



Tailored to
Perfection

Energy
Protein
Lactate
Sugar
Vitamin C
Vitamin B6
Biotin
Vitamin B1
L-Carnitine

Lamino Nephro Powder

High Protein Preparation

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Background

Chronic kidney disease (CKD), characterized by progressive deterioration of renal function, is a growing problem which has potential public health consequences. The total number of CKD patients has markedly increased during the last 30 years, and the prevalence of CKD has reached epidemic proportions with 10% - 13% of the populations of Korea, Taiwan, Iran, Japan, China, Canada, India and the USA being affected.¹ Management of the nutritional aspects of chronic kidney disease (CKD) presents a number of challenges. In patients with CKD and especially in those undergoing maintenance dialysis, the so-called uremic malnutrition (also referred to as protein-energy wasting [PEW]) is by far the strongest risk factor for adverse outcomes and death.²

Protein Energy Wasting

The International Society of Renal Nutrition and Metabolism (ISRNM) expert panel has defined PEW as a, "state of decreased body stores of protein and energy fuels (body protein and fat masses)". Patients undergoing dialysis die of the short-term consequences of PEW and do not live long enough to die of risk factors associated with over nutrition. This 'time discrepancy hypothesis'³ suggests that, in a patient with CKD, whose risk of short-term mortality is high, interventions that improve nutritional status and prevent or correct wasting and sarcopenia have the potential to save lives, as compared to the conventional interventions, such as, treating hypercholesterolemia, hypertension or obesity. About 20-70% patients on maintenance dialysis have shown signs of protein energy wasting (PEW) in various articles. There is association between dietary intakes, serum albumin and GFR. Patients with CKD have a decreased ratio of essential to nonessential amino acids, a pattern that is observed in protein-calorie malnutrition.⁴

Need for Oral Nutritional Supplement

The recommended DEI for patients undergoing hemodialysis and peritoneal dialysis is 30 – 35 kcal / kg per day. The suggested mean dietary protein intake (DPI) is 1.2 g / kg per day in patients on hemodialysis, and 1.3 g / kg per day in patients on peritoneal dialysis.⁵ Most patients on dialysis, however, have a lower DEI and DPI than the recommended intake. In 1901 adult patients on the HEMO Study, the mean DEI and DPI were 23.2 ± 9.5 kcal / kg per day and 0.96 ± 0.43 g / kg per day, respectively, on nondialysis days, and 22.2 ± 9.6 kcal / kg per day and 0.90 ± 0.41 g / kg per day, respectively, on dialysis days.⁶ Oral supplementation can provide an additional 7 – 10 kcal / kg per day of energy and 0.3 – 0.4 g / kg per day of protein, which makes it possible to meet the recommended targets of both DEI and DPI.

Nutritional Status of PD and HD patients ⁷

| | PD | HD |
|-------------------------|----------|-----------|
| Total | 51 | 169 |
| Well-nourished | 34 (67%) | 139 (82%) |
| Mildly malnourished | 8 (15%) | 24 (14%) |
| Moderately malnourished | 7 (14%) | 6 (4%) |
| Severely malnourished | 2 (4%) | 0 |

33% of PD patients were malnourished compared to 18% of HD Patients.

Nutritional Requirement in Kidney Disease ⁸

| Nutritional Parameter | Stages 1-4 CKD | Stage 5 Hemodialysis | Stage 5 Peritoneal Dialysis |
|--------------------------|---|-------------------------------------|---|
| Calories (kcal / kg / d) | 35 < 60 years 30 - 35 ≥ 60 years | 35 < 60 years 30 - 35 ≥ 60 years | 35 < 60 years 30 - 35 ≥ 60 years, include kcals from dialysate |
| Protein (g / kg / d) | 0.6 - 0.75 | 1.2 | 1.2 - 1.3 |
| Fat (% total kcal) | For patients at risk for CVD, < 10% saturated fat, 250-300 mg cholesterol/d | | |
| Sodium (mg / d) | 2000 | 2000 | 2000 |
| Potassium (mg / d) | Match to laboratory values | 2000 - 3000 | 3000 - 4000 |
| Calcium (mg / d) | 1200 | ≤ 2000 from diet and medicines | ≤ 2000 from diet and medicines |
| Phosphorous (mg / d) | Match to laboratory values | 800 - 1000 | 800 - 1000 |
| Fluid (mL / d) | Unrestricted with normal urine output | 1000 + urine | Monitor ; 1500 - 2000 |

1- Open Journal of Internal Medicine, 2012, 2, 89-99
2- Semin Nephrol. 2009;29:3-14

3- J Am Coll Cardiol. 2004;43:1439-44
4- Annu Rev Nutr 2001; 21: 343-70

5- National Kidney Foundation - : http://www.kidney.org/professionals/kdoqi/guidelines_updates/doqi_nut.html .
6- J Ren Nutr. 2003 Jul; 13(3):191-8.

7. Park YK et al. J Ren Nutrition 1999; 9:149-156
8. Indian J Endocrinol Metab. 2012 Mar-Apr; 16(2): 246-251.



Lamino Nephro Powder

High Protein Preparation



Description

LAMINO NEPHRO POWDER is an especially designed formula that contains Protein, Carbohydrate, Fat, Vitamins, Minerals, L-carnitine and Taurine, in order to help to increase the serum albumin concentration and improve longevity and quality of life in the CKD patients.

Important Features

LAMINO NEPHRO POWDER offers the following salient features –

- Calorically dense providing 110.70 kcal/serving;
- Protein rich providing 19.06 g protein / serving;
- Gold standard Whey protein concentrate as the source of protein which is known for a high biological value;
- Sucrose Free ; contains sucralose as the artificial sweetener ;
- Enriched with water soluble vitamins;
- Offers L-carnitine and Taurine a need for renal patients.

Usage

LAMINO NEPHRO POWDER under the careful administration of a Medical Practitioner may –

- Improve nutritional status and correct uremic malnutrition or protein energy wasting (PEW).
- Also reduce the risk of mortality in dialysis patients.
- Compensates the protein deficiency / loss during Dialysis.

Recommended For

Renal Patients suffering from protein deficiency & malnutrition.

Dosage Suggestion

LAMINO NEPHRO POWDER sachet of 30 gm may be reconstituted in 80ml Luke warm water and taken once a day or as advised by a Registered Medical Practitioner.

Presentation

LAMINO NEPHRO POWDER is available in 30 gm sachet. Such 10 sachet are packed in a baby carton.

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