

Key insights from the 110th Abbott Nutrition Research Conference The Role of Nutrition in Accretion, Retention, and Recovery of Lean Body Mass

June 23–25, 2009

Columbus, Ohio

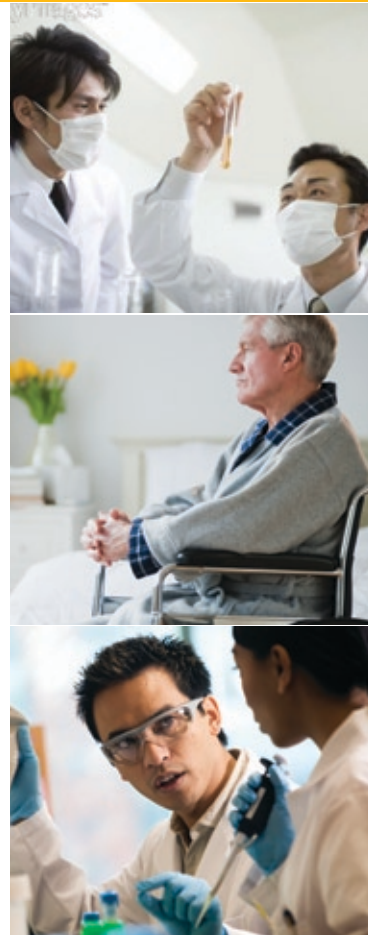
The Abbott Nutrition Health Institute (ANHI) brought together leading scientists from around the world to discuss the significant impact of nutrition on lean body mass.



The importance of skeletal muscle

Based on:

- **Role of Skeletal Muscle in Health**, presented by John E. Morley, MB, BCH, Saint Louis University and GRECC VA Medical Center, USA¹
- Skeletal muscle plays a key role in overall health
- The main causes of muscle loss are age (sarcopenia), illness (cachexia), and anorexia
- Frailty (weight loss, exhaustion, weakness, low physical activity) is associated with muscle function
- Loss of skeletal muscle can lead to:
 - Fatigue
 - Falls and fractures
 - Insulin resistance
 - Disability
 - Death

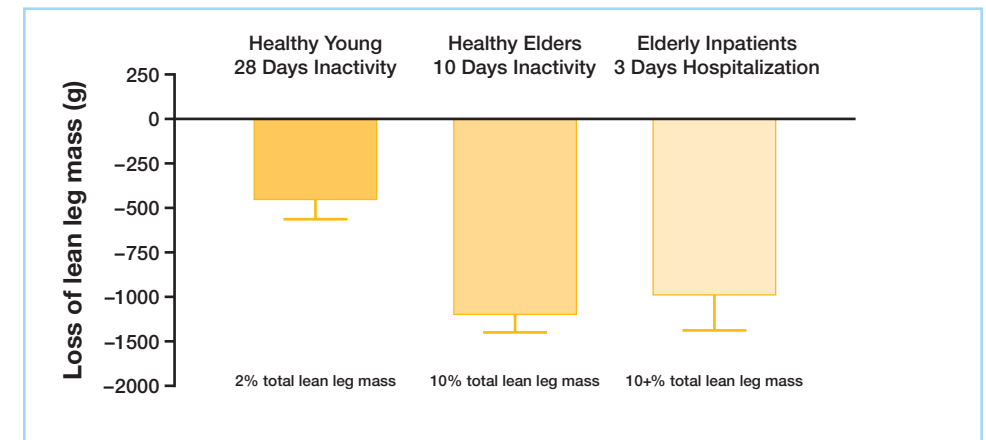


Loss of lean body mass due to age, illness, and inactivity

Based on:

- **Nutrition, Muscle Mass, and Muscular Performance in Middle Age and Beyond**, presented by Catherine D. Johnson, PhD, RD, LD, Abbott Nutrition R&D, USA²
- **Lean Body Mass Loss With Age**, presented by Douglas Paddon-Jones, PhD, University of Texas, USA³
- Sarcopenia, or age-related loss of lean body mass, may be accelerated by inactivity and poor nutrition³
- Bed rest and illness further compound loss of lean body mass³

Inactivity leads to loss of lean body mass³



Adapted from Paddon-Jones D, 2009.³

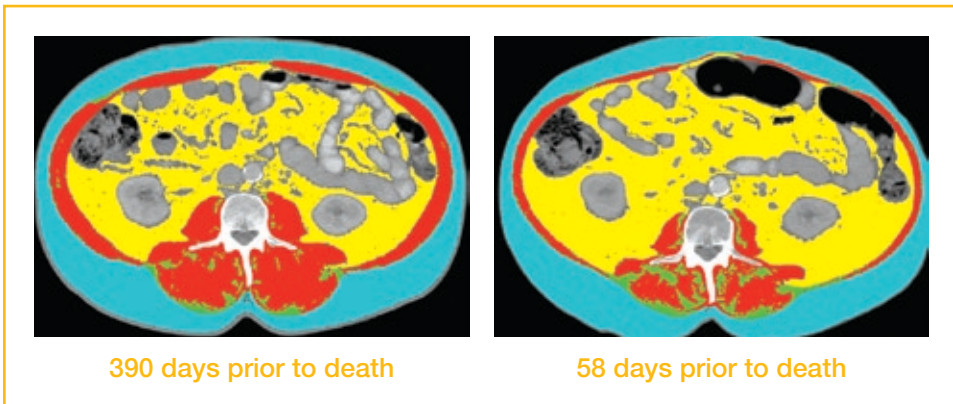
- Optimal muscle protein synthesis is supported by consuming high-quality protein, essential amino acids, and metabolites of essential amino acids²

Loss of lean body mass associated with cancer

Based on:

- **Measurement of Lean Body Mass Using CT Scans**, presented by Vickie Baracos, PhD, University of Alberta, Canada⁴
- Cachexia, one of the main causes of muscle loss, is associated with an underlying disease, such as cancer
- Loss of muscle in patients with advanced cancer is significantly related to outcomes for these patients

CT images from a patient with lung cancer at 2 time points



Skeletal muscle is shown in red. During the 332-day time span, the patient's muscle area decreased by 50%.

Please see your Abbott sales representative or visit ANHI.org for excerpts from a selection of the presentations, and stay tuned for the meeting's full proceedings, available in 2010.

References: **1.** Morley JE. Role of skeletal muscle in health. Presented at: 110th Abbott Nutrition Research Conference; June 23-25, 2009; Columbus, Ohio. **2.** Johnson CD. Nutrition, muscle mass, and muscular performance in middle age and beyond. Presented at: 110th Abbott Nutrition Research Conference; June 23-25, 2009; Columbus, Ohio. **3.** Paddon-Jones D. Lean body mass loss with age. Presented at: 110th Abbott Nutrition Research Conference; June 23-25, 2009; Columbus, Ohio. **4.** Baracos V. Measurement of lean body mass using CT scans. Presented at: 110th Abbott Nutrition Research Conference; June 23-25, 2009; Columbus, Ohio.