



A2.2 – Educative resources for teachers

**Title** Basic methods of nutritional status assessment and hydration status

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: **Feeding & Hydration**



# Introduction

<b>Module</b>	CARING TECHNIQUES FOR WELL-BEING
<b>Sub-module</b>	Feeding & Hydration
<b>Lesson nr.</b>	#1 <b>Basic methods of nutritional status assessment and hydration status</b>
<b>Duration</b> (minutes)	45 minutes
<b>Date</b>	

# Lesson Outcomes

1. Ability to define the nutritional status and to list the types of disorders
2. Ability to make anthropometric measurements of body weight and height according to the user's condition
3. Ability to calculate the appropriate body weight
4. Ability to calculate and interpret body mass index (BMI)
5. Ability to define the state of body hydration
6. Ability to assess hydration status based on clinical symptoms

# Assessment of nutritional status

1. **Nutritional status** is the state of health that results from the habitual consumption of meals and the course of digestion, absorption and utilization of nutrients delivered to the body. These processes may be affected by pathological factors. In order to maintain proper nutritional status, it is necessary to supply the body with nutrients and energy according to the individually determined needs and principles of prevention of nutrition-dependent diseases.
2. **The nutritional status is considered normal when** the processes of digestion, absorption and utilization of the consumed nutrients proceed without problems. Both excessive (overweight, obesity) and insufficient nutritional status (malnutrition) are considered abnormal.
3. Both obesity and malnutrition are risk factors for health deterioration and even increased mortality. Therefore, it is very important to be able to assess the nutritional status of the user.
4. The basic method of assessing nutritional status is to determine the BMI. In order to calculate this, it is necessary to measure body weight and height.

# Weight measurement

- Measuring body weight is a simple task that can be done using different types of standardized scales, either standing or chair, depending on the condition of the user.



[https://www.123rf.com/photo\\_60004115\\_fat-man-or-woman-standing-on-weight-scale-with-heavy-weight-vector-concept-of-weight-loss-healthy-li.html](https://www.123rf.com/photo_60004115_fat-man-or-woman-standing-on-weight-scale-with-heavy-weight-vector-concept-of-weight-loss-healthy-li.html)



<https://radwag.com/pll>

# Weight measurement – instruction

1. Inform the user about the measurement and assess whether he/she can approach the scale.
2. Prepare the scale - set the scale to "0".
3. Instruct the user to step on the scale / sit on it.
4. Depending on the type of scale, take the weight reading.
5. Read the result and record it in the records of the mentee.
6. Instruct the person to step off the scale and if necessary help him/her to get back to bed/ chair.

Weighing should be done at the same time of the day, not immediately after a meal.

# Weight measurement – unintentional weight loss – interpretation

1. A weight measurement that indicates that the current weight is less than 80% of the person's normal weight is considered an abnormal result – indicating inadequate nutritional status.
2. Unintentional weight loss of more than 5% of normal body weight should be associated with an appropriate diagnostic procedure to determine the cause.
3. Unintentional weight loss of 10% of normal body weight results in impaired functional capacity and increased risk of disease events.
4. A loss of 15 – 20% of normal body weight is equivalent to severe malnutrition.

# Measuring body height

1. Height is the distance from the base of the body to the highest anatomical point on the head.
2. Measuring height in a standing position can sometimes be difficult (e.g., difficulty in standing, immobilization in bed) or even impossible.
3. In such cases the value of the arm span can be used to determine the height, which in adults changes slightly with age and correlates well with the body height.





# Measuring body height – instruction

1. The user stands on the height gauge or the floor (on paper) barefoot or in stockings (socks).
2. Instruct the user to straighten up and draw the chin slightly to the neck, bring the heels together, with the whole body clinging to the growth meter.
3. You set the measure of the growth meter so that it touches the top of the head slightly.
4. You instruct the user to step off the height gauge, I read the user's height on the scale.
5. You note the result in the user's record.
6. In some cases (when the user is unable to stand) the height the arm span value can be used to determine height, which correlates well with body height in adults.

# Calculation and interpretation of BMI (Body Mass Index)

- Body weight and height are the parameters necessary to calculate the body mass index – BMI. According to the formula:

A photograph of a spiral-bound notebook with a green cover. The word "BMI" is written in large, bold, black letters and underlined with a green highlighter. Below it, the formula  $BMI = \frac{\text{mass(kg)}}{(\text{height(m)})^2}$  is written in black ink, also underlined with a green highlighter. A green measuring tape is visible in the background, partially covering the notebook.
$$BMI = \frac{\text{mass(kg)}}{(\text{height(m)})^2}$$

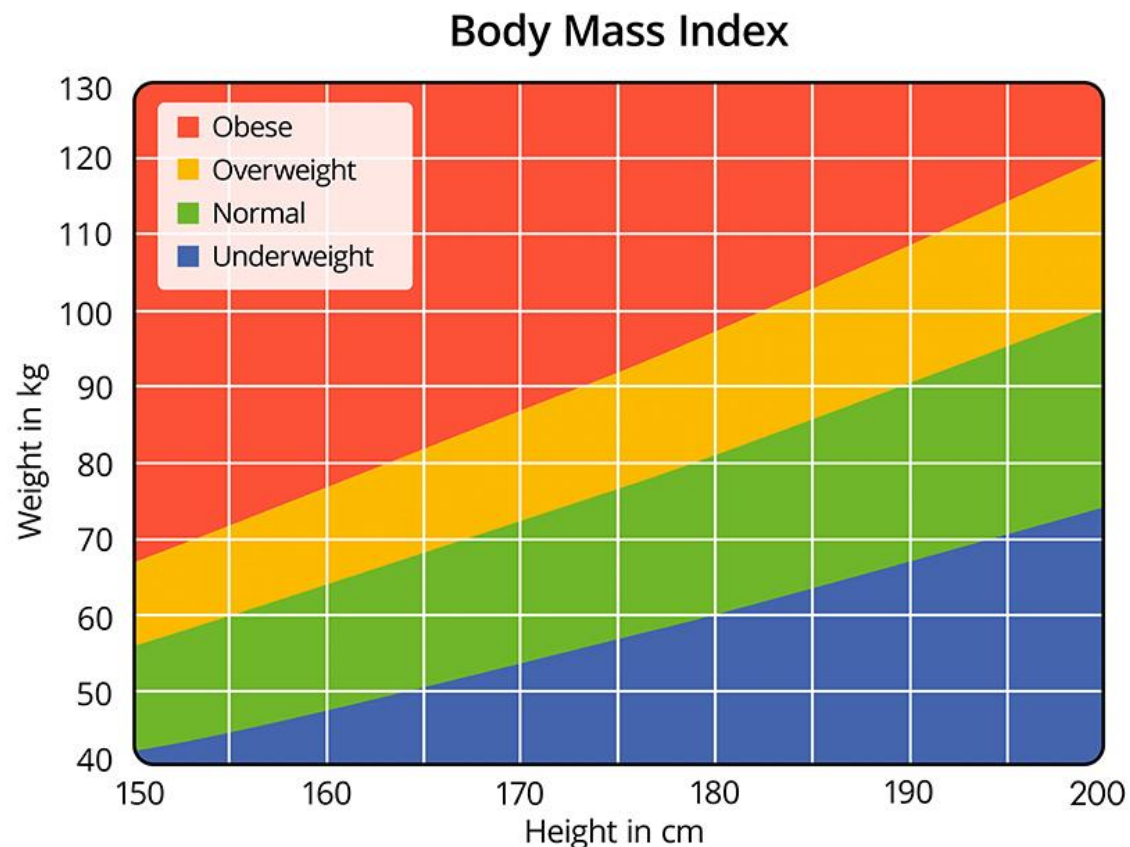
# BMI – interpretation

- For its interpretation in adults, the WHO (World Health Organization) recommendations are usually used:

- $< 16.0$  - starvation
- 16.0-16.99 - emaciation
- 17.0-18.49 - underweight
- 18,5-24,99 - normal weight
- 25,0-29,99 - overweight
- 30,0-34,99 - first degree obesity
- 35,0-39,99 - second degree obesity
- $\geq 40,0$  - third degree obesity



# BMI – interpretation



- The most relevant standards for the elderly (over 65 years of age) are those established by the Committee on Diet and Health, according to which normal BMI values for people  $\geq 65$  years of age are in the range 24-29 kg/m<sup>2</sup>
- Assessment of nutritional status based on BMI is possible only on the basis of a minimum of two measurements taken several months apart.

# Normal body weight based on BMI

- The normal body weight in adults is within the range: BMI = 18.5 - 24.9 kg/m<sup>2</sup>
- For example: for a person with a body height of 1.65 m, the normal weight would be between 50.4 kg and 67.8 kg

## **Lowest normal body weight:**

- $(1.65 \text{ m} \times 1.65 \text{ m}) \times 18.5 \text{ kg/m}^2 = 50.4 \text{ kg}$

## **Highest normal body weight:**

- $(1.65 \text{ m} \times 1.65 \text{ m}) \times 24.9 \text{ kg/m}^2 = 67.8 \text{ kg}$

# Hydration assessment

1. Water is the main component of the human body, providing the environment for many vital transformations and processes.
2. Proper hydration is therefore a necessary condition for the proper functioning of the body. It means supplying fluids in the amount which secures current needs of the organism.
3. These needs change due to age factors, as does the total amount of water in the body.

# Hydration assessment

- The amount of water in the body depends on many factors, such as age (in newborns it accounts for 75-80% of body weight, in adults water accounts for about 60% of body weight and in people over 60 years of age about 50% of body weight) and gender, as well as body fat percentage and health status.
- The amount of fluid provided in the diet and the amount of water lost is also an important factor.

# Incorrect hydration of the body

- Both **dehydration** (water deficiency) and **overhydration** (water excess) can have a negative impact on the health of the client.
- Hydration assessment is an important part of the care and management of the user, but it is difficult to carry out accurately in the home environment.
- The most important thing is to watch the user for signs and symptoms that may indicate a poor hydration status.



# Symptoms of dehydration

- chapped lips
- a feeling of dryness in the mouth
- loss of skin elasticity and sunken eyes
- headaches and dizziness
- concentration problems
- excessive agitation, nervousness or drowsiness
- disturbances of consciousness
- visual disturbances
- a feeling of weakness
- constipation
- decreased urination, more frequent urinary tract infections
- a tendency to fall, especially in older people



# Symptoms of conductivity

- difficulty in breathing
- local or full body swelling
- various types of consciousness disorders
- headaches
- increased urination



<https://www.bettypisze.pl/obrzeki-nog/>

# Fluid balance....

- The term „fluid balance" means the difference between the amount of fluid taken in and excreted from the body during the day.
- In practice, it is a procedure consisting in measuring and assessing the volume of fluids taken in and excreted by the body during the day.

# Daily fluid balance in a healthy adult

## Fluid intake (in ml)

- Liquid food 1000-1500 ml
- Solid food 700 ml
- Oxidative water 300 ml (produced during the combustion of exogenous and endogenous fats, carbohydrates and proteins)

**Total: 2000-2500ml**

## Fluid losses (in ml)

- Kidneys 1000-1500ml
- Skin and lungs (undetected evaporation) 900ml
- Gastrointestinal tract with stools 100ml

**Total: 2000-2500ml**

**In a healthy person the water balance should be 0**



# Factors affecting fluid balance

- People with fever have a higher average fluids loss of 0.5-1 litre/day, therefore dehydration occurs more easily in them.
  
- To the loss of fluids, we also add:
  - vomiting,
  - amount of contents sucked out through a tube
  - amount of contents from drains, fistulas
  - diarrhoea



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A2.2 – Educative resources for teachers

## **Title** Basic information on nutrition and hydration

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: **Feeding & Hydration**



# Introduction

<b>Module</b>	CARING TECHNIQUES FOR WELL-BEING
<b>Sub-module</b>	Feeding & Hydration
<b>Lesson nr.</b>	#2 <b>Basic information on nutrition and hydration</b>
<b>Duration</b> (minutes)	45 minutes
<b>Date</b>	

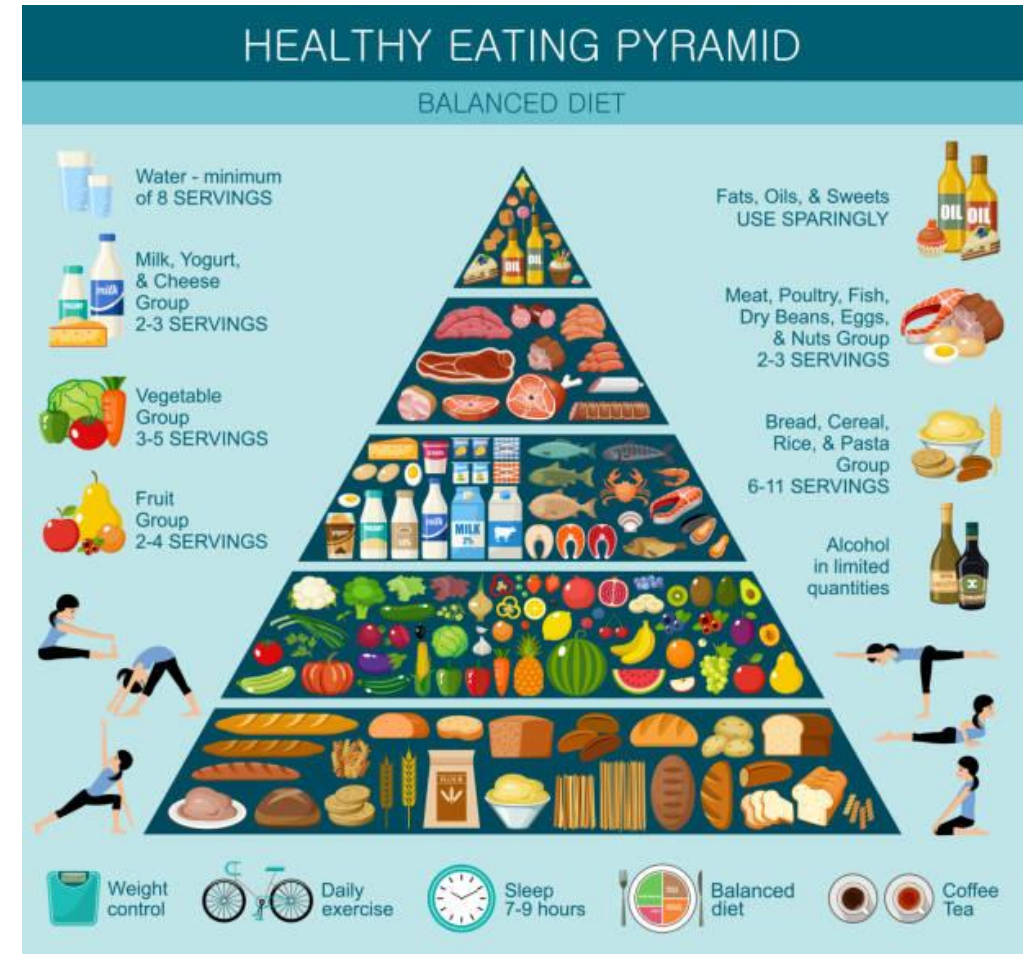


# Lesson Outcomes

1. Ability to list basic dietary recommendations for adults and elderly.
2. Ability to determination of user's of nutrient and fluids needs.
3. Ability to identify existing needs and determine the scope of needed compensation for existing disabilities/limitations.

# Sources of energy in food

- Appropriate proportions of energy components in the diet are important in providing energy. Dietary fats, carbohydrates and proteins are the basic sources of energy for the human body.
- 1 gram of fat releases 9 kcal, 1 gram of carbohydrate and 1 gram of protein provides 4 kcal each, but proteins are mainly the building blocks.
- Other products, such as ethyl alcohol, also provide a certain amount of energy: 1 gram of pure ethyl alcohol is 7 kcal.



# Recommendations for the intake of essential nutrients

- From fat should come 20-35% of energy (children from 4 years, adolescents and adults). In the diet of older people, it is recommended that the fat content of the diet should be around 25%.
- For carbohydrates, 45-60% of dietary energy is recommended.
- The recommended proportion of protein to cover energy requirements is 10-20%, except children under 2 years (5-15%) and older people over 65 years (15-20%).

# Factors influencing the organism's energy requirements

- Daily energy requirements vary from person to person individuals and that it varies according to a number of factors, which include:

- gender
- age
- body build (body size)
- intensity of physical activity
- physiological status (pregnancy, breastfeeding in women)



- For example: adult men, tall people with high physical activity have the highest energy requirements.

# Factors affecting water requirements

1. Gender
2. Age
3. Body fat percentage
4. Physical activity/mobility
5. Body temperature (fever)
6. Ambient temperature, air humidity
7. Chronic diseases (kidney, cardiovascular, diabetes)
8. Medication (diuretics, laxatives, medicines for Parkinson's disease and depression)

# Daily energy needs

- The daily energy requirements of adults change at different times of life.
- It decreases with age:
  - after the age of 31,
  - another decrease occurs from the age of 51
  - a further decrease occurs after the age of 66
  - it is lowest in people over 75 years of age

# Energy requirements (calories) for men and women of the same body weight and physical activity at different periods of life

<https://ncez.pzh.gov.pl/wp-content/uploads/2021/03/broszura-energia-1.pdf>

Age (years)	Body weight (kg) - healthy	Physical activity	Daily energy requirement (kcal)
<b>WOMEN</b>			
19-30	75	small	2250
31-50	75	small	2050
51-65	75	small	1950
66-75	75	small	1900
> 75	75	small	1850
<b>MEN</b>			
19-30	75	small	2550
31-50	75	small	2400
51-65	75	small	2300
66-75	75	small	2050
> 75	75	small	1950

# Energy requirements (calories) for women and men of the same age and body weight depending on the level of physical activity

<https://ncez.pzh.gov.pl/wp-content/uploads/2021/03/broszura-energia-1.pdf>

Age (years)	Body weight (kg) - healthy	Physical activity	Daily energy requirement (kcal)
<b>WOMEN</b>			
51-65	75	small	1950
51-65	75	medium	2450
51-65	75	large	3350
<b>MEN</b>			
51-65	75	small	2450
51-65	75	medium	3050
51-65	75	large	4200



# Energy (calorie) requirements for men and women of the same age according to their body weight

<https://ncez.pzh.gov.pl/wp-content/uploads/2021/03/broszura-energia-1.pdf>

Age (years)	Body weight (kg) - healthy	Physical activity	Daily energy requirement (kcal)
<b>WOMEN</b>			
51-65	55	small	1750
51-65	65	small	1800
51-65	75	small	1950
<b>MEN</b>			
51-65	55	small	1950
51-65	65	small	2100
51-65	75	small	2300

# Energy requirements (calories) in illness and after injury

- Energy requirements in illness and after injury increase from as much as 15 to 100%. The body needs an additional portion of calories to activate the body's defensive functions. Also, the accompanying fever entails an increase in energy expenditure – by about 10-15% for each Celsius degree.
- A weakened user's body also needs more energy to perform normal daily activities (e.g., in Parkinson's disease), and even to breathe (e.g., in COPD) or to work the heart. Unintentional activities, such as shaking of the limbs or coughing, also require extra energy. Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator) (free version).
- The individual energetic needs of the user should be discussed with a doctor and a dietician.

# Water requirements

- The average water (fluid) requirement of an adult is 30-35 ml for each kilogram of body weight.
- It is recommended that the water intake should not be less than 1.5 litres per day.

# Water requirements – accurate estimation

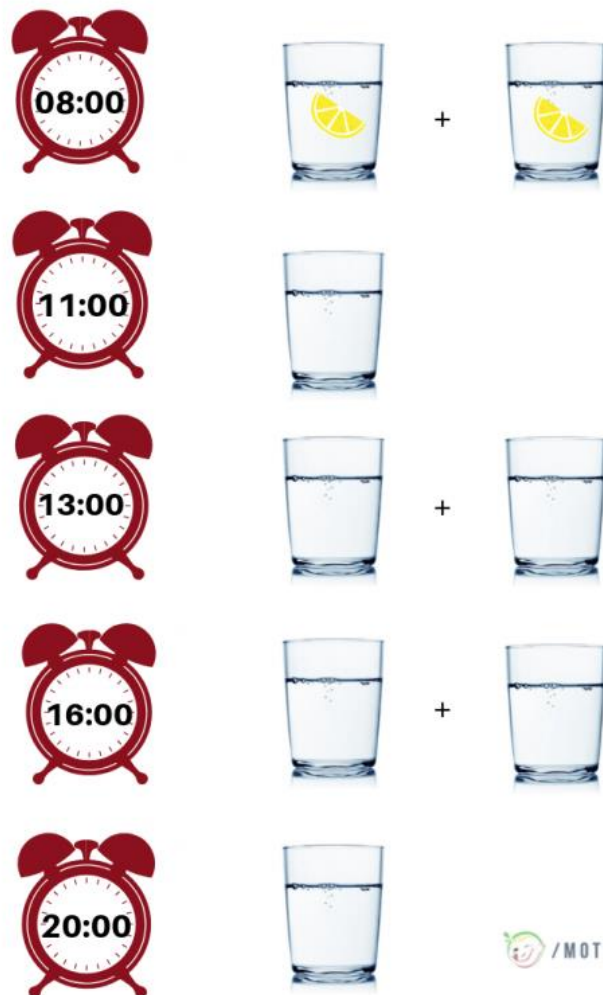
- 100 ml per kilogram for the first 10 kg of body weight
- 50 ml per kilogram for the next 10 kg
- 20 ml per kilogram for the remaining kilograms of body weight (15 ml for the elderly).

## *How to calculate this in practice - an example?*

An adult weighing 65 kg – the daily water requirement will be:

$$10 \times 100 \text{ ml} + 10 \times 50 \text{ ml} + 45 \times 20 \text{ ml} = 2400 \text{ ml}$$

# How to drink water for good hydration?



**Daily water requirement averages  
30 - 35 ml per kg body weight**

# Nutrition and hydration – guidance

- Keep in mind that your diet should take into account user health (e.g., need for fluid restriction, diabetes, allergies, intolerances) and preferences;
- Provide regular meals (5-6 meals, every 2-3 hours), meals should be varied, small in volume and freshly prepared, with at least one hot meal per day;
- Keep meals visually appealing and tasty. Ensure appropriate conditions for the user to eat in comfort and peace – do not disturb the meal (e.g., by administering medication, taking the temperature);
- If the user's condition requires it, help them as much as necessary. It is very important to maintain as much independence as possible;

# Nutrition and hydration – guidance

- Make sure that user drinks about 2 l of fluids a day. Even if the person does not feel thirsty, encourage them to drink frequently, in small sips;
- Vegetables and fruit should make up at least half of your user's daily diet. If they are not well tolerated in uncrushed form, they can be replaced by purees, juices (200-400 ml per day);
- Your user's daily diet should include whole grain cereals and dairy products - mainly fermented (yoghurt, kefir), you can also use cheese;

# Nutrition and hydration – guidance

- Try to include fish, eggs, lean meat and pulses in your user's diet to prevent protein deficiency;
- Vegetable oils are a source of beneficial fatty acids – use them instead of those of animal origin;
- Replace sweets with fruit and nuts, and salt with herbs, which have valuable ingredients and improve the taste of food;
- Remember that the elderly and sick in particular often have an increased need for vitamin D (due to decreased access to sunlight, less developed subcutaneous tissue, and diathetic limitations due to illness or reduced appetite), which needs to be supplemented;



# Nutrition and hydration – guidance

- Encourage the user to engage in rewarding activity according to their current abilities and needs (physical and/or mental) – feeling good improves appetite;
- Limit the intake of processed foods and drinks containing high levels of phosphates (e.g., cola type drinks).



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A2.2 – Educative resources for teachers

## **Title** Methods and techniques of nutrition and rehydration by the oral route

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: **Feeding & Hydration**



# Introduction

<b>Module</b>	CARING TECHNIQUES FOR WELL-BEING
<b>Sub-module</b>	Feeding & Hydration
<b>Lesson nr.</b>	#3 <b>Methods and techniques of nutrition and rehydration by the oral route</b>
<b>Duration</b> (minutes)	45 minutes
<b>Date</b>	

# Lesson Outcomes

1. Ability to identify existing needs and determine the scope of needed compensation for existing disabilities/limitations
2. Ability to list the principles of proper nutrition and hydration by the oral route, according to the existing needs, difficulties and limitations
3. Ability to feed the user by the oral route, according to the existing needs, difficulties and limitations
4. Ability to stimulate appetite of the user

# Nutrition and oral feeding of the user

- People who are ill, dependent or elderly due to their condition are often unable to meet their nutritional needs on their own due to existing difficulties in shopping, preparing or eating meals on their own. They also often have problems with chewing, swallowing and even eating on their own. In such cases, the assistance of a carer is necessary.
- Helping the person to eat or become dependent requires the caregiver's attention and concentration.
- It is very easy not to notice that the charge has difficulties with biting, swallowing and may choke on food. Therefore, let us pay special attention to him during feeding, let us not urge, stress or force him. If possible, assist the client non-stop during the meal.

# What should be considered when preparing meals for user?

1. In the case of problems with chewing and swallowing, it is necessary to change the consistency of meals intended for the user to pap-like, of liquid or semi-liquid consistency, but thick enough to avoid choking.
2. It is important to keep the body hydrated. It is usually recommended to drink about 2.5 litres of liquids in the form of juices, compotes, soups and still water. The fluid intake of a bed-ridden user depends on their physical activity, but also on the temperature and humidity of the room they are in.

# What should be considered when preparing meals for user?

3. In sick and elderly users, special attention should be paid to the nutritional value of meals. Meals should be easily digestible and well balanced in terms of all building blocks (water, protein), energy (fats, carbohydrates – including fibre), vitamins and minerals. Sugar and salt, which retain water in the body, should be limited.
4. It is recommended to have 4-5 meals a day, preferably at regular times, with dinner no later than 7 pm.
5. Food should be warm, but not hot.



# What should be considered when preparing meals for user?

6. All ingredients must be soft and well cooked.
7. Vegetables can be puréed or grated and meat can be minced, chopped or made into meatballs or meatloaf.
8. Meals should be served using suitable, safe utensils – safe for the user: cups with a spout, a non-slip mat under the plate, so that it does not slide on the tray or the table.

# What should be considered when preparing meals for user?

9. If the user has difficulty using a knife and fork, prepare the food so that it can be eaten with a spoon. You can also use cutlery that is easier to hold (e.g., plastic with an extended handle).
10. In advanced stages of the disease, which may be accompanied by hand tremor or limb paresis, it is necessary to provide food in liquid or semi-liquid form from special containers. In many cases the carer must help by feeding the user.

# Meal preparation

- Prepare the meal in the form in which user likes, always remember about the aesthetics of its serving.
- Prepare the environment for the meal – air the room, tidy unnecessary items, prepare the necessary equipment, place a napkin on the bedside table/table, place crockery and cutlery as for a traditional meal. If necessary, secure the clothes of the resident.
- Place the user in a sitting position – feeding while lying down, as there is a risk of choking! Leave the user in this position for another 30 minutes after feeding.
- Sit close to the user, in such a way that you have eye contact.
- Pay particular attention to the occurrence of dysphagia in user.

# What are the symptoms of dysphagia?



# Feeding rules

- If the user is able to eat independently, with a little help, do not relieve her/him. Help her/him as much as necessary.
- If the user's condition requires that you feed him, do so in such a way that she/he does not feel embarrassed and treated like a small child:
- Put small, easily swallowed portions on a spoon/fork.



[serviceadomicile-imagebig.jpg \(670x436\) \(bienvivremairetraite.fr\)](https://www.bienvivremairetraite.fr)

# Feeding rules

- Observe when she/he chews or swallows – if necessary, e.g., if there are problems with biting and swallowing, grind the food (pureed or mixed form)
- Do not hit the teeth with cutlery – in some people this may provoke a jaw-clenching reflex (users with cognitive impairment).
- If the user does not want to open her/his mouth, lightly touch his mouth with the tip of the spoon. Do not force-feed the user against his will.
- Remain calm if something spills or falls.



[serviceadomicile-imagebig.jpg \(670x436\) \(bienvivremairetraite.fr\)](#)





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A2.2 – Educative resources for teachers

## **Title** Methods and techniques of feeding

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: **Feeding & Hydration**



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# Introduction

<b>Module</b>	CARING TECHNIQUES FOR WELL-BEING
<b>Sub-module</b>	Feeding & Hydration
<b>Lesson nr.</b>	<b>#4 Methods and techniques of feeding</b>
<b>Duration</b> (minutes)	90 minutes
<b>Date</b>	

# Lesson Outcomes

1. Ability to identify types of feeding access to enteral nutrition and accessories
2. Ability to demonstrate appropriate techniques for formula and medication administration by tubes/PEG
3. Ability to describe optimal tube/PEG site care
4. Ability to recognize and troubleshoot main complications of tube/ PEG feeding

# Enteral nutrition by artificial access (nasogastric tube or PEG)

- If the most physiologic natural route (oral) of nutrition cannot be used, an artificial one (nasogastric tube or nutritional device fusion - PEG) should be used.
- If enteral feeding is planned for up to 4 weeks, tube feeding is sufficient. If feeding is planned for more than 4 weeks, a nutritional fistula (gastro- or rarely jejunostomy) should be considered.

# Enteral nutrition by artificial access (nasogastric tube or PEG) – indications

## **NASOGASTRIC TUBE**

- refusal to eat
- malnutrition caused by a lack of appetite and swallowing disorders (dysphagia)
- diseases of the mouth, throat and/or oesophagus making it impossible to take in food
- disorders resulting from intake of radio- and chemotherapy
- short bowel syndrome

## **PEG**

- expected feeding period longer than 4 weeks
- incurable, rapidly progressive, palliative conditions
- cancer, tumours or injuries in the head, ear, nose, salivary glands, neck, oesophagus and stomach gullet
- neurological diseases, e.g., dementia syndromes, SLA, Parkinson's disease, vegetative state
- severe cachexia
- non-specific prior to certain types of surgical treatment, radiation and/or chemotherapy
- inflammatory bowel diseases
- cystic fibrosis

Ultimately, the choice of feeding method is made by doctor.

# Feeding tubes – types

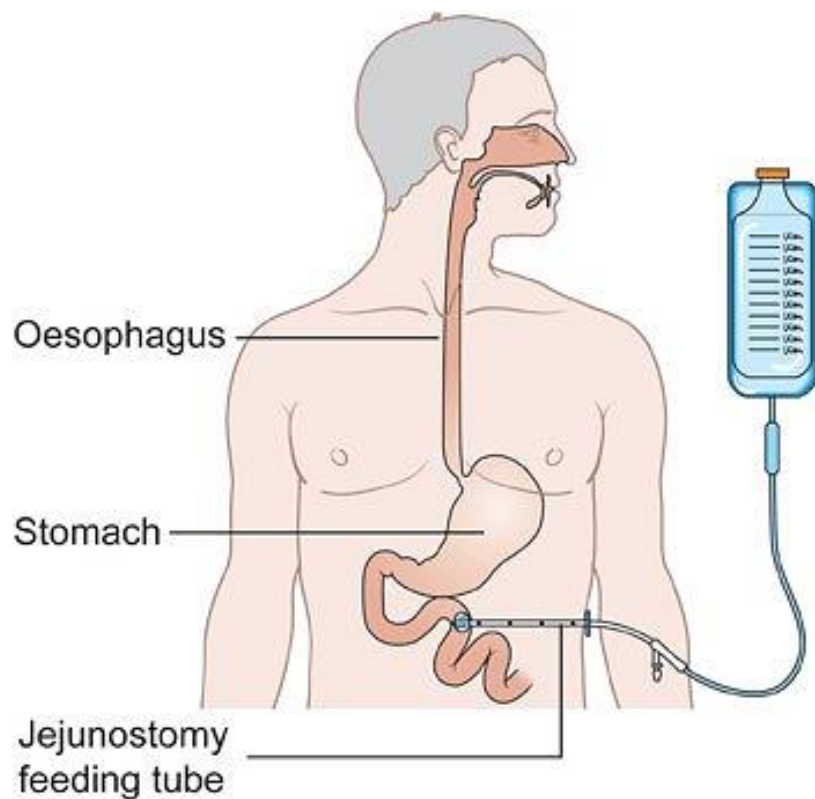


Diagram showing the position of a percutaneous jejunostomy feeding tube  
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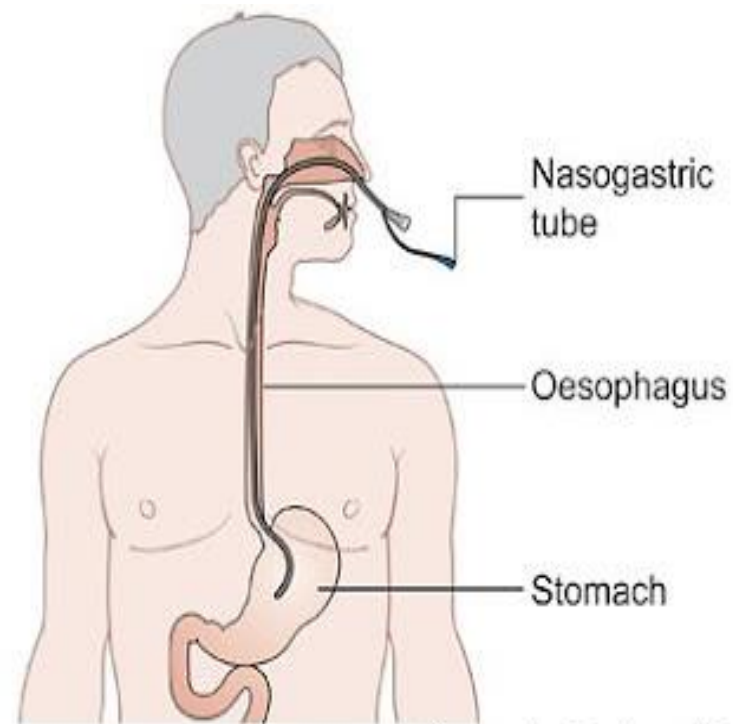
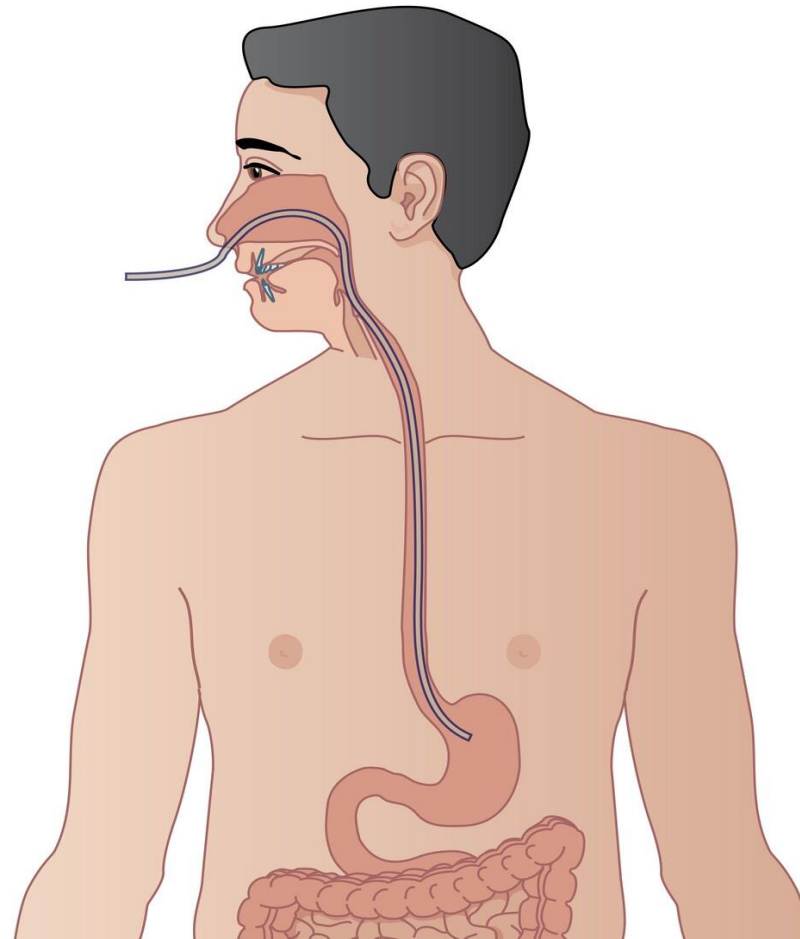


Diagram showing the position of a nasogastric tube  
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# Short-term feeding tubes

- Nasogastric (NG) tube is inserted up the nose and down the throat. It is passed down the esophagus and rests in the stomach. It may remain in place for 4 to 6 weeks before being completely removed or replaced with a tube for long-term feeding.
- Orogastric (OG) tube is the same type of tube as the NG tube, but it is inserted into the mouth. It then follows the same route through the throat and esophagus to the stomach. It can stay there for up to two weeks before being removed or replaced - rarely used.
- Temporary feeding tubes can be passed into the stomach (G-tube) or further into the small intestine (J-tube).

# Nasogastric (NG) tube

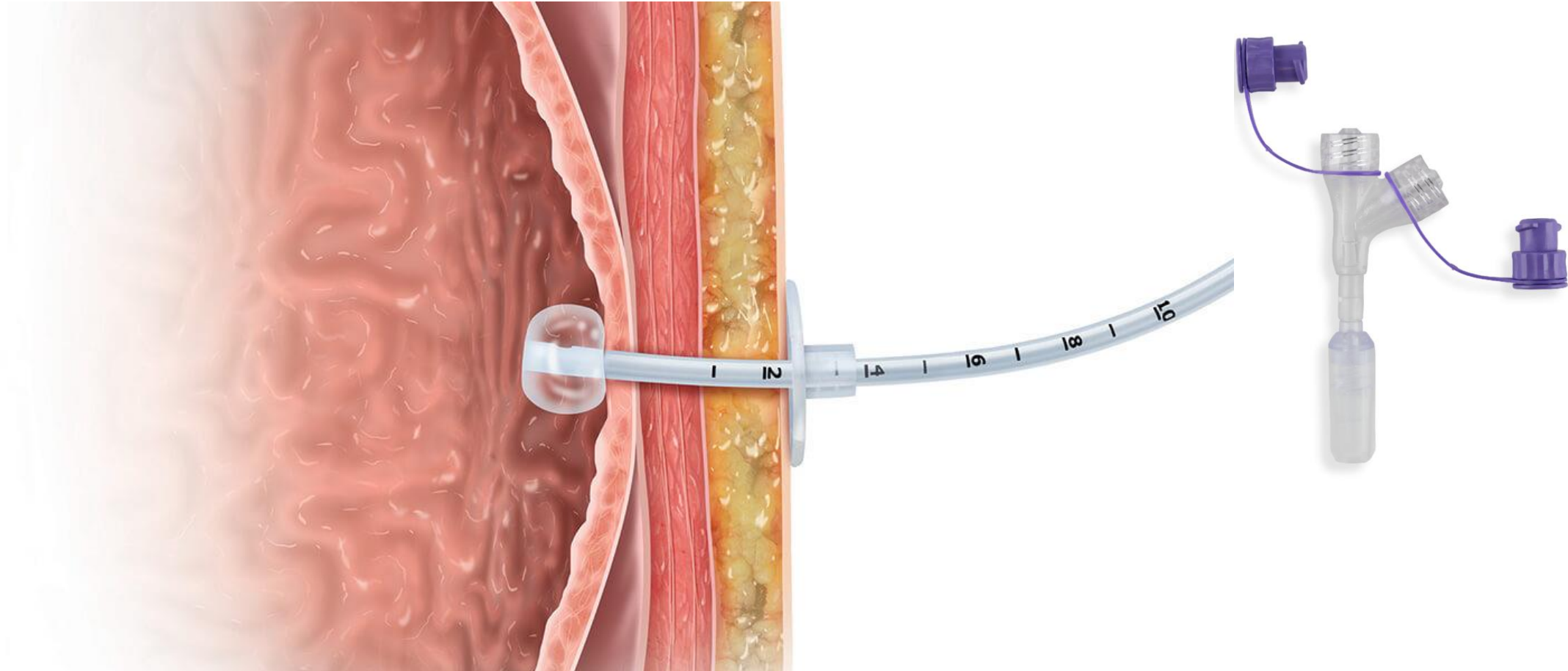


# Long-term feeding tubes

- Gastrostomy Tube (G tube or PEG) offers direct access to the stomach through a surgical cut in the upper left side of the abdomen. This means, the mouth and throat are completely bypassed. It allows food, fluids, and medications to be administered without swallowing.
- Jejunostomy tube (J-tube), like a G-tube, it is placed through an incision in the abdominal cavity. However, this incision is placed lower than with a G-tube so that the tube ends in the middle third of the small intestine, called the jejunum. This tube is usually smaller than a G-tube, so only thin liquids and powdered medications can pass through it.



# Gastrostomy Tube (G tube)



# Methods of enteral feeding by feeding tubes

- **Portion method** – liquid feeding is started with small portions (20 ml) every hour for the first few hours, then the dose is gradually increased to a maximum of 200 – 500 ml per portion. Portions are administered via syringe over a period of 10 – 30 minutes each.

# Methods of enteral feeding by feeding tubes

- **Continuous infusion** – may be conducted using gravity or peristaltic pump sets (sets should be changed every 24 hours). This method of feeding requires a 6–8-hour nightly break.

# Methods of enteral feeding by feeding tubes

- **Combination feeding** – administered periodically at 1- to 2-hour intervals, in 100- to 300-mL increments, with each serving given at set times throughout the day (3 to 5 times daily) with simultaneous continuous feeding (gravity infusion).

# Administering medications through a feeding tube

- Proper administration of medications prevents blockage of the drain tube.
  - Never give medications through the feeding tube without consulting with medical staff.
  - All medications must be in liquid form before administration.
  - Tablets should be crushed in a mortar, dissolved in water and given by syringe. It is best to use liquid medicines (syrup, suspension) to avoid the risk of clogging the gavage.
  - Medicines should always be given between meals.
- It is not advisable to give medicines together with industrial diet, unless medical recommendations state otherwise.

# Administering medications through a feeding tube step by step...

1. Prepare the necessary equipment: syringe, appropriate medications, boiled water cooled to room temperature.
2. Wash hands carefully.
3. Flush the drain tube with 20-40 mL of boiled water at room temperature (or as directed by your doctor or nurse).
4. Administer medication by syringe into the tube.
5. Re-flush the drain tube with 20-40 ml of room temperature water.
6. If you need to give more than one dose at a time, flush the drain between each dose with 20-40 ml of boiled water at room temperature, or any other fluid prescribed by your doctor or nurse.

# Complications of enteral nutrition by the feeding tube

Type of complications	Complications
Mechanical & technical	Abnormal position, obstruction, rupture of the feeding tube, esophageal perforation, esophageal decubitus, necrosis of the nasal wings, sinusitis and otitis media, bleeding from a nutritional fistula, abdominal pain, nausea, vomiting, and pharyngitis.
Gastrointestinal & choking	Nausea, vomiting, abdominal pain, diarrhea, and choking of food contents.
Metabolic	Abnormalities of water-electrolyte and carbohydrate metabolism.
Septic	Gastrointestinal and systemic infections, local infections at the site of a nutritional fistula.

# Enteral nutrition by the artificial route (nasogastric tube or G-tube) – principles

- Adherence to infection prevention during care and feeding (e.g., washing and disinfecting hands before, putting on medical gloves, using sterile dressing materials).
- Before feeding, perform oral hygiene and cleansing of the feeding tube insertion area.
- **Always check the position of the feeding tube in the stomach and the amount of overfed food before feeding** (do not feed if there is overfed food).



# Enteral nutrition by the artificial route (nasogastric tube or G-tube) – principles

## **During feeding through a nasogastric tube or G-tube:**

- Place the user in a high or semi-high position (unconscious users may be fed on their side).
- Observe the number and timing of feedings, depending on feeding method used.
- Rinse the feeding tube before and after feeding.
- Observe the user during feeding.

# Enteral nutrition by the artificial route (nasogastric tube or G-tube) – principles

- Store food in manufacturer's recommended conditions (industrial diet) or feed freshly prepared meals. Do not feed food with an altered appearance or smell.
- Feed food at a temperature of approximately 30°C.
- Record amount of food and fluid administered.
- Do not introduce air into the stomach.



**GIVINGCARE**  
Empowering Caregivers

Thank you!

Teachers' name

Teacher's e-mail

Date of the session

