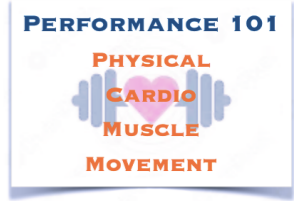


# PERFORMANCE 101:



## Factors Influencing Muscle Development

**SUMMARY:** There are many factors that effect muscle development, but AS I ALREADY MENTIONED genetics is key. Other factors include the following. These factors combined with our genetic potential determines our muscle development.

- Age at which training began - earlier the better. Without intervention muscles decreases in size and strength of 10–15% per decade are observed after the age of 50 years, with increasing rates of loss after the age of 65 (study)
- Training load - loads that bring you to momentary failure or 2 reps in reserve
- Training duration - 10-30 sets per muscle group per week, volume is key to training for muscle mass
- Training frequency and recovery from training - each muscle group needs to be trained 2 OR MORE x a week with 48 hours rests between sessions in most cases
- Training history/physical activity during childhood -early you start the better, usually during adolescence
- Carbohydrate and protein intake - need adequate nutrition which consists of healthy carbs and protein at 3 or more meals a day. Do not neglect the carbs. Make them at least 50% of your calories.
- Caloric intake - it is hard to gain muscle when you are on a low caloric weight loss diet or with intermittent fasting.
- Hydration- you need adequate fluid to retain water WITHIN the muscle especially if you use CREATINE
- Rest-7 hours a sleep a night (research) READ ON

# Factors Influencing Muscle Development

When it comes to training no two bodies are exactly the same and, therefore, no two people will build strength and size at equal rates. As mentioned fiber type and number, myostatin, and hormones matter when it comes to muscle growth. Many other factors come into play like training variables, rest, nutrition, but AS I ALREADY MENTION genetics is key.

According to Ace Fitness the two categories of factors that play a role in the process of muscle development are the genotype (genetic code of an individual) and the phenotype (observable physical characteristics of an individual). Sub-factors related to genotype are sex and genetic make-up. Sub-factors related to phenotype, or the interaction of genotype and environment, include:

- Age at which training began - earlier the better, usually when adolescence starts
- Training load - loads that bring you to momentary failure
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- Training history/physical activity during childhood -early you start the better
- Carbohydrate and protein intake - need adequate nutrition which consists of healthy carbs and protein at 3 or more meals a day
- Caloric intake - it is hard to gain muscle when you are on a low caloric weight loss diet
- Hydration- you need adequate fluid to retain water WITHIN the muscle especially if you use CREATINE
- Genetics and Hormonal influences - this has been mentioned but genetics you can not change, while hormones which are influenced by your genetics may be changed to a degree by adopting a healthy lifestyle

We cannot change or make modifications to the genotype factors (genetics and sex). We also cannot control major shifts in hormones as we age (without pharmaceutical and/or medical intervention). We can, however, determine when training starts, the overall training load, duration and frequency, and daily dietary habits.

Some people possess a natural predisposition to building large amounts of muscle mass, which is determined by their genotype (or genetic blueprint inherent to their DNA). Others do not possess that same natural ability. Genetics dictate the upper limit for how much muscle mass is attainable per individual. In other words, how much and how quickly muscle grows is largely influenced by something you are unable to alter—your genes. For example, a 20-year-old male with strong genetic potential and a large percentage of fast-twitch muscle fibers (those that respond to growth the easiest) could gain lean mass at a rate of 2 pounds per month. Over time, that rate will decrease as his lifting experience matures, his hormonal profile changes and his body adapts. By contrast, someone with a different genetic profile and body type may only be able to build muscle at a rate of a one-half pound per month. While the rate at which a person will build muscle mass is not predictable, with the right diet and proper training regimen everyone has the ability to add strength and mass.