



Chronic Kidney Disease (Nondialysis) Medical Nutrition Therapy Protocol

These guidelines on medical nutritional therapy (MNT) for patients with chronic kidney diseases were developed by the American Dietetic Association and reprinted with permission. This guideline references drugs for which important revised regulatory and/or warning information has been released. See the March 9, 2007, alert: Erythropoiesis Stimulating Agents (Aranesp [darbepoetin alfa], Epogen [epoetin alfa], Procrit [epoetin alfa]) at www.fda.gov/medwatch/safety/2007/safety07.htm#ESA.

Major Recommendations

1. Number of Medical Nutrition Therapy (MNT) visits.

Setting: Ambulatory Care or adapted for other health-care settings

Number of encounters: 4 to 8 (Grade I)

| Encounter | Length of Contact | Times Between Encounters |
|-----------|-------------------|--|
| 1 | 60-90 minutes | 3-4 weeks |
| 2 | 45-60 minutes | 3-4 weeks |
| 3 | 45-60 minutes | 3-4 weeks |
| 4, 5, 6 | 30-45 minutes | 6-8 weeks or as identified by reassessment |

2. Clinical Assessment

a. Laboratory Values

- Serum albumin: >4.0 g/dL (Grade II)
- Serum CO₂: 24-32 mEq/L (Grade II)
- Serum potassium: 3.5-5.5 mmol/L (Grade II)
- Serum calcium: 8.5-10.2 mg/dL (corrected)
- Serum phosphorus: 3.4-5.5 mg/dL (Grade II)
- Intact parathyroid hormone: 100-300 pg/mL (Grade II)
- (If diabetic) Random glucose: <140-160 mg/dL (blood); <160-180 mg/dL (plasma); A1C: <7% (Grade I)
- Serum creatinine/glomerular filtration rate (GFR): stabilizes
- Hemoglobin (Hgb): 12 g/L; 11 g/L (F) (Grade II)

b. Nutrition/Physical

- Blood pressure: <125/75 mm Hg; >1 g proteinuria or diabetic nephropathy; <130/85 mm Hg without proteinuria (Grade II)
- Height: Yearly heights to monitor spinal osteoporosis/bone loss
- Body mass index (BMI): >24 (edema-free weight)

3. Therapeutic Lifestyle Changes

Goal: Maintain kidney function, decrease progression; maintain nutritional status. Encounters in which behavioral topics are covered may vary according to client's readiness, skills, resources, and need for lifestyle changes.

a. Food and Meal Planning

- Kcal: Basal energy expenditure (consider stress, dietary protein, weight goals) (Grade I)
- Protein: 0.6 to 1.0 g/kg/ideal body weight (IBW) based on GFR, urinary protein excretion, degree of malfunction, stress, motivation (Grade I)
- Fat: 25%-30%, <7% saturated fatty acid, <200 mg cholesterol
- Carbohydrate: 50%-60% kcal
- Sodium: Individualized, 1-3 g/d
- Potassium: Individualized based on labs
- Phosphorus: 8-12 mg/kg IBW; phosphate binders/vitamin D analogues may be needed
- Calcium: Individualized: ~800 to 1200 mg/d

b. Physical Activity

- Maintains muscle stores/strength

c. Self-Monitoring

- Dietary intake = prescription >80% of time

Conclusion Grades

Grade I: The evidence consists of results from studies of strong design for answering the question addressed. The results are both clinically important and consistent with minor exceptions at most.

Grade II: The evidence consists of results from studies of strong design answering the questions addressed, but there is uncertainty attached to the conclusion because of inconsistencies among the results for different studies or because of doubts about generalizability, bias, research design flaws, or adequacy of sample size.

Grade III: The evidence consists of results from limited studies of weak design for answering the questions addressed. Evidence from studies of strong design is either unavailable because no studies of strong design have been done or because studies that have been done are inconclusive due to lack of generalizability, bias, design flaws, or inadequate sample sizes.

Grade IV: The support of the conclusion consists solely of the statements on informed medical commentators based on their clinical experience, unsubstantiated by the results of any research studies.

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