

If you're training to build muscle without gaining fat, then make sure to pay attention to the timing of your meals. A number of recent studies show that consuming protein and/or carbohydrate immediately prior to, and straight after exercise, has a massive impact on your rate of muscle growth. In a recent study, scientists gave subjects a protein and carbohydrate supplement either immediately following, or three hours after exercise [2]. The results show that muscle growth was far greater when the supplement was taken immediately after exercise, compared to when it was taken 3 hours later.

More exciting still, it's also been shown that a protein drink taken before exercise is even more effective. Researchers at the University of Texas gave test subjects a protein-based supplement either before or after a 45-minute weight-training session [3].

Incredibly, protein synthesis (muscle growth) was more than twice as high when subjects consumed protein before exercise, compared to drinking it straight after the workout. Because the flow of blood around your body is greater during exercise than it is after, protein consumed before you train is delivered more quickly to your muscles.

The good news is that when you combine pre-exercise protein with post-exercise protein and carbohydrate, you're providing your body with a powerful anabolic boost virtually guaranteed to speed up muscle growth.

Personally I prefer whey protein as it's very low in lactose, easy to digest and easy to drink before and after exercise which is not the case with a casein based protein drink (slow digestion). A protein powder, such as the brand Promax works well or any other Whey protein that is of high quality.

### References

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3. Wolfe, R.R. (2000). Protein supplements and exercise. *American Journal of Clinical Nutrition*, 72, 551S-557S