The Clinical Relevance of *Bioimpedance Analysis (BIA)*

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Recently it has been demonstrated that body fat is more than just the storage of excess Calories. Body fat stored within the adipocyte cell has been shown to be metabolically active and a component of the neuroendocrine immune system. As such adipose tissue produces messenger substances such as the inflammatory cytokines IL-1 and TNF-α that may contribute to the origin of heart disease, insulin resistance/Type 2 diabetes and other chronic illness associated with obesity (1). The production of cytokines may also contribute to the loss of muscle protein through an accelerated catabolic process.

Analysis of body composition over time in the adult may then provide for an indirect marker of inflammation-related chronic disorders associated with increased body fat and reduced body protein stored in muscle and organs (2).

The Lean Body Mass Connection to Inflammation

This emerging story suggests that body fatness that is associated with increases in the levels of inflammatory cytokines can have adverse impact on protein synthesis and muscle function.[i] Recent studies have shown that cytokines can directly influence skeletal muscle contractility independent of changes in muscle protein content.

In situations in which there is an increase in inflammatory signals, production of IL-1, IL-6, and TNFα in white cells is enhanced, as is that