

# Muscle Growth



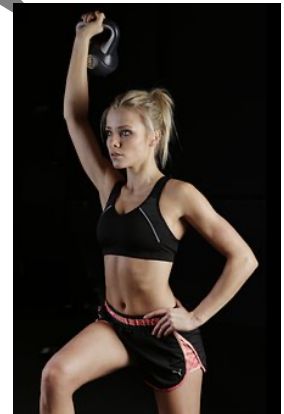
Muscle growth is the increase in size, mass, and density of muscle cells.

## What is muscle growth?

Muscle growth refers to the increase in size, mass, and density of muscle cells. It is sometimes called muscle hypertrophy and is an example of muscular change and adaptation to outside influences. Muscle is 20% proteins and 80% water, phosphates, and minerals.

## How do muscles grow?

When muscles are active, they develop micro-tears, which contribute to the soreness felt after exercise. When the muscle is rebuilt at the cellular level, the repaired muscle is larger and stronger than before. To achieve this breakdown and growth, muscles must be exposed to a certain level of stress above the typical intensity level they are used to. Examples of such increased intensity are heavy weight lifting and continuous exercise. To ensure optimal muscle development, adequate rest, fluids, and nutrition are highly advised following a workout. This provides ample time and fuel for the muscles to regenerate and grow.



Active muscles develop micro-tears, which are repaired, resulting in larger muscles.

## Factors that can affect muscle growth

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It is easier for men to grow muscle than it is for women.

Men achieve muscle growth easier than women due to much higher levels of testosterone, an important growth hormone. Steroids contain testosterone and are considered performance-enhancing drugs due to their ability to increase muscle mass quickly. They are commonly used by athletes and bodybuilders to quickly achieve an increase in muscle size and

strength. However, the use of steroids has been banned in most countries and is strictly prohibited in organized sports such as the Olympics. Aside from providing an unfair advantage, steroids come with many undesirable side effects. Notably, steroids can cause:

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### Why is muscle growth important?

Muscle growth improves overall health and helps prevent degeneration with age. Larger muscles are often more active, leading to improved daily functioning in most individuals. Preserving muscle mass can maintain strength, which is a predictor of survival as one ages. In most cases, people who are more muscular typically have better insulin control.



Muscle growth promotes longevity.

## How fast can you build muscle?

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Interval strength training is recommended for building muscle.

### Strategies to maximize muscle growth

Frequent, regular training with short rest periods (interval training) is effective in maximizing muscle growth. Studies suggest that exercises should be performed as 12-20 sets per muscle group with 6 – 12 repetitions per set and rest periods of 30 – 90 seconds between sets. This will help add volume and improve muscle efficiency. Training should always be consistent. Finally, people wishing to build muscle should consume foods rich in calories with a minimum of 12 – 15% of calories from protein and sleep seven to nine hours per night.

### **Reading Comprehension Questions:**

1. What is muscle growth?
2. What
3. How
4. What is the basic building block of proteins?
5. Why
6. Name three negative side effects of steroid use.
7. What type of

### **Extension Questions:**

8. Suppose
9. There are many protein supplements on the market. Do they work? Are they necessary to rapidly increase muscle mass? Perform some research online to answer these questions.

Reading Comprehension Questions:

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## References

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