HAUTE AUTORITÉ DE SANTÉ

QUICK REFERENCE GUIDE

Nutritional support strategy for protein-energy malnutrition in the elderly

OBJECTIVE

To provide a guide for health professionals to assist management of elderly subjects who are malnourished or at risk of malnutrition.

RISK FACTORS FOR MALNUTRITION

- **Risk factors unrelated to age**: cancer, chronic and severe organ failure, diseases causing maldigestion and/or malabsorption, chronic alcoholism, infectious and/or chronic inflammatory diseases and all situations that may cause a reduction in food intake and/or an increase in energy requirements.

- **Risk factors more specific to the elderly:**

Psycho-socio-environmental factors	**Any acute disorder or decompensation of chronic disease**	**Long-term drug treatment**
• Social isolation • Grieving • Financial difficulties • Ill-treatment • Hospitalisation • Change in lifestyle: admission to an institution	• Pain • Infectious disease • Fracture causing a disability • Surgery • Severe constipation • Pressure sores	• Polymedication • Medication causing dryness of the mouth, dysgueusia, gastrointestinal disorders, anorexia, drowsiness, etc. • Long-term corticosteroids
Oral and dental disorders	**Restrictive diets**	**Dementia and other neurological disorders**
• Mastication disorders • Poor dental status • Poorly fitting dentures • Dryness of the mouth • Oropharyngeal candidiasis • Dysgueusia	• Salt-free • Slimming • Diabetic • Cholesterol-lowering • Long-term, residue-free	• Alzheimer's disease • Other forms of dementia • Confusional syndrome • Consciousness disorders • Parkinsonism
Swallowing disorders	**Dependency in daily activities**	**Psychiatric disorders**
• ENT disease • Degenerative or vascular neurological disorders	• Eating dependency • Dependency for mobility	• Depressive syndromes • Behavioural disorders

SCREENING METHODS

Target populations	Frequency	Tools
All elderly persons	• Once/year in primary care • Once/month in institutional care • On each admission to hospital	• Search for malnutrition risk factors (see above) • Assess appetite and/or food intake • Repeatedly measure body weight and evaluate weight loss in comparison with earlier record • Calculate body mass index [BMI = Body weight / Height^2] (weight in kg, height in metres)
Elderly persons at risk of malnutrition	• More frequent monitoring: according to clinical status and degree of risk (several concomitant risk factors)	

A questionnaire such as the Mini Nutritional Assessment (MNA) questionnaire can be used for screening.

DIAGNOSTIC CRITERIA

One or more of the following:

	Malnutrition	Severe malnutrition
Weight loss	≥ 5% in 1 month or ≥10% in 6 months	≥ 10% in 1 month or ≥15% in 6 months
Body Mass Index	< 21	< 18
Serum albumin (g/L)[1]	< 35	< 30
MNA score	< 17	

[1] Interpret serum albumin concentrations after taking into account any inflammatory processes evaluated by assay of C-reactive protein.

NUTRITIONAL SUPPORT STRATEGY

- The earlier nutritional support is provided the more effective it is.

Objectives of nutritional support in the malnourished elderly	Possible nutritional support methods
• Energy intake of 30 to 40 kcal/kg/day • Protein intake:1.2 to 1.5 g/kg/day	• Oral (dietary advice, assistance with eating, fortified diet and oral nutritional supplements (ONS) • Enteral • Parenteral

Criteria for choosing methods of support

- Nutritional status of elderly person
- Spontaneous energy and protein intakes
- Severity of underlying disease(s)
- Associated disabilities and their foreseeable outcome
- Opinion of patient and close relatives as well as ethical considerations

Indications for nutritional support

- **Oral** feeding is recommended as first-line treatment except when contraindicated
- **Enteral** nutrition **(EN)** may be used if oral nutrition is insufficient or impossible.
- **Parenteral** nutrition is restricted to the following three situations and implemented in specialized units, within the scope of a coherent treatment plan:
  - → Severe anatomical or functional malabsorption
  - → Acute or chronic bowel obstruction
  - → Failure of well-conducted enteral nutrition (poor tolerability)

Table 1. Strategy for nutritional support in the elderly person

		Nutritional status		
		Normal	Malnutrition	Severe malnutrition
Spontaneous dietary intake	**Normal**	Monitoring	Dietary advice Fortified diet Reassessed[1] at 1 month	Dietary advice Fortified diet and ONS Reassessed[1] at 15 days
	Reduced but more than half usual intake	Dietary advice Fortified diet Reassessed[1] at 1 month	Dietary advice Fortified diet Reassessed[1] at 15 days and if failure: ONS	Dietary advice Fortified diet and ONS Reassessed[1] at 1 week and if failure: EN
	Very reduced and less than half normal intake	Dietary advice Fortified diet Reassessed[1] at 1 week and if failure: ONS	Dietary advice Fortified diet and ONS Reassessed[1] at 1 week and if failure: EN	Dietary advice Fortified diet and EN from outset Reassessed[1] at 1 week

ONS: oral nutritional supplements; EN: enteral nutrition

[1]**Reassessment comprises:**

- Body weight and nutritional status
- Tolerability and adherence to treatment
- Clinical course of underlying disease
- Estimation of spontaneous food intake

FOLLOW-UP OF MALNUTRITION IN THE ELDERLY

	Tools	Frequency
Body weight	Scales appropriate to patient mobility	Once/week
Food intake	Simplified “semi-quantitative" method or precise calculation of intake over 3 days or at least over 24 hours	During each evaluation (see Table 1 on previous page)
Serum albumin	Assay except if normal baseline value	Not more than once/month

PRACTICAL METHODS OF NUTRITIONAL SUPPORT

Dietary advice

- Apply benchmarks of the French National Nutrition Health Programme (PNNS)[1]
- Increase daytime eating frequency
- Avoid long periods without food during the night (>12 hours)
- Provide high-energy and/or high-protein foods suited to patients’ preferences
- Organize feeding assistance (technical and/or human) and provide agreeable surroundings

Fortified foods

- Fortify traditional diet with various basic products (powdered milk, concentrated whole milk, grated cheese, eggs, fresh cream, melted butter, industrial protein oil or powders, high-protein pasta or semolina etc.). The aim is to increase the energy and protein intake of meals without increasing their volume.

Oral nutritional supplements (ONS)

- ONS are complete, high-energy or high-protein nutrient mixes with a variety of tastes and textures that may be given orally
- High-energy (≥1.5 kcal/mlL or g) and/or high-protein (proteins ≥7.0 g/100 mL or 100 g, or proteins ≥20% of total energy intake products are advised
- ONS must be eaten during snacks (at least 2 hours before or after a meal) or during meals (in addition to the meal)
- The goal is to provide an additional food intake of 400 Kcal/day and/or 30 g/protein day (generally with 2 units/day)
- ONS must be tailored to patients' preferences and any disabilities
- Storage conditions must be followed once opened (2 hours at room temperature and 24 hours in the refrigerator).

Enteral nutrition (EN)

- **Indications** Failure of oral nutritional support and first-line therapy In the case of severe swallowing disorders or severe malnutrition with a very low food intake.
- **Institution**: Hospitalization for at least a few days (intubation, evaluation of tolerability, education of patient and close relatives)
- **Continuation at home** After direct contact between the hospital department and primary care doctor, initiation and follow-up by a specialized service provider possibly with a home nurse or a hospital-at-home unit, if the patient or his family cannot manage the EN
- **Prescription** Initial prescription for 14 days, then a 3-month, renewable follow-up prescription
- **Monitoring** By the prescribing department and the primary care doctor according to body weight and nutritional status, disease outcome, safety, adherence to EN and assessment of oral food intake.

[1] http://www.sante.gouv.fr//htm/pointsur/nutrition/index.htm

SPECIAL SITUATIONS

Nutritional support in	Recommendations
Terminal disease	• Aims: for pleasure and comfort • Maintenance of a good oral status • Relief of symptoms that may affect the desire to eat or the pleasure of eating (pain, nausea, glossitis and dryness of the mouth) • Refeeding by the parenteral or enteral route is NOT recommended
Alzheimer patients	• Recommended in the case of weight loss • Appropriate in food behaviour disorders dyspraxia or swallowing disorders. • **Mild or moderate disease**: Begin by the oral route and then if this fails, propose enteral nutrition for a limited time • **Severe** forms: Enteral nutrition is NOT recommended owing to the high risk of life-threatening complications
Patients with or at risk of pressure ulcers	• Same nutritional goals as those for malnourished patients • Start orally • If this fails, institute enteral nutrition, taking into account the patient's somatic characteristics and ethical considerations.
Patients with swallowing disorders	• Continue to feed orally, even with very small amounts provided that there is only a low risk of aspiration • Enteral nutrition is indicated if the oral route causes respiratory complications and/or is insufficient to cover nutritional requirements • If swallowing disorders are expected to last for more than 2 weeks, enteral nutrition by gastrostomy is preferred to a nasogastric tube
During convalescence (after acute disease or surgery)	• In the case of weight loss after acute disease or surgery • In cases of hip fracture, temporary prescription of oral nutritional supplements
During depression	• In the case of malnutrition or reduced food intake • Regular nutritional monitoring of patients

COORDINATION OF NUTRITIONAL SUPPORT L

At home

- Individual assistance: from family and friends, domestic help, meals-on-wheels, senior citizen meal centres
- Organizations with the role of setting up systems, coordination and information:
  - Healthcare networks including those for geriatric patients
  - Community Social Action Centres (CCAS)
  - Local Information and Coordination Centres (CLIC)
  - Social Services
- Financial support for this assistance
  - APA (personal autonomy allowance)
  - Social Assistance from the county (*département)*
  - Pension funds and some mutual insurance companies

In healthcare institutions

- Multidisciplinary management under the responsibility of the coordinating doctor

In the hospital

To improve nutritional support and ensure high-quality food and nutrition services:

- Diet and Nutrition Liaison Committee (CLAN)
- Creation in hospitals of interdepartmental nutrition units (UTN)