Consensus statement on nutrition support and the use of oral nutritional supplements in patients with stages 4–5 chronic kidney disease

Step 1: Ongoing regular screening and prevention
- Undertake regular screening for undernutrition (malnutrition) based on indicators of risk
  - Reduced appetite AND decreased food intake of > 2 weeks duration
  - Unintentional weight loss (based on dry weight) OR
  - Weight stable with increasing oedema

  - Ongoing management to prevent undernutrition
  - No risk factors for undernutrition
  - Risk factor/s for undernutrition present

Step 2: Nutritional assessment and nutritional diagnosis
- Undertake nutritional assessment e.g. using the SGA (Subjective Global Assessment) tool or ASPEN (American Society for Parenteral and Enteral Nutrition) AND (Academy of Nutrition and Dietetics) Consensus criteria
- Adequate nutrition
- Mild undernutrition
- Moderate to severe undernutrition

Step 3: Intervention
- Interventions recommended for mild undernutrition
  - Undertake nutritional counselling
  - Increase intake of high energy nutrient dense foods
  - Encourage food fortification techniques
  - Consider the use of high energy/protein snacks
  - NB: Consider salt/potassium/phosphorus in foods; standard food fortification may need modification in CKD stages 4–5 with hyperkalaemia, hyperphosphataemia or with normal serum phosphate when parathyroid hormone is elevated.

- Interventions recommended for moderate to severe undernutrition
  - As for mild PLUS Initiation of Oral Nutritional Supplements (ONS)
    - Choice of ONS based on nutritional requirements, electrolytes, fluid status and patient preference
    - Renal specific ONS low in potassium/phosphate may be required if potassium/phosphate levels elevated
    - Powdered milkshake-style products may not be appropriate due to electrolyte content and volume
    - N.B.: If severe undernutrition present, consider risk of re-feeding syndrome (see NICE CG32).

Step 4: Monitoring
- Review by dietitian or dietetic assistant at 1-3 monthly intervals
- If no improvement or deterioration in nutritional status, assess the need for:
  - ONS/Increased dose of ONS OR alternative ONS
  - Enteral tube feeding
  - Intradialytic parenteral nutrition or parenteral nutrition (if indicated)

- Monitor and assess
  - Suitability of nutrition intervention
  - Fluid status and electrolytes
  - Communicate to prescriber/GP
Screening and ongoing management to prevent undernutrition should include:

- Regular screening for undernutrition (Wright & Jones, 2010)
  - Weekly for inpatients
  - 2–3 monthly for outpatients with estimated Glomerular Filtration Rate (eGFR) <20 but not on dialysis
  - Within one month of commencement of dialysis then 6–8 weeks later
  - 4–6 monthly for stable dialysis patients
- Optmise body mass index (BMI) (based on dry weight)
- Undertake nutritional counselling at least 6 monthly
- Consider any psychosocial issues that may have an impact on nutritional status e.g. ability to shop and/or prepare food; low mood/depression
- Consider micronutrient status and multivitamin and mineral supplementation
- Liaise with the multi-disciplinary team to manage uraemic symptoms, and optimise blood glucose control, blood pressure and dialysis therapy

Assessment by dietitian (or personnel in line with local protocol)

- Nutritional assessment and nutritional diagnosis:
  - Using SGA (Detsky et al., 1987; Steiber et al., 2007) or ASPEN/AND Consensus criteria (White et al., 2012)
  - Classify undernutrition as mild, or moderate to severe using SGA (Detsky et al., 1987; Steiber et al., 2007) or ASPEN/AND consensus (White et al., 2012)
    - ASPEN/AND criteria is two or more of:
      - Insufficient energy intake
      - Weight loss
      - Loss of muscle mass
      - Loss of subcutaneous fat
      - Localised or generalised fluid accumulation that may sometimes mask weight loss
      - Diminished functional status as measured by hand grip strength

If no undernutrition, continue preventative management and regular screening.

Nutritional intervention for undernutrition

Treatment goal for pre-dialysis, haemodialysis and peritoneal dialysis is to meet estimated energy and protein requirements

- For stage 4 and stage 5 CKD pre-dialysis
  - Protein intake 0.75g/kg Ideal Body Weight (IBW)/day, equivalent to the RNI (Wright & Jones, 2010); do not offer very low protein diets (less than 0.6–0.8g protein/kg/day) (NICE CG182)
    - Energy 30–35 kcal/kg IBW/day (Wright & Jones, 2010)
  - For stage 5 CKD undergoing haemodialysis (Naylor et al., 2013)
    - Protein ≥ 1.1g/kg IBW/day
    - Energy 30–40 kcal/kg IBW/day
  - For stage 5 CKD undergoing peritoneal dialysis (Naylor et al., 2013)
    - Protein ≥1.2g/kg IBW/day
    - Energy 30–35 kcal/kg IBW/day

Consider metabolic state, markers of inflammation, acidosis, wound healing, and other conditions that may further increase protein requirements.

Nutritional Intervention for undernutrition:

- Consider renal specific and energy dense/lower volume feeds when choosing ONS – when electrolyte or fluid modification required (based on kidney function, biochemistry, current dietary intake, and physical examination for fluid status)

Monitoring: Review by dietitian or dietetic assistant 1–3 monthly to assess:

- Suitability of nutritional intervention as measured by:
  - Improved energy intake
  - Meeting estimated energy and/or protein requirements
  - Weight maintenance and/or weight gain (based on dry weight)
  - Improved functional status
  - Improved body composition
- Fluid status
- Serum electrolytes

Communicate relevant changes in nutritional status and/or management to GP or other prescriber including:

- Details of full nutritional assessment
- Recommended range of ONS that would be appropriate
- Why other ONS are not appropriate
- Likely duration of treatment/ONS prescription
- Planned review date

References


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All management strategies for undernourished patients should be developed by a multidisciplinary team and considered in accordance with local practice guidelines for screening, referrals and management.

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