

Publication Abstracts for Pro-Stat®

Sundell MB, et al. Oral Protein Supplementation Alone Improves Anabolism in a Dose-Dependent Manner in Chronic Hemodialysis Patients. *J Ren Nutr.* 2009;19(5):412-21.

([abstract](#))

OBJECTIVE: We examined the protein anabolic effects of Pro-Stat 64, a high nitrogen-containing, enzyme-hydrolyzed, tryptophan-fortified, collagen protein supplement administered during hemodialysis, at two different dosing regimens.

DESIGN: This was a randomized, controlled, prospective study with 3 different groups: control, single dose of supplementation, and double dose of supplementation.

SETTING: This study was performed at a clinical research center.

PATIENTS: Six prevalent chronic hemodialysis (HD) patients were enrolled: 5 males, 1 female, 4 African Americans, and 2 Caucasians. Their mean age was 45 +/- 11 years (S.D.). Two patients were diabetic.

METHODS: Protein turnover studies were performed using amino-acid (AA) balance and primed constant infusion of L-(1-(13)C) leucine.

MAIN OUTCOME MEASURE: Whole-body protein balance was determined according to substrate kinetics.

RESULTS: There were no statistically significant difference at any time point between protocols for blood chemistries and hormonal markers, except for minor variations in plasma glucose. All plasma AA groups displayed decreases during a control study, in which no supplementation was given. Compared with the control group, plasma nonessential AA and total AA concentrations were statistically significantly higher during HD after both single and double doses of supplementation. The forearm arteriovenous AA balance was statistically significantly better for essential, nonessential, and total AA uptake after both single-dose and double-dose supplementation compared with the control group, except for nonessential AA, which was significantly better only after a double dose. Whole-body protein breakdown and net protein balance were statistically significantly better during HD with a double-dose administration in a dose-dependent manner, compared with the control and single-dose groups.

CONCLUSIONS: Oral AA supplementation alone improves whole-body and skeletal muscle protein anabolism in a dose-dependent manner in chronic HD patients. These data should be taken into account during clinical decision-making or when designing clinical trials of nutritional supplementation.

Lee SK, et al. Pressure ulcer healing with a concentrated, fortified, collagen protein hydrolysate supplement: a randomized controlled trial. *Adv Skin Wound Care*.2009;19(2):92-6.

[\(abstract\)](#)

OBJECTIVE: To compare Pressure Ulcer Scale for Healing (PUSH) scores at 8 weeks in long-term-care residents with pressure ulcers who were given standard care plus a concentrated, fortified, collagen protein hydrolysate supplement vs. residents who were given standard care plus placebo.

DESIGN: Randomized, prospective, controlled, multicenter trial at 23 long-term-care facilities in 4 states.

SUBJECTS: A total of 89 residents with Stage II, III, or IV pressure ulcers were entered into the trial; 71 residents completed the study.

INTERVENTION: Residents were randomized to receive standard care plus a concentrated, fortified, collagen protein hydrolysate supplement (n = 56) or standard care plus placebo (n = 33) 3 times daily for 8 weeks. Wound healing was assessed biweekly using the PUSH tool, version 3.0. This tool categorizes pressure ulcers by surface area, exudate, and type of wound tissue.

PRIMARY OUTCOME MEASURE: Change in PUSH tool scores in each group at 8 weeks.

RESULTS: After 8 weeks of treatment, residents who received standard care plus the concentrated, fortified, collagen protein hydrolysate supplement had significantly better PUSH tool scores compared with those who received standard care plus placebo (3.55 +/- 4.66 vs 3.22 +/- 4.11, respectively; P < .05).

CONCLUSION: By week 8, PUSH tool scores-a measurement of pressure ulcer healing-showed approximately twice the rate of pressure ulcer healing in the treatment group compared with the control group. A concentrated, fortified, collagen protein hydrolysate supplement may be of benefit to residents of long-term-care facilities who have pressure ulcers.

Hays N, et al. Effects of whey and fortified collagen hydrolysate protein supplements on nitrogen balance and body composition in older women. *J Am Diet Assoc.*2009;109(6):1082-7.

[\(abstract\)](#)

Many elderly people have a low intake of dietary protein, yet their protein requirement may be higher than the current Recommended Dietary Allowance. High-quality protein supplements may be useful to enhance nitrogen retention and increase the availability of essential amino acids in elderly people. We compared the nitrogen balance of two protein supplements (Resource Beneprotein Instant Protein Powder, Nestlé HealthCare Nutrition, Minnetonka, MN, a whey protein concentrate; or Pro-Stat 101, Medical Nutrition USA, Englewood, NJ, a concentrated, fortified, collagen protein hydrolysate) varying in type but not amount of protein content using a crossover study design. The study consisted of two 15-day diet trials separated by a \geq 1-week washout period. Nine healthy elderly women (age 71 \pm 1 years) were provided a eucaloric diet containing approximately the protein Recommended Dietary Allowance of 0.8 g/kg body weight/day. The supplements constituted about half of the total protein provided to each subject. Nitrogen balance responses were assessed over days 6 to 10 and days 11 to 14 of each trial. Measured nitrogen content of the foods indicated that subjects consumed 0.81 \pm 0.02 g protein/kg/day and 0.85 \pm 0.05 g/kg/day for the whey and fortified collagen protein trials, respectively. Body weight decreased ($P=0.02$) after consumption of the whey supplement, with no significant changes in body weight or composition resulting from the consumption of the collagen supplement. Nitrogen excretion was higher during the whey supplement trial than during the collagen trial ($P=0.047$). Therefore, a concentrated, fortified, hydrolyzed collagen protein supplement maintained nitrogen balance and preserved lean body mass during 15 days of consumption of a relatively low-protein diet.