

Medical Nutrition Therapy Tool

STEP 1 Screening

Hospital number				
Patient name				Age:
ID number				
Telephone no				
Date of admission				
Referring doctor				
Medical aid				
Medical aid no	ICD 10 code Diagnosis:			
Date of screening and assessment:				
Height (m):	Weight (kg):	Actual IBW:	Estimated wt:	Estimated BMI:

GLIM Criteria for diagnosing malnutrition⁽¹⁾
Tick the relevant boxes below:

	Phenotype criteria			Etiology criteria	
	Weight loss	BMI	Muscle mass	Food intake, malabsorption or moderate GI symptoms	Disease burden/ inflammation
Stage 1 Moderate Malnutrition	5-10 % within past 6 months, or 10-20 % beyond 6 months <input type="checkbox"/>	<20 if <70 years, or <22 if >70 years <input type="checkbox"/>	Mild to moderate deficit <input type="checkbox"/>	↓ intake below ER >2 weeks, or moderate malabsorption/ GI symptoms <input type="checkbox"/>	Acute disease/injury or chronic disease related <input type="checkbox"/>
Stage 2 Severe Malnutrition	>10 % within 6 months or >20 % beyond 6 months <input type="checkbox"/>	<18,5 if <70 years, or <20 if ≥70 years <input type="checkbox"/>	Severe deficit <input type="checkbox"/>	≤50 % of ER >1 week, or severe malabsorption/ GI symptoms <input type="checkbox"/>	Acute disease/injury or chronic disease related <input type="checkbox"/>

ER: Estimated requirements

Diagnosis requires 1 phenotype criteria and 1 etiology criteria

Evaluations and actions





Stage of malnutrition:

Patient related actions:

- Monthly screening and assessment
- Start a nutritional care plan
- Start directly with nutrition therapy (e.g. ONS)

Nutritional intake

Self-estimation by patient of nutritional intake of the last week:

-  ~ 100 %
-  ~ 75 %
-  ~ 50 %
-  ~ 25 %

STEP 3

Nutrition therapy

Date of screening and assessment:				
Height (m):	Weight (kg):	IBW:	Estimated wt:	BMI:
Hospital number				
Patient name				Age:
Date of admission				

Nutrition goals/individual requirements				
Target BMI	<input type="text"/>		Energy requirements	<input type="text"/> kcal/day
Target IBW	<input type="text"/>		20 - 25 kcal/kg BW/day¹ Use actual BW for calculations if BMI <30 otherwise use adjusted BW	
Goal weight	<input type="text"/>			
Protein requirements	<input type="text"/>	g/day	Acute or chronic illness: 1,3 - 1,5 g/kg BW/day ⁽²⁾ Rehabilitation: up to 2 g/kg BW/day ⁽³⁾ Obesity: BMI 2 g/kg IBW/day ⁽²⁾ BMI 2,5 g/kg IBW/day ⁽²⁾	
Fluid requirements	<input type="text"/>	ml/day	Fluid requirements: 30 - 35 ml/kg/day	
Increased fluid requirement: during fever 2 - 2,5 ml/kg body weight/day per 1 °C above 37 °C, vomiting, diarrhoea, severe burns, heavy sweating, drainage, fistulas or similar diseases. ⁴ Restricted fluid supply: during oedemas (cardiac, hepatogenic, renal pathogenesis), ascites, terminal kidney failure (with oliguria, anuria), dialysis treatment. ⁴				

STEP 4

Nutrition protocol

Assessment and regular monitoring of intake

[Click here for instructions on how to complete a Food and Fluid Protocol](#)

Daily food intake	Assessment			Monitoring, daily					
	3 day review of food intake			1	2	3	4	5	6
	Date	Date	Date	Date	Date	Date	Date	Date	Date
Breakfast kcal*									
Lunch kcal*									
Dinner kcal*									
Snack 1 kcal*									
Snack 2 kcal*									
Snack 3 kcal*									
Snack 4 kcal*									
Estimation of provided energy via food per day kcal*									
Energy intake via food (kcal)									
Protein intake via food (g)**									
ONS intake energy (kcal)									
ONS intake protein (g)									
Tube feed intake energy (kcal)									
Tube feed intake protein (g)									
Parenteral nutrition intake energy (kcal)									
Parenteral nutrition intake protein (kcal)									
Total energy intake (kcal)									
Total protein intake (g)									

* average energy content of provided menus during hospital stay (Breakfast, lunch, dinner and snacks)

** estimation of daily protein intake (high = H, medium = M, low = L); to be surveyed if possible.

Nutrition therapy plan

Estimations of intake based on daily **Food & Fluid protocol**:

Energy requirements	<input type="text"/>	kcal/day
- Energy intake	<input type="text"/>	kcal/day
= Energy substitution	<input type="text"/>	kcal/day

Protein requirements	<input type="text"/>	g/day
- Protein intake	<input type="text"/>	g/day
= Protein substitution	<input type="text"/>	g/day

Fluid requirements	<input type="text"/>	ml/day
- Fluid intake	<input type="text"/>	ml/day
= Fluid substitution	<input type="text"/>	ml/day





















Calculation of % of requirements

Energy intake/requirements x 100 = % of requirements
 Example: 1 400 kcal/2 100 kcal x 100 = 67 % of requirements

Protein intake/requirements x 100 = % of requirements
 Example: 40 g/59 g x 100 = 67 % of requirements

How to complete a Food & Fluid protocol

Example: Assessment of energy (protein) intake - 2 000 kcal

Breakfast (kcal)	Lunch (kcal)	Dinner (kcal)	Intake versus requirement	Supplementation	Energy Gap	Examples of appropriate supplementation
 620	 760	 620	100 % of requirement	No supplementation necessary	 0 %	
 620	 570	 465	75-100 % of requirement	Energy and protein rich food and consider oral nutritional supplements	 <25 %	100-400 kcal Energy/protein rich feed and/or Oral nutritional supplement
 465	 570	 465	50-75 % of requirement	Oral nutritional supplements	 25 %	500 kcal Oral nutritional supplements
 310	 380	 310	25-50 % of requirement	If possible: oral nutritional supplements If not: supplementary or complete tube feeding Consider parenteral nutrition if enteral nutrition is inadequate or impossible	 50 %	1 000 kcal Oral nutritional supplements and/or supplementary tube feeding, or complete tube feeding
 155	 190	 155	< 25 % of requirement	For < 21-28 days nasogastric tube feeding For > 21-28 days: tube feeding via PEG Consider parenteral nutrition if enteral nutrition is inadequate or impossible	 > 75 %	1 500 kcal Tube feed

Oral nutritional supplements

.....
product name

.....
kcal/day

.....
ml/day

.....
no. of bottles

Tube feeding

.....
product name

.....
kcal/day

.....
ml/day

.....
flow rate (ml/hr)

.....
duration (hours)

Parenteral feeding

.....
product name

.....
kcal/day

.....
ml/day

.....
flow rate (ml/hr)

.....
duration (hours)

Notes

.....
Date

.....
Signature

Nutrition therapy

Calculate the average energy and protein intake in % and determine nutrition therapy

	Date	Date	Date	Date	Date	Date	Date	Date	Date
ONS									
Dose:									
Enteral nutrition									
Rate ml/hour									
Parenteral nutrition									
Rate ml/hour									



Monitoring

Monitoring/ Follow-up		Monitoring 1	Monitoring 2	Monitoring 3	Monitoring 4	Monitoring 5	Monitoring 6	Monitoring 7
		Date	Date	Date	Date	Date	Date	Date
Energy	Energy intake via normal diet, kcal							
	Energy intake via ONS, kcal							
	Energy intake via tube, kcal							
	Energy intake via parenteral nutrition, kcal							
	Total Energy intake, kcal							
	% of requirements (Intake/requirements x 100)							
Protein	Protein intake via normal diet, g							
	Protein intake via ONS, g							
	Protein intake via tube, g							
	Protein intake parenteral nutrition, g							
	Total Protein intake, g							
	% of requirements (Intake/requirements x 100)							
Comments								

Continue to monitor blood parameters (Step 2: Assessment)

STEP 5

Monitoring Weight Development

Hospital number			
Patient name	Age:		
Date of admission			
Energy requirements in kcal/day		Protein requirements in kcal/day	

Start Date							
Weight gain + 10 kg							
+ 9 kg							
+ 8 kg							
+ 7 kg							
+ 6 kg							
+ 5 kg							
+ 4 kg							
+ 3 kg							
+ 2 kg							
+ 1 kg							
Starting weight (kg)							
- 1 kg							
- 2 kg							
- 3 kg							
- 4 kg							
Weight loss - 5 kg							

References:

- 1) Singer P, Reintam-Blaser A, Berger MM, Alhazzani W, *et al.* ESPEN guideline on clinical nutrition in the intensive care unit. *Clinical Nutrition*. 2019;38:48-79.
- 2) SA National Department of Health. National Parenteral Nutrition Practice. Guidelines for Adults. 2016.
- 3) van Zanten ARH , De Waele E, Wischmeyer PE. Nutrition therapy and critical illness: practical guidance for the ICU, post-ICU, and long-term convalescence phases. *Critical Care*. 2019;23:368.
- 4) Chidester J, Spangler A. Fluid intake in the institutionalized elderly. *J Am Diet Assoc*. 1997;97:23-9.