B below) [4]:
      a. Phenotypic Criteria: % of unintended weight loss, low BMI, reduced muscle mass.
      b. Etiologic Criteria: reduced nutritional intake, inflammation.

3) **Additionally**, any patient with the diagnosis of moderate malnutrition would have a documented treatment approach such as a supervised nutritional diet, daily calorie counts, at least 2-3 daily liquid supplements, appetite stimulants, frequent follow-up with a nutrition, enteral or total parenteral nutrition (TPN).

## Common Causes of Malnutrition:

- Acute illness or injury (prolonged intubation, GI surgery, multi-system trauma)
- Chronic diseases (cancer, chemotherapy, HIV, alcoholism)
- Social and environmental circumstances that limit access (lack of care, severe debilitation)

## Clinical Indicators of Malnutrition:

- Albumin and pre-albumin are no longer used as defining characteristics for diagnosing malnutrition based on evidence that serum levels of these proteins do not change in response to nutrient intake.
- Low BMI, presence of cachexia, unintended weight loss.
- Use of liquid supplements, appetite stimulants (Megesterol), TPN.

## Differential Diagnoses for Malnutrition:

 **(E63.9)** Nutritional deficiency unspecified is used to specify a risk of malnutrition (either moderate or severe). Assessment of the presence of nutrition risk by a registered dietician (RD) does not replace documenting ASPEN or GLIM criteria to clinically validate the diagnosis of malnutrition.

# MALNUTRITION

**References**:

1) Tang, C., Pinson, R. (2023).  Malnutrition. CDI Pocket Guide (16$^{th}$ Edition), Pages 163-169.
2) Prescott, L., James, M. (2023). Malnutrition. ACDIS Pocket Guide: The Essential CDI Resource.  Pages 367-375.
3) White JV, Guenter P, Jensen G, Malone A, Schofield M; Academy of Nutrition and Dietetics Malnutrition Work Group; A.S.P.E.N. Malnutrition Task Force; A.S.P.E.N. Board of Directors. Consensus statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). J Acad Nutr Diet. 2012 May; 112(5), pages 730-738.
4) Jenson G, Cederholm T, Correia I, Gonzalez C and Fukushima R.  GLIM Criteria for the Diagnosis of Malnutrition: A Consensus Report From the Global Clinical Nutrition Community.  J of Parenteral and Enteral Nutrition. 2018 Sept 02. Volume 43 (1), pages 32-40.
5) Prescott, L., James, M. Q & A Documenting and Coding Severe Malnutrition.  CDI Strategies. 2022 Mar 17; Volume 16 (11). https://acdis.org/articles/qa-documenting-and-coding-severe-malnutrition.

**SUPPLEMENTS**:

(A) American Society for Parental and Enteral Nutrition (ASPEN) Criteria (at least <u>TWO</u> of the following from the applicable severity column for diagnosis):

| Malnutrition Criteria | Severe Malnutrition | | | Moderate Malnutrition | | |
|---|---|---|---|---|---|---|
| | Acute Illness | Chronic Illness | Social Circumstances | Acute Illness | Chronic illness | Social Circumstances |
| Weight loss | >2% in 1 wk<br>>5% in 1 mo<br>>7.5% in 3 mo | >5% in 1 mo<br>>7.5% in 3 mo<br>>10% in 6 mo<br>>20% in 12 mo | >5% in 1 mo<br>>7.5% in 3 mo<br>>10% in 6 mo<br>>20% in 12 mo | 1%–2% in 1 wk<br>5% in 1 mo<br>7.5% in 3 mo | 5% in 1 mo<br>7.5% in 3 mo<br>10% in 6 mo<br>20% in 12 mo | 5% in 1 mo<br>7.5% in 3 mo<br>10% in 6 mo<br>20% in 12 mo |
| Energy intake | ≤50% compared with estimated needs for ≥5 d | ≤75% compared with estimated needs for ≥1 mo | ≤50% compared with estimated needs for ≥ 1 mo | <75% compared with estimated needs for > 7 days | <75% compared with estimated needs for ≥1 mo | <75% compared with estimated needs for ≥3 mo |
| Body fat and muscle mass | Moderate depletion | Severe depletion | Severe depletion | Mild depletion | Mild depletion | Mild depletion |
| Fluid accumulation | Moderate to severe | Severe | Severe | Mild | Mild | Mild |
| Functional status | Measurably reduced | Measurably reduced | Measurably reduced | Not applicable | Not applicable | Not applicable |

(B) Global Leadership Initiative on Malnutrition (GLIM) Criteria (requires <u>ONE</u> phenotypic criteria and <u>ONE</u> etiologic criteria for diagnosis).

**Etiologic Criteria**

| | |
|---|---|
| Reduced Nutritional Intake | <50% of requirement > 1 week, or any reduction > 2 weeks, or chronic GI disorders with adverse nutritional impact |
| Inflammation | Chronic disease or acute disease/injury with severe systemic inflammation, or any socio-economic starvation |

**Phenotypic Criteria**

| | |
|---|---|
| % of unintended weight loss | 5% < 6 months or 10% > 6 months |
| Low BMI | <20 if <70 years <br> <22 if > 70 years |
| Reduced muscle mass | Reduced by objective measure and/or physical exam |

The phenotypic criteria assist in grading severity. The GLIM criteria for the severe level are listed below. One criterion from these listed must be met.

| Criterion | Stage 2- Severe |
|---|---|
| Unintended weight loss | > 10% within the past 6 months or > 20% beyond 6 months |
| Low BMI | < 18.5 if less than 70 years <br> <20 if ≥ 70 years |
| Reduced muscle mass | Severe deficit (per validated assessment methods) |