

# ACE Exercise Programming for the Fountain of Youth

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## Aging:

- Effects of the aging process
  - Chronological V. Biological aging
- Cardiovascular system adaptations
- Musculoskeletal system adaptations
- Neuro-motor adaptations
- Benefits of strength and power training for the 40+ adult
  - Enhanced muscle force production
  - Improved reaction time
  - Cognitive skill and function
  - Anabolic endocrine system response

Anabolic hormones – can help mitigate effects of aging

- Testosterone
- Human Growth Hormone (HGH / Somatropin)
- Insulin-like Growth Factor (IGF-1 / Mechano-growth factor)

Research findings – exercise protocols that boost anabolic hormone (principles)

Fascia – exercise can influence fascial architecture (principles)

- Multi-planar movement
- Direction variability
- Elasticity – enhancing spring-like properties

The ACE Integrated Fitness Training (IFT™) Model of Exercise Program Design (strategies)

- 4 phases: functional movement and resistance training
  - Stability/mobility → Movement → influence fascial resiliency
  - Load → motor unit recruitment & anabolic hormones
  - Performance
    - Power → rate coding & anabolic hormones

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Designing a training program to boost anabolic hormones & fascial resiliency: (techniques)

- Needs assessment
  - Movement skill
  - Strength
  - Energy system
- Specificity
- Progression → Overload
  - Movement analysis
  - Energy system analysis
  - Injury history
    - Trauma V. repetitive stress
    - Scope of practice: correctible v. non-correctible
  
- 4 phases of cardiovascular (energy system) training (strategies)
  - Aerobic base → aerobic efficiency → anaerobic endurance → anaerobic power
  - HIIT training → anabolic hormones
  - Identify and assess needs of client
    - $VT^1$
  
    - $VT^2$

Building the programs (techniques)

- Sample programs for to increase dynamic balance, mobility, strength & power

Review of the literature

- What the research tells us about training the 40+ adult