EVIDENCE-BASED MANAGEMENT OF MALNUTRITION

Malnutrition

As estimated by the the NRS, 20 - 30% of hospitalised medical patients are malnourished or are at high risk of protein-energy malnutrition.² Malnourished patients have a higher rate of complications, longer duration of hospitalisation, poorer quality of life and higher mortality as compared to those who are well-nourished.³ Malnutrition is often the result of other medical diseases but can be managed with a targeted therapy. The therapeutic algorithm presented here is based on ESPEN guidelines for polymorbid medical patients as well as on the EFFORT study.⁴⁻⁵

Goals of malnutrition management

Improved early identification of patients at risk of malnutrition and initiation of appropriate individual therapy for improvement/maintenance of functionality and quality of life as well as significant reduction of complications and mortality. Management of malnutrition is a team effort and can only be undertaken in close cooperation between nurses, dieticians and doctors.

The EFFORT study demonstrates clinical benefit

The EFFORT study, supported by the Swiss National Fund and pub-lished in the Lancet in April 2019, clearly demonstrates the benefit of adequate, individualised nutritional therapy:

- The protein and energy balance improves significantly which in turn **→** has a positive effect on the course of the disease.
- → Consistent management of malnutrition reduces the risk of complications and mortality.
- ➔ The quality of life improves and leads to fewer functional losses.
- These results apply to patients in Internal Medicine in general, independent of the organ involved.

NRS: Nutritional Risk Screening (NRS 2002)¹ By the caregiving team (within 24h following hospital admission)



No risk of malnutrition currently requiring a treatment

Severity of the disease (stress metabolism)

None

• Mild Hip fracture, chronic disease especially with complications e.g. liver cirrhosis, COPD, diabetes, cancer, chronic hemodialysis

• Moderate

e.g. stroke, hematologic malignancy, severe pneumonia, extended abdominal surgery

OOO Severe

e.g. head traumas, bone marrow transplant, patients needing intensive care (APACHE-II > 10)

Patient's age

● Age ≥ 70 years → advanced age

3 – 7 points: Increased risk of malnutrition

Measures:

- 1. Detailed assessment and evaluation of the cause of malnutrition
- **2.** The dietician checks the indication for a nutritional therapy in a multiprofessional setting
- 3. Record malnutrition diagnosis according to ICD, ensure measures and processes up to coding happen

Nutritional algorithm as tested in the EFFORT study⁴⁻⁵ Individual supervision by a dietician as per nutritional algorithm



Nutritional goals

Energy requirement

$REE \times (AF + DF - 1)$

REE as per Harris Benedict with weight adjustment or indirect calorimetry

Protein requirement

1.2 – 1.5 g per kg body weight/day

0.8 g in severe renal failure without dialysis $(GFR < 30 \, ml/min/1.73 \, m^2)$

Micronutrients

Vitamins and minerals to reach 100 % RDA

Specific goals

Disease-related and clinic-specific adjustments



→ Ir c → H a → C	mplement NRS consistently an correctly Help patients develop a positive attitude towards nutritional the Clearly define interface manage	Supporting factors d → Assess protein and energy intak (e.g. with the plate protocol) e → Offer support for therapeutic dietary measures (such as sip-feeding)	If nece → Document nutritional counselling in the discharge summary → Organize provisioning of oral nutrition and/or artificial nutrition at	 Carry on with nutritional counselling (ambulatory care) 	Online calculator Calculate the NRS and the nutritional goals online: clinicalnutrition.science	
A project by			home List of abbreviations	References		
SVDE ASDD	Société Sulsas de Nutrition Clinique Reselisachat für Kinisache Ernährung der Schweiz Société Sulzare delle Mutritioner Clinique	Hes.so//genève	AF Activity factor DF Disease factor EFFORT Effect of Early Nutritional Therapy on Frailty, Functional Outcoand Recovery of Undernourished Medical Inpatients Trial GFR Glomerular filtration rate NRS Nutritional risk screening RDA Recommended daily allowance REE Resting energy expenditure	1 Kondrup J, et al. Nutritional risk screeni 2 Imoberdorf R, et al. Prevalence of under omes 3 Felder S, et al. Association of nutritional 4 Gomes F, et al. ESPEN guidelines on nut 5 Schuetz P, et al. Individualised nutritional With the friendly support of Nestlé Health S	 Kondrup J, et al. Nutritional risk screening (NRS 2002): a new method based on an analysis of controlled clinical trials. Clin Nutr. 2003;22(3):321-36. Imoberdorf R, et al. Prevalence of undernutrition on admission to Swiss hospitals. Clin Nutr 2010; 29: 38-41. Felder S, et al. Association of nutritional risk and adverse medical outcomes across different medical inpatient populations. Nutrition 2015; 31: 1385–93. Gomes F, et al. ESPEN guidelines on nutritional support for polymorbid internal medicine patients. Clin Nutr. 2018;37(1):336-53. Schuetz P, et al. Individualised nutritional support in medical inpatients at nutritional risk: a randomised clinical trial. Lancet 2019; 393(10188), 2312-232. With the friendly support of Nestlé Health Science Switzerland – www.nestlehealthscience.ch 	