

## Good nutrition practice

4 steps: screening, assessment, nutrition therapy, monitoring/follow-up





Nursing Home

# 4 steps to good nutrition practice



## Improves the nutritional status of your residents



## Alternative BMI measurement: Circumference of middle upper arm<sup>1,2</sup>



If the BMI cannot be determined (e.g. due to oedemas, contractures, amputations), the circumference of the middle upper arm can be measured as an alternative.

- An upper arm circumference < 25 cm corresponds to a BMI < 20.5 kg/m²  $^{\rm 3}$
- Allow arm to hang loosely
- Feel out the small hollow at the attachment of the upper arm to the shoulder (between collarbone and upper arm bone)
- Bend arm by 90°, with palm facing upward (Fig. 1)
- Measure length from the located hollow to the elbow (rearmost part of the elbow)
- Mark middle of upper arm (half of the measured length)
- Allow arm to hang down again
- At the mark, measure the circumference of the arm with a tape measure (do not pull too tightly (Fig. 2))
- <25 cm corresponds to BMI <20.5 kg/m²  $^{\rm 3}$

## Total energy requirements (kcal/day) = BEE x stress (activity) factor\*

#### "Activity factor" <sup>2</sup>:

Residents with low activity<sup>b</sup>:

Residents with high activityd:

c mainly walking and standing

Residents with moderate activity

b sitting, sometimes walking or star

d constantly walking and standing

Immobile residents<sup>a</sup>:

a mainly lying or sitting

#### "Stress factor" 1:

12	(to correct calculated energy requirement for hypermetabolism)					
14	Pressure ulcers/chronic wounds < 50 cm <sup>2</sup>	1.20 - 1.50				
e: 1.6	Pressure ulcers/chronic wounds > 50 cm <sup>2</sup>	1.50 - 1.90				
1.8	Long bone fracture	1.15 - 1.30				
	Cancer	1.10 - 1.30				
ndina	Acute infection	1.20 - 1.30				
	Reduced kidney function (not on dialysis)	0.60 - 0.80				

Sources: 1 National Kidney Foundation. Kidney disease outcomes quality initiative. Clinical practice guidelines for nutrition in chronic renal failure. Am J Kidney Dis 2000; 35: S56-65 2 European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel. Treatment of pressure ulcers: Quick Reference Guide. Washington DC: National Pressure Ulcer Advisory Panel; 2009 3 Kondrup, J et al. (2003) ESPEN Guidelines for Nutrition Screening 2002. Clin Nutr 22: 415-421



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#### Step Screening

M	NA® Nestlé NutritionInstitute	every 1-	ening - 3 months.			
A	Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?	<ul> <li>0 = severe decrease in food intake</li> <li>1 = moderate decrease in food intake</li> <li>2 = no decrease in food intake</li> </ul>				
В	Weight loss during the last 3 months	0 = weight loss greater than 3 kg (6.6 lbs) 1 = does not know 2 = weight loss between 1 and 3 kg (2.2 and 6.6 lbs) 3 = no weight loss				
С	Mobility	0 = bed or chair bound 1 = able to get out of bed/chair but does not go out 2 = goes out				
D	Has suffered psychological stress or acute disease in the past 3 months?	0 = yes 2 = no				
E	Neuropsychological problems	<ul> <li>0 = severe dementia or depression</li> <li>1 = mild dementia</li> <li>2 = no psychological problems</li> </ul>				
F1	Body Mass Index (BMI):	0 = BMI less than 19 1 = BMI 19 to less than 21 2 = BMI 21 to less than 23 3 = BMI 23 or greater				
If BMI is not available, replace question F1 with question F2. Do not answer question F2 if question F1 is already completed.						

F2 Calf circumference (CC) in cm 0 = CC less than 31 3 = CC 31 or greater See also table on carton and calculation aids for residents with amputation in the gnp practical guidance on p. 14 8-11 points = 12 - 14 points = Screening score 0-7 points = At risk Normal nutritional (max. 14 points) Malnourished of malnutrition status

Sources:

Vellas B, Villars H, Abellan G, et al. Overview of the MNA<sup>®</sup> - Its History and Challenges. J Nutr Health Aging 2006; 10: 456-465. Rubenstein LZ, Harker JO, Salva A, Guigoz Y, Vellas B, Screening for Undernutrition in Geriatric Practice: Developing the Short-Form Mini Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment (MNA\*5P). J Geront 2001; 564: M366-377. Guigoz Y The Mini-Nutritional Assessment Short-Form (MNA\*5P). A gracitcal tool for identification of nutritional status. J Nutr Health Aging 2009; 37:782-788. Société des Produits Nestlé, S.A., Vevey, Switzerland, Trademark Owners
 © Nestlé, 1994, Revision 2009. N67200 12/99 10M For more information: www.mna-elderly.com

### Measures referring to resident

#### Step 2 Assessment<sup>1</sup> Risk factors for nutrition/fluid deficiency

## Examples of possible reasons for a reduced food and/or fluid intake

#### Comments Physical or cognitive impairment Cognitive decline..... Impaired function of arms and hands. Problems in oral cavity... Swallowing problems. Þ

#### Swallowing checklist<sup>2</sup> (all residents)

Suspicion of aspiration in 'No' for any function	No	Yes	Comments
a. Is the patient alert and responding to speech?			
b. Can the patient cough when asked to?			
c. Is the patient able to maintain some control of salvia?			
d. Is the patient able to lick their top and bottom lip?			
e. Is the patient able to breath freely (i.e. has no problem in breathing without assistance and maintaining adequate oxygen saturation)?			
f. Are signs of wet- or hoarse-sounding voice absent?			

#### Lack of appetite/refusal of food

Psychological stress (e.g. social isolation)
Acute disease
Pain
Medical side effects (e.g. reduced urinary excretion)>
Taste and smell disorder

#### Food/beverage offer

Dissatisfaction with the offer	•

#### Other reasons:

Sources: 1 Adapted from DNOP (2009), PEMU. Andruck im Expertenstandard für die Pflege: Ernährungsmanagement, Deutsches Netzwerk für Qualitätssicherung in der Pflege, Osnabrück. 2 Ickenstein G.W. et al: Pneumonia and in-hospital mortality in the context of neurogenic oropharyngeal dysphagia (NOD) in stroke and a new NOD step wise concept. J. Neurol. 2010, 257:1492-1499.

Re-screening every 1-3 months.





## Step 3 Nutrition therapy

Daily energy requirements:*	25	kcal x	weight (kg) x	stress factor / activity = kcal/day
Daily protein requirements:**		g x	weight (kg) =	g/day
Daily fluid requirements:	30	ml x	weight (kg) =	ml/day

\* Please find calculation table for calculation of energy requirements on the cover inner page.

\*\* Calculation of protein requirements: Age ≥ 65 years 1.2 g/kg body weight (BW); Age ≥ 65 years with acute or chronic desease 1.5 g/kg BW

## %-calculation of requirements

	$\bigcirc$	Compared to an earlier normal portion the resident eats:           <25%         25-50%         50-75%         75-100%         100%	
Energy/ Protein	Intake versus requirement	Supplementation	
	<b>100 %</b> of requirements	No supplementation necessary	0%
	<b>75 – 100 %</b> of requirements	Energy- and protein-rich food and consider oral nutritional supplements	
	<b>50 – 75 %</b> of requirements	Oral nutritional supplements	25%
	<b>25 – 50 %</b> of requirements	If possible: oral nutritional supplements, if not: supplementary or complete tube feeding. Consider parenteral nutrition if enteral nutrition is inadequate or impossible.	50%
	< 25% of requirements	Tube feeding Consider parenteral nutrition if enteral nutrition is inadequate or impossible	

Source: adapted from Dutch Malnutrition Steering Group (2011): Guideline Screening and Treatment of Malnutrition. www.fightmalnutrition.eu.

## Nutrition therapy plan

Oral nutritional supplements	Tube feeding	Parenteral nutrition
product name	product name	product name
kcal/day	kcal/day	kcal/day
g protein/day	g protein/day	g amino acids/day
ml/day	ml/day	ml/day
no. of bottles	flow rate (ml/h)	flow rate (ml/h)
	duration (hours)	duration (hours)

## Step 4 Monitoring/Follow-up

Check the body weight always at the same time (e.g. in the morning, pre-breakfast, after urination), with similar clothing without shoes, and with the same validated scales.



Signature



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