LITTERATUROVERSIKT

OM

SYKDOMSRELATERT UNDERERNÆRING

Litteraturoversikten oppdateres av Lene Thoresen. Dersom det er publikasjoner som du mener bør være med kan de meldes inn til kompetansetjenesten på e-post nksu@ous-hf.no


Stratton RG, C.J.; Elia, M. Disease-related malnutrition: An Evidence-Based Approach To Treatment CABI publishing; 2003
DEFINISJONER OG KRITERIER


Vera IJmker-Hemink, Samantha Heerschop, Geert Wanten, Manon van den Berg. (2022) Evaluation of the Validity and Feasibility of the GLIM Criteria Compared with PG-SGA to Diagnose Malnutrition in Relation to One-Year Mortality in Hospitalized Patients. JAND. Volume 122, Issue 3, March 2022, Pages 595-601


FOREKOMST (ERNÆRINGSRISIKO ELLER UNDERERNÆRING)


Boltong AG, et al. **Using a public hospital funding model to strengthen a case for improved nutritional care in a cancer setting.** Aust Health Rev. 2013. PMID: 23731960


Lieffers JR, Bathe OF, Fassbender K, Winget M, Baracos VE.

8

Juni 22


SCREENING


MNA (SF)

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

Lenk til norsk oversettelse av MNA
http://www.mna-elderly.com/forms/MNA_norwegian.pdf

Veiledning for utfylling av MNA skjema for ernæringsvurdering
http://www.mna-elderly.com/forms/mna_guide_norwegian.pdf

Veiledningen har følgende vedlegg:
Vedlegg 1 • Tabell over Kroppsmasseindeks
Vedlegg 2 • Regne ut BMI for personer med amputasjon
Vedlegg 3 • Måle høyde ved hjelp av et Stadiometer
Vedlegg 4 • Måle Demispan
Vedlegg 5 • Måle Knehøyde
Vedlegg 6 • Måle Overarmens Omkrets (OO)
Vedlegg 7 • Måle Leggens Omkrets
17 referanser


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


Marshall S, Young A, Isenring E The malnutrition screening tool in geriatric rehabilitation: A comparison of validity when completed by health professionals with and without malnutrition screening training has implications for practice. J Acad Nutr Diet, 2018;118:118-123


NRS-2002
Nutrition Risk screening 2002

Juni 22


**Norsk oversettelse**

---

**PG-SGA**
The Scored Patient-Generated Subjective Global Assessment


**Norsk oversettelse**
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


**OUTCOME/EFFEKT AV SCREENING**


**EFFEKT AV ERNÆRINGSTØTTE TIL DE SOM FANGES OPP VED SCREENING**


**Systematic Review and Meta-analysis.** JAMA Netw Open. 2019 Nov 1;2(11):e1915138. PMID: 31747030

Schuetz P, Fehr R, Baechli V, et al. **Individualised nutritional support in medical inpatients at nutritional risk: a randomised clinical trial.** Lancet, Published online April 25, 2019 http://dx.doi.org/10.1016/S0140-6736(18)32776-4


**ERNÆRINGSINTERVENJSJONER**


Nguyen HT, et al. (2020) **Effectiveness of Tailored Dietary Counseling in Treating Malnourished Outpatients with Chronic Obstructive Pulmonary Disease: A Randomized Controlled Trial.** J Acad Nutr Diet. 120(5): 778-791. PMID: 31786177


Ortiz-Reyes LA, Castillo-Martinez L, Lupian-Angulo AI et al Increased efficacy and safety of enteral nutrition support with a protocol (ASNET) in noncritical patients: a randomized controlled trial. J Acad Nutr Diet, 2018; 118: 52-60


Beck A, Andersen UT, Leedo E et al **Does adding a dietician to the liaison team after discharge of geriatric patients improve nutritional outcome: A randomized controlled trial.** Clin Rehabil, 2014;29:1117-28

Munk T, Beck AM, Holst M, Rosenbom E, Rasmussen HH, Nielsen MA, Thomsen T.

Juni 22


Isenring EA, Bauer JD, Capra S. **Nutrition support using the American Dietetic Association medical nutrition therapy protocol for radiation oncology patients improves dietary intake compared with standard practice.** J Am Diet Assoc. 2007;107(3):404-412.


Stratton RG, C.J.; Elia, M. Disease-related malnutrition: An Evidence-Based Approach To Treatment CABI publishing; 2003.
Evidence for nutrition support

Juni 22
Meta-analysis of 27 RCT with 1710 patients (complications)
30 RCT with 3250 patients (mortality)
Complications 28% vs 46% (P<0.001)
Mortality 17% vs 24% (P<0.001)


**OUTCOME**


**IMPLEMENTERING AV ERNÆRINGSSTRATEGI/PROGRAM**


Fjeldstad SH, Thoresen L, Mowé M, Irtun Ø. **Changes in nutritional care after implementing national guidelines – a 10-year follow-up study.** Eur J Clin Nutr; 2018; online https://doi.org/10.1038/s41430-017-0050-5


**BARRIERER OG SUKSESSFAKTORER**


Stamp N, Davis AM **Identifying barriers to implementing nutrition recommendation** Topics in Clin Nutr, 2013; 28:249-261

Juul HJ, Frich JC. **Kartlegging av underernæring i sykehus. Hva hemmer og fremmer sykepleieres bruk av screeningverktøy for identifisering av ernæringsmessig risiko?** Nordisk Sygeplejeforskning 2013;3:77-89


**Juni 22**


Food and nutritional care in hospitals: How to prevent undernutrition. Strasbourg: Council of Europe Publishing; 2002

KVALITETSINDIKATORER


Thoresen L, Rothenberg E, Beck A M, Irtun Ø and on behalf of the Scandinavian Nutrition Group (SNG) Doctors and nurses on wards with greater access to clinical dietitians have better focus on clinical nutrition. Journal of Human Nutrition and Dietetics Volume 21, Issue 3, pages 239–247, June 2008

KOMPETANSEBYGGING


KOSTNAD, NYTTE, KODING


Sjors Verlaan, Andrea B. Maier, Jürgen M. Bauer, Ivan Bautmans, Kirsten Brandt, Lorenzo M. Donini, Marcello Maggio, Marion E.T. McMurdo, Tony Mets, Chris Seal, Sander L.J. Wijers, Cornel Sieber, Yves Boirie, Tommy Cederholm. **Sufficient levels of 25-hydroxyvitamin D and protein intake required to increase muscle mass in sarcopenic older adults – The PROVIDE study.** Clin Nutr. 2018; 37: 551–557


Juni 22


Boltong AG, et al. Using a public hospital funding model to strengthen a case for improved nutritional care in a cancer setting. Aust Health Rev. 2013. PMID: 23731960


Freijer K, Nuijten MJ, Schols JM. The budget impact of oral nutritional supplements for disease related malnutrition in elderly in the community setting Front Pharmacol 2012; 3; 78: 1-8


Juni 22


C.L. Funk, C.M. Ayton. Improving malnutrition documentation enhances reimbursement J Am Diet Assoc,1995;95,468–475

ESPEN GUIDELINES

Alle kan lastes ned fra http://www.espen.org/education/espen-guidelines

ESPEN guideline on hospital nutrition. Clinical Nutrition 40 (2021) 5684e5709

ESPEN guideline: Clinical nutrition in surgery. Clinical Nutrition 40 (2021) 4745-4761


ESPEN guideline on clinical nutrition in hospitalized patients with acute or chronic kidney disease. Clinical Nutrition 40 (2021) 1644-1668


ESPEN guideline on home parenteral nutrition. Clinical Nutrition published online: 18 Apr 2020

ESPEN expert statements and practical guidance for nutritional management of individuals with sars-cov-2 infection. Clinical Nutrition published online: March 31, 2020


Juni 22
ESPEN guideline on clinical nutrition in acute and chronic pancreatitis. Clinical Nutrition published online: 22 Jan 2020


ESPEN guideline on clinical nutrition in liver disease. Clinical Nutrition published online: 16 January 2019


ESPEN guideline clinical nutrition in neurology. Clinical Nutrition published online: 27 September, 2017

ESPEN guidelines on nutritional support for polymorbid internal medicine patients Clinical Nutrition Published online: July 24, 2017

ESPEN expert group recommendations for action against cancer-related malnutrition 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

Management of acute intestinal failure: A position paper from the European Society for Clinical Nutrition and Metabolism (ESPEN) Special Interest Group Clinical Nutrition 35 (2016), 6, 1209–1218


ESPEN guideline on ethical aspects of artificial nutrition and hydration Clinical Nutrition 35 (2016) 545-556


ESPEN endorsed recommendations: Protein intake and exercise for optimal muscle function with aging: Recommendations from the ESPEN Expert Group Clinical Nutrition 33 (2014) 929-936


ESPEN Guidelines for adult parenteral nutrition Clinical Nutrition 2009; 28:359-479

ESPEN Guidelines on adult enteral nutrition Clinical Nutrition 2006;25:177-360

ESPEN Guidelines on enteral nutrition — Percutaneous endoscopic gastrostomy (PEG) Clinical Nutrition 2005;24:848-861


ESPEN Guidelines for nutrition in liver disease and transplantation Clinical Nutrition 1997;16:43-55

UTVALGTE MEDISINSKE DIAGNOSER OG TILSTANDER

GRAVIDITET


GERIATRI


Wolters M et al. (2019) Prevalence of malnutrition using harmonized definitions in older adults from different settings e A MaNuEL study. Clinical Nutrition 38; 2389-2398


Mowe M, Bøhmer T, Kindt E. (1994). Reduced nutritional status in an elderly population (> 70 y) is probable before disease and possibly contributes to the development of disease. Am J Clin Nutr 59:317-24

DEMENS


DYSFAGI


Juni 22

KOLS


KREFT

Juni 22


**KAKESKI**


de Vos-Geelen J, Fearon KC, Schols AM. The energy balance in cancer cachexia revisited.


**REERNÆRING**


Skipper A. **Refeeding Syndrome or Refeeding Hypophosphatemia: A Systematic Review of Cases.** Nutrition in Clinical Practice, 2012; 27:34-40

Hisham M Mehanna, Jamil Moledina, Jane Travis **Refeeding syndrome: what it is, and how to prevent and treat it.** BMJ 2008;336:1495-8


Ostrowska J et al. (2021) Hospital Malnutrition, Nutritional Risk Factors, and Elements of Nutritional Care in Europe: Comparison of Polish Results with All European Countries Participating in the nDay Survey. Nutrients, 13(1), 263; https://doi.org/10.3390/nu13010263


Navarro DA, Boaz M, Krause I, et al Improved meal presentation increases food intake and decreases readmission rate in hospitalized patients Clin Nutr (2016); 35:1153-1158

Juni 22


Frantal S, Pernicka E, Hiesmayr M, Schindler K, Bauer P. **Length bias correction in one-day cross-sectional assessments – The nutritionDay study.** Clin Nutr (2016); 35:522-527


**DIVERSE**


Jones D.J., Baldwin C., Lal S., Stanmore E., Farrer K., Connolly E., Weekes C.E., Anderson L.,

Juni 22


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


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.
**GLIM kriteriene**

*Moderat underernæring*

Det kreves at minst et kriterium for etiologi og et kriterium for fenotype er oppfylt.

**Etiologi**
- Redusert matinntak eller opptak. < 50 % av energibehov > 1 uke eller enhver reduksjon i > 2 uker eller en kronisk magetarmtilstand som negativt påvirker fordøyelse eller absorpsjon
- Inflammasjon. Akutt sykdom, skade eller kronisk sykdom

**Fenotype**
- Vekttap 5 - 10 % i løpet av siste 6 måneder eller 10 - 20 % i mer enn 6 måneder
- BMI. < 20 hvis < 70 år, < 22 hvis >70 år
- Redusert muskelmasse. Mild til moderat underskudd.

*Alvorlig underernæring*

Det kreves at minst et kriterium for etiologi og et kriterium for fenotype er oppfylt.

**Etiologi**
- Redusert matinntak eller opptak. < 50 % av energibehov > 1 uke eller enhver reduksjon i > 2 uker eller en kronisk magetarmtilstand som negativt påvirker fordøyelse eller absorpsjon
- Inflammasjon. Akutt sykdom, skade eller kronisk sykdom

**Fenotype**
- Vekttap > 10 % i løpet av siste 6 måneder eller > 20 % i mer enn 6 måneder
- BMI. < 18.5 hvis < 70 år, < 20 hvis > 70 år
- Redusert muskelmasse. Alvorlig underskudd.