

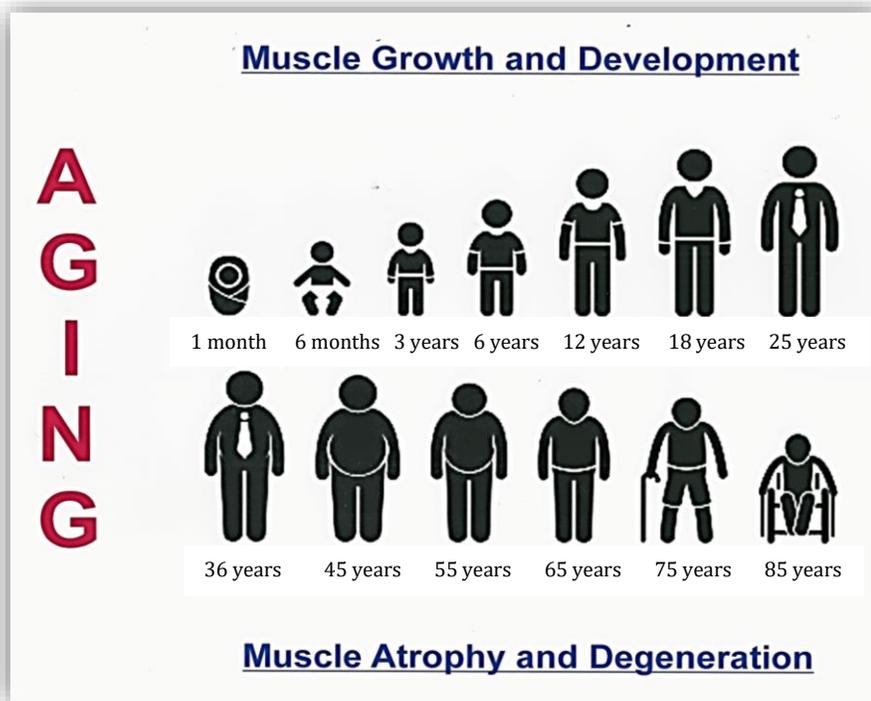
## “Stay Young with Exercise and Nutrition”

### • How Exercise and Nutrition Combat Injury and Illness

The aging process simply stated, is a decrease in the volume and frequency of human cell regeneration over time. Ex: regeneration – a new healthy cell takes the place of a failing cell.

Human cells have a limited lifespan of productivity and begin to fail over time. They are then replaced by fresh productive cells over time.

- **Childhood:** cellular growth is 2 to 1 over those that fail, stimulating the body to physically grow and mature. There is more rapid cellular increase at birth slowly decreasing over time.
- **Early Adulthood:** cellular growth levels off to an even replacement value (1 to 1), halting the increase of height and fundamental size, but continuing to repair damaged cells.
- **Later Adulthood:** cellular depletion increases as growth declines causing muscle and bone to lose strength and then function. Death occurs when cellular growth and repair has completely discontinued.



**Eating a balanced diet daily, that includes protein (if your doctor approves) will help maintain the healthy red muscle tissue that you already have!**

Healthy eating including protein after injury or surgical repair, can speed healing and improve the original condition

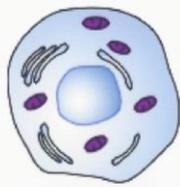
- **Muscle tissue is created for all ages in the same manner with the same techniques.**

### Stimulate “Later Life” Cellular Regeneration with Exercise and Healthy Nutrition

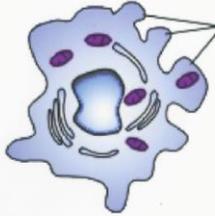
A person can actually reverse the aging process with long term, healthy life style choices and personal dedication to physical fitness.

Putting stress on bone and muscle tissue through strength training (muscle building exercises) and moderate aerobic conditioning, causes increased bone density and strengthened cardiovascular (heart and lung) function.

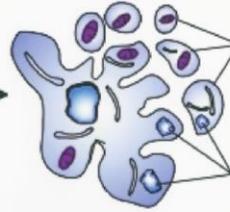
## Cellular Breakdown - Aging



Healthy cells continue to live with proper nutrition and daily physical activity.



Lack of protein in a poor diet can cause protein bonds to break.



Lack of protein and exercise cause protein bonds to break, with no repair from activity - cell dies

### **Bodily Response to Exercise:**

**Bone** adapts to greater physical demands by increasing its density and strength to accommodate these new requirements.

**Muscle Tissue** adapts to greater physical demands with tiny micro-tears in the muscle itself. During recovery these micro-tears fill in with nutritionally provided protein (amino acids), increasing the size of the muscle and producing more strength.

By encouraging these adaptations of bone and muscle through increased demands on bodily performance (exercise and physical activity), we increase cellular growth and slow down the aging process.