Nutrition support in adults

This guideline provides best practice advice on nutritional support of adults who are malnourished or at risk of malnutrition.

Definition of terms
- BMI: body mass index (weight in kilograms divided by height in m²)
- GI: gastrointestinal
- Aero-digestive tract: the oral cavity, sinonasal tract, larynx, pyriform sinus, oesophagus and pharynx
- PEG: percutaneous endoscopic gastrostomy
- IV: intravenous
- Dysphagia: difficulty in swallowing

Definitions of feeding
- **Enteral feeding** is the delivery of a nutritionally complete feed directly into the stomach, duodenum or jejunum.
- **Parenteral feeding** is the IV administration of nutrients. It may supplement oral or tube feeding, or it may provide the only source of nutrition as total parenteral nutrition.

Care pathway – see full guideline

Management follows a stepped-care model

**Step 1: Screen for malnutrition**
- An appropriately trained healthcare professional should screen:
  - all hospital inpatients on admission and weekly thereafter,
  - all outpatients at their first appointment,
  - all people in care homes on admission,
  - all people newly registering at GP surgeries,
  - all people in care homes on admission,
  - all outpatients at their first appointment,
  - all hospital inpatients on admission and weekly thereafter,
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Prescribing
- Take care when using:
  - food fortification that supplements energy and/or protein without adequate micronutrients and minerals;
  - feeds and supplements that may not provide adequate micronutrients and minerals when only used in a supplementary role;
  - pre-mixed parenteral nutrition bags that have not had tailored additions from pharmacy.
- Review patients’ medicines to check that drug formulation, route and timing are appropriate and are not contraindicated with the feeding regimen or swallowing process.

Oral
- Oral nutrition support includes: fortified food with protein, carbohydrate and/or fat, minerals and vitamins; snacks; oral nutritional supplements; altered meal patterns; the provision of dietary advice.
- Give:
  - food and fluid of adequate quality and quantity in an environment conducive to eating,
  - appropriate support for people who can potentially chew and swallow but are unable to feed themselves.
- Give a complete oral multivitamin and mineral supplement if concerned about intake.

Enteral
- Feed via a tube into the stomach unless there is upper GI dysfunction.
- In people with upper GI dysfunction or an inaccessible GI tract, consider duodenal or jejunal feeding.
- Use gastrostomy for long-term enteral feeding (>4 weeks).
- PEG tubes can be used 4 hours after insertion.
- Use bolus or continuous delivery when feeding into the stomach taking into account patient preference, convenience and drug administration.
- In intensive care patients having nasogastric enteral tube feeding, deliver continuously over 16-24 hours daily.
- If insulin is needed, give feed over 24 hours.
- If intestinal tolerance limits enteral tube feeding in surgical or critical care patients, use parenteral nutrition to supplement or replace enteral tube feeding.
- Give a motility agent e.g. metoclopramide, to patients if concerned about intake.

Parenteral
- Nutritional requirements should be assessed by healthcare professionals with skills and training in prescribing nutrition support.
- Parenteral nutrition access and delivery – see full guideline.
- Introduce parenteral nutrition progressively and monitor closely.

Step 4: Monitor
- See tables 1 and 2 in CG32: quick reference guide for protocols when monitoring people in hospital.
- Monitoring should be carried out by healthcare professionals with relevant skills and training.
- Review the indications, route, risk, benefits and goals of nutrition support at regular intervals.
- Review people having parenteral nutrition in the community every 3 to 6 months at a specialist hospital clinic.
- Monitor people having oral nutrition support and/or enteral tube feeding in the community every 3 to 6 months or more frequently if there is any change in clinical condition.
- Train patients and carers to recognise and respond to adverse changes in their well-being and in their nutritional delivery system.

Starting and stopping nutrition
- When starting or stopping nutrition support:
  - act in the patient’s best interest and obtain consent,
  - be aware that nutrition support is not always appropriate.
- Decisions on withholding or withdrawing nutrition support require consideration of ethical and legal principles – follow guidance from the General Medical Council and the Department of Health.
- Stop:
  - oral nutrition support or enteral tube feeding once adequate oral intake is established,
  - parenteral nutrition once adequate oral and/or enteral support is established.

Refeeding problems
- Assess risk of developing refeeding problems – see full guideline.
- In people who have eaten little or nothing for >5 days:
  - introduce nutrition support at no more than 50% of their requirements for the first 2 days,
  - increase feeding rates if clinical and biochemical monitoring reveals no refeeding problems.
- People at high risk of developing refeeding problems should be cared for by healthcare professionals with expert skills and knowledge of nutritional requirements and nutrition support – see full guideline.
- For people at high risk of developing refeeding problems:
  - start nutrition support at a maximum of 10kcal/kg/day,
  - increase levels slowly over 4 to 7 days,
  - in extreme cases use only 5kcal/kg/day,
  - immediately before and during the first 10 days of feeding give oral thiamine (200-300mg daily), vitamin B compound strong (1-2 tablets three times daily), multivitamin and mineral supplement once daily,
  - give oral, enteral or IV supplements of potassium, phosphate and magnesium as required.

Support in the community
- Care must be delivered by a multidisciplinary team, for example including input from dieticians, district, care home or homecare nurses, specialist nutrition nurses, GPs, community pharmacists and speech therapists.
- Provide an individual care plan.
- Train patients and carers to:
  - manage tubes, delivery systems, procedures and the regimen,
  - recognise risks and troubleshoot common problems.
- Give patients and carers contact telephone numbers, information on delivery of equipment and an instruction manual.