Optimal Dietary Protein Intake in the Geriatric Patient

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Dietary protein in the elderly is a hot topic in nutrition, medicine and the media. There has been a lot of controversy surrounding optimal protein intake in the elderly. Protein often receives a bad reputation but it is a key element in maintaining health especially in an aging population. There is evidence to suggest that degenerative diseases like sarcopenia (the loss of muscle) and osteoporosis (the loss of bone) may respond to protein intake. By examining things we do every day like eat, we can maximize strategies for muscle health. It is possible to design meals to utilize food, more specifically protein, as medicine to help treat and protect the elderly.

There are many factors that influence protein use in older individuals. These include inadequate intake, reduced ability to use dietary protein and greater need for protein intake. Overall, the elderly typically consume fewer calories, so naturally they are eating less protein. Breakthroughs in science have lead to the understanding that the aging population doesn't respond to protein the same way that they did in our youth. For example, if a young person eats a 3 oz (21 grams of protein) chicken breast, their muscles utilize almost all the protein from the chicken and their muscle becomes stimulated to keep and generate lean muscle mass. On the other hand, an elder adult ingesting the same meal will have a significantly diminished response. This is what is known as an impaired anabolic response. The third factor that influences protein intake is the greater need for protein. Protein is the building blocks for life, and more protein is required to help the body heal. When the body is fighting inflammatory conditions, repairing tissues and maintaining bone there is an increased need for dietary protein.

The current recommended dietary allowance (RDA) for dietary protein is 0.8gm/kg. The RDA was developed to prevent deficiencies and meet the minimum needs of life, not optimize functioning. The current RDA does not take into account age related changes such as decreased muscle mass, reduced blood flow, poor food intake, insulin resistance, and reduced physical activity. The RDA recommendation was generated by something called nitrogen balance studies and measures whole body intake and output of protein by measuring its by-product, nitrogen.

These studies did not examine specific tissues like muscle, so while it may give a gross estimation of protein intake needs, it is far from providing the exact amount required by the body. Furthermore, the studies were done on young people not elderly, as can be noted from above, the use is different between the two groups. It is likely that 0.8gm/kg of protein is a bare minimum for healthy elderly providing only about 70 grams for a male and 56 grams for a female.

Putting all this information together, new research reveals that healthy elderly require more protein than the RDA is currently recommending for optimal health. New recommendations have emerged from a group of world experts called PROT-AGE. A few of these recommendations are:

1. To maintain and regain muscle, older people need more protein than younger people. Older people should consider consuming an average daily intake in the range of 1 to 1.2 gram/kg/day.
2. Older adults require protein distributed in specific amounts at each meal. The elderly require about 30-35 grams (4 to 5 oz) per meal to stimulate their muscle in the same way the young do.
3. The food source of protein is critical to protein quality of protein. This means that dairy, poultry, and meat are of a higher quality to the body than soy or wheat.

In summary, to design a meal plan that is based around protein, the elderly have a better chance at maintaining muscle, bone and overall health. Ideally breakfast, lunch and dinner all would have around 30 grams of high quality protein. Some practical applications of these suggestions would be to include eggs or Greek yogurt at breakfast. At lunch, add more lean protein sources, tuna, cheeses or even a protein shake. For dinner, add chicken or tuna to a salad with vegetables to reach the goal of 30 grams of protein which will help keep and build muscle. The key is building each meal around protein then

adding extra carbohydrates and fat. This will take advantage of meal timing and increase the total amount of protein above the RDA recommendation to create a strategy for thriving rather than surviving.