

Submission No.: PN01-9018

Session Title: Pediatric Nephrology

Date & Time, Place: April 28 (Fri), 14:50 - 16:30, Room 5

Diet Recommendation for Children with CKD

Joo Hoon Lee

Asan Medical Center Children's Hospital, University of Ulsan College of Medicine, Korea, Republic of

Nutritional care in children with chronic kidney disease (CKD) focuses on maintaining an optimal nutritional status and avoiding uremic toxins, metabolic abnormalities, and malnutrition. We should monitor dietary intake and growth parameters routinely. We should consider recombinant human growth hormone in children with short stature or growth failure. Serum bicarbonate level should be corrected above 22 mmol/L. We should consider supplemental nutritional support when the patient's energy intake fails to meet 100% of the estimated energy requirement (EER) for chronological age. Balanced calories from carbohydrates and unsaturated fats within the physiological ranges are recommended as the acceptable macronutrient distribution range (AMDR) of the Dietary reference intake (DRI). We suggest dietary and lifestyle changes to control weight in overweight or obese children. We should consider protein supplements when the patient's protein intake fails to meet dietary protein intake (DPI) at 100% to 140% of the DRI for ideal body weight in children with CKD stage 3 and at 100% to 120% in those with CKD stages 4 to 5. Maintain DPI at 100% of the DRI for ideal body weight plus an allowance for dialytic protein and amino acid losses in children with CKD stage 5D. The patient should take at least 100% DRI for vitamins B₁, B₂, B₃, B₅, B₆, B₁₂, C, A, E, and K, folic acid, copper, and zinc via dietary intake or supplementation. The children on dialysis should receive water-soluble vitamin supplements. Total calcium intake from nutritional sources should be 100% to 200% of the DRI for calcium for age. Vitamin D supplementation is needed if 25-hydroxyvitamin D is less than 30 ng/mL. Dietary phosphorus intake should be reduced to 100% of the DRI for age or to 80% with hyperparathyroidism. Water and sodium supplements may be needed in patients with polyuria. Sodium supplement is required for all infants with hyponatremia on peritoneal dialysis. Sodium restriction is necessary for children with hypertension. Fluid restriction is needed in patients with oliguria. Potassium restriction is required in children with the risk of hyperkalemia.