Imperial College Healthcare NHS Trust

Nasogastric Tube Placement (Doctors)

Nutrition and Nasogastric Tubes for Doctors

Study Guide

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Content

> "Our aim is to prevent malnutrition as a result of illness whenever possible, when it occurs to treat it by the most cost-effective regimen, and in doing both greatly improve the outcome of illness for patients."
>
> Professor John Lennard-Jones, founder chairman of BAPEN

1. Nutrition: why is it important?

1) Malnutrition: What is the extent of the problem in the UK?

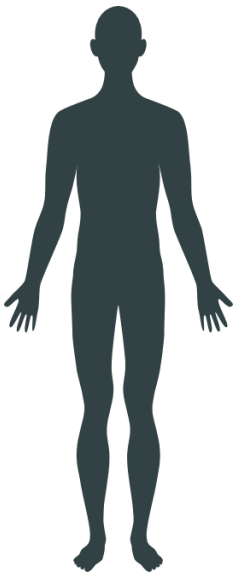
It has been estimated that malnutrition (or "undernutrition") affects over 3 million people in the UK. The British Association for Parenteral and Enteral Nutrition (BAPEN) reports that risk of malnutrition affects:

- 25-34% of patients admitted to hospital
- 30-42% of patients admitted to care homes
- 18-20% of patients admitted to mental health units

2) What are the consequences of malnutrition?

Physical

- Impaired immunity and increased risk of infection
- Reduced muscle mass
- Increased risk of falls
- Inability to perform tasks (working, shopping, self-care)
- Cardiac dysfunction
- Impaired wound healing
- Renal impairment
- Impaired temperature regulation & hypothermia
- Reduced fertility
- Death



Psychological

- Apathy
- Self neglect
- Depression
- Introversion

Financial

- Increased length of hospital stay
- More hospital re-admissions
- Total cost in UK estimated to be £19.6 billion (BAPEN report 2015)

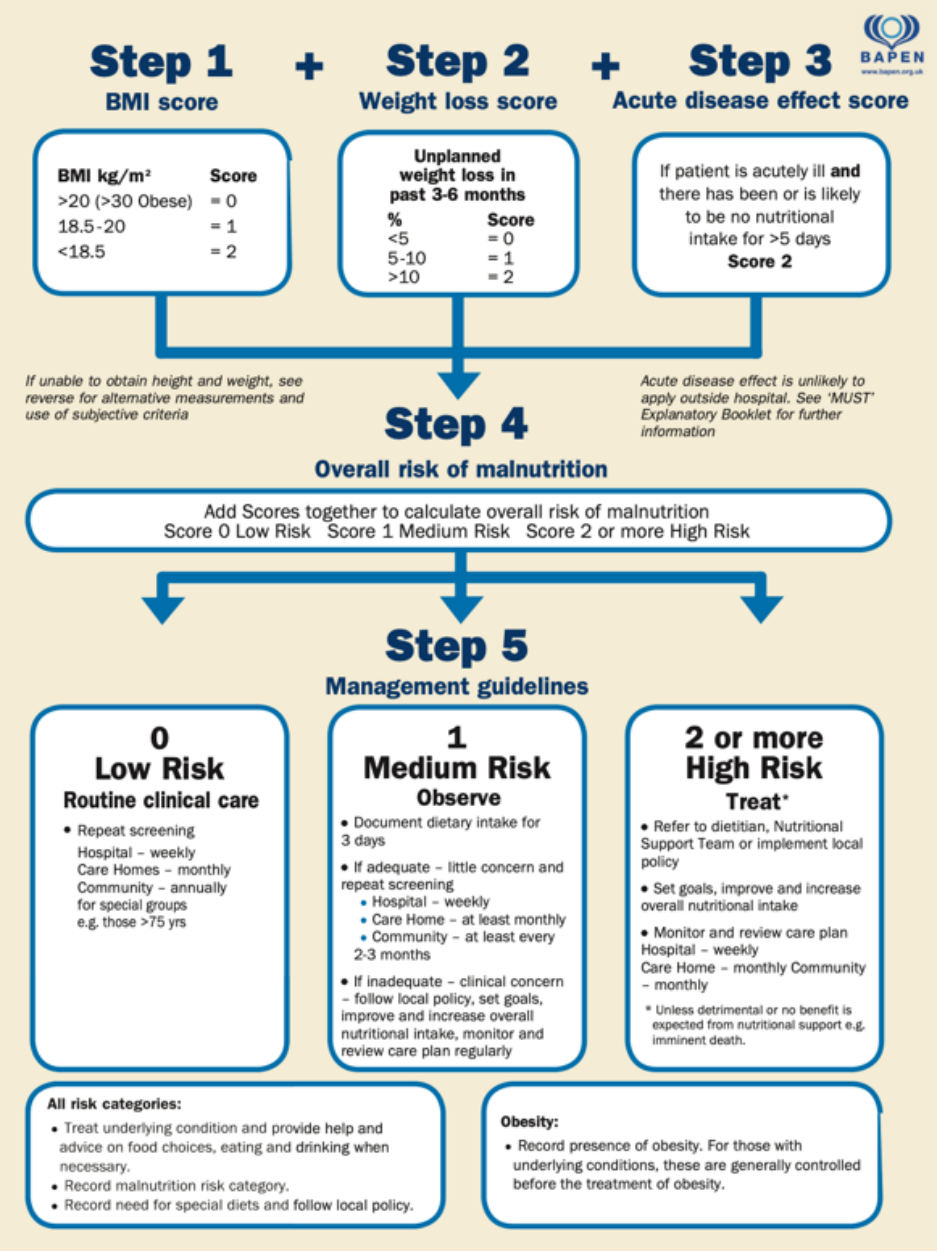
3) How is "undernutrition" recognized?

A proven method to detect malnutrition is through the use of malnutrition screening tools. At ICHT we use the 'Malnutrition Universal Screening Tool' ('MUST'). The MUST tool consists of three parts:

1. Body Mass Index (BMI) – A BMI of less than 18.5kg/m2 suggests a significant risk of malnutrition.

2. A history of recent unintentional weight loss. The unintentional loss of more than 10% of body weight in the preceding 3 -6 months (MUST score 2) suggests a significant risk of malnutrition.

3. An "acute disease effect" associated with being acutely ill and unable to eat for more than five days.



2. Nutritional assessment at ICHT

1) Imperial College Healthcare Trust Nutrition Policy

- All adult patients will be screened for malnutrition by a Registered Nurse within six hours of admission and a minimum of weekly thereafter.
- A MUST score of ≥2 triggers a referral to the ward dietitian
- Nurses are required to document the referral in Cerner, and refer to Nutrition and Dietetics via the Cerner referral order. Each ward has a named dietitian who should also be notified via bleep to be alerted of the Cerner referral.
- A patient's nutritional status is no single health care professional's responsibility. Any member of the MDT can discuss a patient with the dietitian.
- For those patients who either present with or develop complex nutritional needs during their hospital admission, a referral should be made to the Nutrition Support Team who will conduct a thorough assessment and make recommendations.

MUST SCORE	TRIGGERS	ACTION
0	MONITOR	Follow Trust guidelines and repeat nutritional screening weekly. Place an order for this "once a week" in Cerner ORDERS (See Fig 19)
1	NURSING NUTRITION CARE PLAN	Initiate the suggested care plan for a risk score of 1. By completing the care plan you will automatically place orders for a food chart and repeated weekly screening
2 OR MORE	NURSING NUTRITION CARE PLAN AND DIETETIC REFERRAL	Initiate the suggested care plan for a risk score of 2 or above. By completing the care plan, you will automatically place orders for a food chart, repeated weekly screening and a dietetic referral

3. Nasogastric tubes

1) Nasogastric (NG) tube feeding

- Nasogastric tube (NG) feeding is one method of providing clinically assisted nutrition and hydration (CANH) in the short term to patients who are unable to meet their nutritional and hydration requirements orally.
- A clear understanding of the Trust's policy is crucial, to ensure that all decisions and care relating to NG tube placement and confirmation of correct position are followed.
- The decision to place a NG tube needs to be documented with an entry in the Cerner medical record, stating the aims (benefits) of artificial nutrition and hydration and review dates (time-limited to one week).
- NG tube misplacement can result in life-threatening complications such as:
  - Pneumothorax
  - Pneumonia
  - Empyema
  - Pulmonary haemorrhage

A misplaced tube and the commencement of feeding into the lung is a Never event

2) When do you need to confirm that an NG tube is safe for use ?

- Following initial insertion
- Before the tube is used (includes during any break in feeding if medicines need to be given)
- Once every 24 hours if the patient's feeding regimen is continuous.
- If the patient vomits, or following episodes of coughing or respiratory distress
- If the patient develops new or unexplained respiratory symptoms
- If the length of the tube has changed
- If tube displacement is suspected
- NB: If at any point during NG feeding the patient shows signs of tube displacement e.g. respiratory distress , retching, vomiting then stop the feed immediately and seek senior advice.

3) Confirming that an NG tube is safe for use

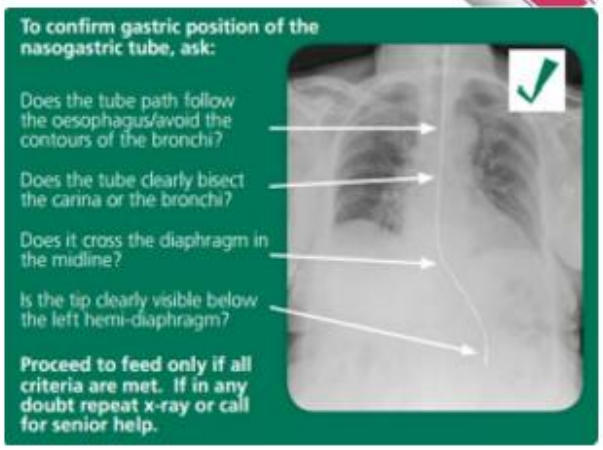
ICHT policy states that the only two methods of confirming that an NG tube is safe for use are:

1st line check

- If pH of aspirate measures ≤5.5, the tube is safe for use
- If pH of aspirate is ≥6.0, or aspirate cannot be obtained despite troubleshooting interventions, then proceed to

2nd line check if 1st line fails

Request a chest x-ray, which must be reported by a radiologist, after which either a doctor or site nurse practitioner, together with a registered nurse, needs to check and document that:



1. The x-ray image corresponds to the current NG tube in place.
2. The measurement at the nostril remains the same as on insertion.
3. The patient remains appropriate for NG feeding.
4. The tube is safe for use.

4) Responsibilities when confirming if an NG tube is safe for use

Doctors & Site Nurse Practitioners	Registered Nurses
1. Before requesting a chest x-ray check that all trouble shooting techniques have been attempted to obtain an aspirate within the safe range 2. Check that the tube insertion documentation has been completed in full 3. Request a chest x-ray 4. Once the x-ray has been reported by the radiologist, confirm and document the following with another registered healthcare professional: ○ The x-ray is of the current tube ○ The measurement at the nostril is unchanged (i.e. the tube has not moved). ○ The patient remains appropriate for NG feeding ○ The NG tube is safe for use	1. Having placed an NG tube, without delay, document tube details within the 'Enteral Tube' section on Cerner 2. If aspirate has been obtained with pH 5.5 or lower, the tube is safe to use. 3. If pH >5.5 or cannot be obtained, follow all troubleshooting techniques 4. Following a chest x-ray you may be required to act as the second registered healthcare professional to confirm the following: ○ The x-ray is of the current tube ○ The measurement at the nostril is unchanged (i.e. the tube has not moved) ○ The patient remains appropriate for NG feeding ○ The NG tube is safe for use

5) Incorrectly positioned NG tube

Radiograph 1 shows the tip of the nasogastric tube above the diaphragm and on the right-hand side of the thorax. The presence of ECG leads make interepretation of the radiograph more difficult.

Radiograph 2 shows the tip of the nasogastric tube apparently below the left hemidiaphragm but the tube clearly follows the contours of the left bronchus. In fact, the tube is positioned in the left lower lobe of the lung.

6) Correctly positioned NG tube