Protein Intake: Modern Times, Same Requirements
March 2010.

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If you are one of the many health-conscious individuals in search of reliable nutritional advice, you can be forgiven for feeling confused. There is a vast array of both opinions and interpretations on what you should be eating, most of it conflicting. This conflict is especially apparent when the subject matter is protein intake, namely how much is optimal.

Protein is the building block of all living forms and most be consumed regularly to maintain life. Every cell, every muscle fibre, every bone in your body is made out of protein. Dietary protein provides an array of essential amino acids required to repair tissue, manufacture hormones and produce enzymes. Protein is also a source of nitrogen. Despite this, the issue of protein intake – namely, how much is optimal – has been the source of great controversy.

First and foremost, there is no 'optimal' figure that should be recommended for any given population. By definition, protein requirements are dynamic and should be related to basal metabolic requirements, daily energy expenditure and aims. Whilst many authorities provide blanket recommendations for the entire population, it should seem clear even to non-experts that any set figure cannot possibility apply for both the sedentary businessman and a Ironman triathlete, for example.

The Institute of Nutrition recommend a protein intake of just 0.8g/kg for a 25-year-old male each day. For an average 80-kg male, this equates to a paltry 64g per day. This conservative suggestion seems to stem from a deep-seated fear that increased intake of protein foods necessary spell increased intake of fats, and this this type of diet would increase the acid load in the body and bring on kidney problems in susceptible. This conservative figure is fully placed in context when it is considered that this small group who suffer from serious renal complications represents just one in 3,000 individuals (RNM, 2005). In any case, a well-balanced diet includes a good selection of acid-forming foods - such as meat, fish, eggs, etc - as well as abundant intake of fruits and vegetables.

Tinkering with universal recommendations simply to help a tiny minority of susceptible people who steadfastly refuse to consume plant produce with their deep-fried chicken wings seems misguided to say the least. It seems there is more than just co-incidence that link the introduction of low-fat, low-protein, high-carb food policies in the 1970s to the tripling of obesity levels that has seen since (Rennie and Jebb, 2005).

Peter Lemon PhD has spent years studying protein intake in the human body and is considered the most respected researcher in the field of dietary protein requirements. Rather than seek out dialysis patients, he has focused on the need of healthy, active populations. His conclusions suggest that people who are engaged in regular activity require a *minimum* protein intake of 1.8g/kg each day to maintain nitrogen balance and health functioning of protein-dependent processes in the liver and elsewhere in the body (Lemon, 2000). This translates to 144g intake for the average man. Naturally, those who wish to establish a positive nitrogen balance – a pre-requisite for building muscle – will

require significantly more, with such strength athletes often requiring 3g/kg protein each day. The same figure is implicated for those who may compromise their muscle mass through intense endurance work (Cortright et al, 1993).

In today's society, there are advocates for both low- and high-protein diets. If we reverse the clock several thousand years, evidence shows that palaeolithic man did not indulge in dogmatic debates with his fellow hunters as to whether or not he should cut the fatty edges of his bacon. Whilst overweight public servants preach to a disease-ridden public about the benefits of a lowered protein intake and more grains, our ancestors thrived on a diet that was between 25-36% protein and was made up of significantly less carbohydrate; the epidemic of heart disease, strokes and cancer was non-existent (Cordain et al, 2000). If one applies the same protein percentage to a typical 2,500kcal/day diet, this equates to between 152 and 220 grams each and every day. These figures are high enough to see the politically-correct dieticians choking on their tofu, yet palaeolithic archaeologists show a higher average bone density in our ancestors than in the current day.

Whisper it quietly to the steak-phobic do-gooders, but the conclusion appears to be that humans may end up healthier if they eat the foods they have evolved to eat in the ratios they have adjusted to over thousands of years. This is achieved with protein intake of good quantity and good quality, together with plenty of phytonutrient-rich fruits and vegetables. Sufficient protein is required for every single biological process, as the amino acids it provides form the basis of all muscles, skin, hair and nails, every peptide hormone, enzyme and neurotransmitter – in short, nothing works if your protein intake is falling short. Bodybuilders and athletes will fail to pack on muscle without sufficient protein intake and, equally, the metabolic rate and rate of fat loss also drops on a low-protein diet, which is why individuals struggle to burn fat without sufficient protein intake (Layman, 2004). In short, if you care about your body composition, you need a good protein intake. Equally, if you care about your cardiovascular health, function of your immune system or cellular health, the same rules apply (Johnston et al, 2004).

Whilst our day-to-day lives have changed beyond recognition, and nutritional guidelines have been distorted beyond credibility, it appears our basic requirements for macronutrients remains the same. With a sensible approach to diet that pays reverence to both our current aims/energy requirements and our primal needs, we can provide our bodies with a suitable balance to look and feel as nature intended.

References:

Cordain et al (2000). Plant to Animal Substinance Ratios and macronutrient energy estimations in worldwide hunter-gatherer diets. *American Journal of Clinical Nutrition,* 71: 682-92.

Cortright et al (1993). Does protein intake during endurance exercise affect growth, nitrogen balance, or exercise performance? *Canadian Journal of Applied Physiology,* 18: 403.

Institute of Medicine (2002). *Dietary Reference Intakes*.

Johnston CS, Tjonn SL, Swan PD (2004). High-Protein, Low-Fat Diets Are Effective for Weight Loss and Favorably Alter Biomarkers in Healthy Adults. *Journal of Nutrition*, 134(3): 586-591

Layman DK (2004). Protein quantity and quality at levels above the RDA improves adult weight loss. *Journal of the American College of Nutrition,* 23 (6): 631S-636S.

Lemon WR (2000). Beyond the Zone: Protein Needs of Active Individuals. *Journal of the American College of Nutrition.* 19: 513S-521S.

Renal Network of the Midwest (2005). *Renal Network 11, annual report, 2004*. St Paul, MN: Renal Network of the Midwest, Inc.; Available at http://www.esrdnet11.org/admin/annual_report.asp.

Rennie KL, Jebb SA, 2005. Prevalence of Obesity in Great Britain. *Obesity Reviews* Jan 2005, 6(1):11-12.

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