LITTERATURDATABASE FOR KOMPETANSETJENESTEN FOR SYKDOMSRELATERT UNDERERNÆRING

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**UNDERERNÆRING**

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**DEFINISJONER OG KRITERIER**


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### PREVALENS (ERNÆRINGSRISIKO OG/ELLER UNDERERNÆRING)

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van Bokhorst-de van der Schueren MA, Guaitoli PR, Jansma EP, de Vet HC.

**SCREENING OG KARTLEGGINGSVERKTØY (MED LENKER TIL HVOR DE FINNES)**

*MNA (SF)*

Mini Nutritional Assessment er et kartleggingsverktøy som fører til vurderingene «Normal ernæringsstatus», «Risiko for underernæring» eller «Underernært».

Lenk til norsk oversettelse av MNA

Veiledning for utfylling av MNA skjema for ernæringsvurdering

Veileddningen har følgende vedlegg:
Vedlegg 1 • Tabell over Kroppsmasseindeks
Kompetansetjenesten for sykdomsrelatert underernæring (november 2017)

Vedlegg 2 • Regne ut BMI for personer med amputasjon
Vedlegg 3 • Måle høyde ved hjelp av et Stadiometer
Vedlegg 4 • Måle Pemispan
Vedlegg 5 • Måle Knehøyde
Vedlegg 6 • Måle Overarmens Omkrets (OO)
Vedlegg 7 • Måle Leggens Omkrets
17 referanser

Mastronuzzi T, Paci C, Portincasa P, Montanaro N, Grattagliano I. 

**MUST**

Malnutrition Universal Screenings Tool er et verktøy som vurderer risikoen for underernæring og skårer pasientene i «Lav risiko», «Middels risiko» eller «Høy risiko» for underernæring.

Lenk til norsk oversettelse av MUST 

Lenk til veiledning for utfylling av MUST 
13 referanser

**NRS-2002**

Nutrition Risk screening 2002

Kondrup J, Rasmussen HH, Hamberg O et al 

J. Kondrup, S. P. Allison, M. Elia, B. Vellas, M. Plauth 

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**Nutritional risk screening in hospitalized patients with heart failure.** Clin Nutr. 2015 Apr;34(2):257-64

**Norsk oversettelse**

6.utgave, desember 2015 er rett oversettelse fra original publikasjon.
PG-SGA
The Scored Patient-Generated Subjective Global Assessment

Det er mange versjoner av SGA oversatt til ulike språk. PG-SGA inneholder elementene i screeningsverktøy og kan derfor fungere både som screening og kartleggingsverktøy. PG-SGA setter i dag standarder og er det foretrukne verktøyet innen onkologi og ved andre kronisk katabolske tilstander. PG-SGA er et kartleggingsverktøy som gir tilstandene velurnært, moderat underurnært eller alvorlig underurnært.

**Norsk oversettelse**
Vil komme på nettsiden til Pt-Global
http://pt-global.org/?page_id=13

SNAQ
Short Nutritional Assessment Questionnaire (SNAQ) er ikke oversatt til norsk. Det finnes flere varianter av SNAQ for bruk på ulike nivåer av helsetjenestene og for ulike aldersgrupper.

Lenk til SNAQ verktøyene

**EFFEKT AV SCREENING**

Omidvari AH, Vali Y, Murray SM, Wonderling D, Rashidian A.

**DOES NUTRITION SUPPORT HELP THOSE SCREENED POSITIVE?**

Starke J, Schneider H, Alteheld B, Stehle P, Meier R.

Effect of nutritional support on clinical outcome in patients at nutritional risk.

Sriram K, Sulo S, VanDerBosch G, Feldstein JPJ, Hegazi RA, Summerfelt WmT,

**EFFEKT AV ERNÆRINGSINTERVENSVJONER**

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**Evidence for nutrition support**

<table>
<thead>
<tr>
<th>Meta-analysis of</th>
<th>27 RCT with 1710 patients (complications)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 RCT with 3250 patients (mortality)</td>
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</table>

<table>
<thead>
<tr>
<th>Complications</th>
<th>28% vs 46% (P&lt;0.001)</th>
</tr>
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<tbody>
<tr>
<td>Mortality</td>
<td>17% vs 24% (P&lt;0.001)</td>
</tr>
</tbody>
</table>

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Nutrition intervention is beneficial in oncology outpatients receiving radiotherapy to the gastrointestinal or head and neck area. Br J Cancer. 2004;91(3):447-452.

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Clinical Nutrition Published online: July 24, 2017

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Clinical Nutrition 36 (2017) 1187e1196

**ESPEN guideline: Clinical nutrition in surgery**  
Clinical Nutrition 36 (2017) 623-650
ESPEN guideline: Clinical nutrition in inflammatory bowel disease Clinical Nutrition 36 (2017) 321-347

ESPEN guidelines on definitions and terminology of clinical nutrition Clinical Nutrition 36 (2017) 149-64

ESPEN guidelines on nutrition in cancer patients Clinical Nutrition 36 (2017) 11–48

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DEMENS


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Streicher M, Themessl-Huber M, Schindler K, Sieber CC, Hiesmayr M, Volkert D.
nutritionDay in Nursing Homes – The Association of Nutritional Intake and Nutritional Interventions With 6-Month Mortality in Malnourished Residents. J Am Med Dir Assoc (2017); 18:162-168

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Improved meal presentation increases food intake and decreases readmission rate in hospitalized patients Clin Nutr (2016); 35:1153-1158

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**Self-rated health, nutritional intake and mortality in adult hospitalized patients.**
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**Decreased food intake is a risk factor for mortality in hospitalised patients: The nutritionDay survey 2006.** Clin Nutr 28 (2009) 484-491

Valentini L, Schindler K, Schlaffer R, et al
**The first nutritionDay in nursing homes: participation may improve malnutrition awareness.**
Kristin Halvorsen, Helene Kjøllesdal Eide, Kjersti Sortland and Kari Almendingen

Documentation and communication of nutritional care for elderly hospitalized patients: perspectives of nurses and undergraduate nurses in hospitals and nursing homes BMC Nursing (2016) 15:70
Since there is no single parameter that is definitive for adult malnutrition, identification of two or more of the following six characteristics is recommended for diagnosis (see the Table):

- insufficient energy intake (30-32);
- weight loss (33-36);
- loss of muscle mass (36,37);
- loss of subcutaneous fat (36,37);
- localized or generalized fluid accumulation (36,37) that may sometimes mask weight loss; and
- diminished functional status as measured by hand grip strength (3,36,38-42).
<table>
<thead>
<tr>
<th>Clinical characteristic</th>
<th>Malnutrition in the Context of Acute Illness or Injury</th>
<th>Malnutrition in the Context of Chronic Illness</th>
<th>Malnutrition in the Context of Social or Environmental Circumstances</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Energy intake (reference 30)</td>
<td>&lt; 75% of estimated energy requirement for &gt; 7 days</td>
<td>&lt; 75% of estimated energy requirement for &gt; 5 days</td>
<td>&lt; 75% of estimated energy requirement for &gt; 1 month</td>
</tr>
<tr>
<td>Interpretation of weight loss (reference 30-32)</td>
<td>%</td>
<td>Time</td>
<td>%</td>
</tr>
<tr>
<td>The clinician may evaluate weight in light of other clinical findings, including the presence of under- or overhydration. The clinician may assess weight change over time reported as a percentage of weight lost from baseline.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical findings (reference 36,37)</td>
<td>Mild</td>
<td>Moderate</td>
<td>Mild</td>
</tr>
<tr>
<td>Bony fit</td>
<td>Loss of subcutaneous fat (eg, orbital, trochanters, fat overlying the ribs)</td>
<td></td>
<td></td>
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</table>

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<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>(4) Muscle mass</td>
<td>Mild</td>
<td>Moderate</td>
<td>Mild</td>
</tr>
<tr>
<td>Muscle loss (eg, wasting of the temples; temporals, glutes; pectorals and deltoids; shoulders (deltoids); intercostal muscles; scapula (latissimus dorsi, trapezius, deltoids); thigh (quadriceps) and calf (gastrocnemius))</td>
<td>Mild</td>
<td>Moderate to severe</td>
<td>Mild</td>
</tr>
<tr>
<td>Fluid accumulation</td>
<td>Mild</td>
<td>Measurably reduced</td>
<td>N/A</td>
</tr>
<tr>
<td>The clinician may evaluate generalized or localized fluid accumulation evident on exam (entheses, vulval/sural edema or ascites). Weight loss is often masked by generalized fluid retention (edema and weight gain may be observed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced grip strength (reference 42)</td>
<td>N/A</td>
<td>Measurably reduced</td>
<td>N/A</td>
</tr>
<tr>
<td>Consult normative standards supplied by the manufacturer of the measurement device.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fact box:
Two alternative ways to diagnose malnutrition.
Before diagnosis of malnutrition is considered it is mandatory to fulfil criteria for being “at risk” of malnutrition by any validated risk screening tool.

**Alternative 1:**
BMI < 18.5 kg/m²

**Alternative 2:**
Weight loss (unintentional) > 10% indefinite of time, or > 5% over the last 3 months combined with either
BMI < 20 kg/m² if < 70 years of age, or < 22 kg/m² if 70 years of age or
FFMI < 15 and 17 kg/m² in women and men, respectively.

Cederholm et al 2017