



THE ROAD TO HEALTH & WELLNESS

HEALTH TOPIC OF THE WEEK

2/26 - Nutrient Timing

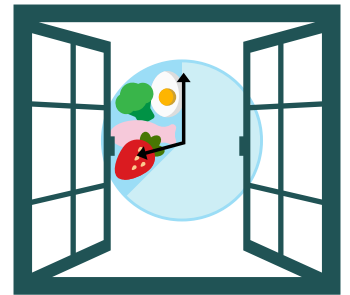
Introduction

If there were a way to boost your endurance and strength, delay fatigue, enhance recovery and improve your overall results, you'd be all over it, right? Well, there is. It's called nutrient timing.

Perhaps you've heard the term nutrient timing from the internet, tv or magazine ads, friends, family, or even your trainer. If so, you may have also heard the term "the window of opportunity". That's a pretty good description. Nutrient timing is not just what you eat. It's when you eat as well.

Are you confused about what to eat before and after a workout? Is there truly a "window of opportunity"? Follow along as we explore the benefits of nutrient timing - a key weapon in your training arsenal.

More about the window concept in a moment, but first let's look at nutrient timing and why it is important.



What is Nutrient Timing?

Like most exercise or nutrition-related topics, nutrient timing is rather complex. In simplest terms, nutrient timing is a dietary strategy in which specific nutrients are consumed at certain times around training sessions to elevate performance and results.

There are many nutrients that are beneficial for you before and after exercise. However, this week's health topic will simplify the complexity by focusing on carbs and proteins.



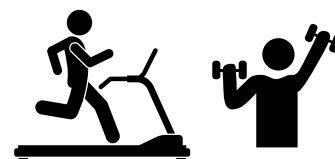
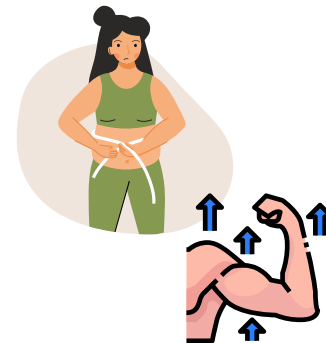
The three phases of nutrient timing - the energy phase, anabolic phase, and growth phase- align with your body's physiological responses to exercise and recovery. Put simply, by timing your intake of food and by manipulating the ratio of macronutrients, it is possible to improve exercise performance, recovery and muscle tissue repair.



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Benefits of Nutrient Timing

- Eating the right nutrients at the right time can up-regulate metabolism, shift hormonal profile, and improve body composition.
- Manipulating nutrient intake promotes anabolic hormones, namely insulin.
- Nutrient timing helps maximize muscle growth.
- Strategies for timing nutrition can be adjusted to help achieve desired goals, such as muscle strength and growth, improved athletic performance, even weight loss/body fat reduction.
- Nutrition timing can also be adjusted depending on the type of workout: cardiovascular, resistance or endurance.



The Window of Opportunity

The “window of opportunity” refers to the ideal period that the proper combination of carbohydrates and proteins should be consumed prior to your exercise session [pre-workout] and after your exercise session [post-workout].

Pre-workout

The purpose of the pre-workout meal is to provide the body with proper fuel sources to maximize your energy level while training.

The pre-workout window is typically believed to be approximately one hour prior to exercising. However, there are some researchers who believe it is considerably longer.



Post-workout

The purpose of the post workout meal is to provide the body with the proper nutrients to shift your hormone profile favorably, maximize recovery and facilitate protein synthesis [needed for building muscle].

Intense exercise is stressful to the body. This is not a negative thing, and it is necessary for the body to adapt and grow. However, immediately after exercising our energy levels are depleted, our immunity is mildly weakened, and our body is in a catabolic state [breaking down of molecules]. Consumption of proper nutrients within an approximate one-hour period after intense exercise helps the body to “flip the switch” to an anabolic [growing or the building up of molecules] state. Obviously, this is highly desirable.



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Practical Ways to Consume a Proper Pre-workout Meal

The purpose of the pre-workout meal is to consume relatively rapidly digested and absorbed carbohydrates in order to boost insulin production. Elevated insulin levels during exercise are desirable since insulin carries the sugar molecules into the muscle, allowing you to train harder and longer.

Typically, for those looking to build muscle or enhance performance, research suggests a carbohydrate to protein ratio of 3:1. However, this ratio is approximate and varies from person to person based on a variety of physiological needs and conditions. Also, at EPT we don't like to bog people down with details and specifics in a way that becomes burdensome.

There are a variety of commercial pre-workout products. These range from terrible to terrific.

Here are some foods which should be good pre-workout meals:

- Protein smoothie
- Greek yogurt
- Eggs
- Fruit
- Apple with peanut butter
- Nuts
- Toast with avocado



This should be eaten 30-60 minutes before your workout to raise blood sugar and insulin levels.

Practical Ways to Consume a Proper Post-workout Meal

The purpose of the post workout meal is to quickly hydrate the body and replenish its nutrient needs from training. This should be done within an hour of the exercise session.

Research shows that plain water is not the best way to hydrate post workout. A better option is carbohydrate-electrolyte drinks, these are easier to absorb and make us retain more fluid.

Milk is an effective way to rehydrate post-workout. In fact, A study in the British Journal of Nutrition found milk to be superior to both sport drinks and water.

To facilitate glycogen replenishment, protein synthesis and promotion of anabolic growth, the International Society of Sports Nutrition recommends a post workout meal with a 4:1 ratio of carbohydrates to protein.

If you really want to maximize muscle recovery, a study in the American Journal of Physiology showed that you should consume between 20-40 g of protein post workout.



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As is the case with commercial pre-workout products, there is a plethora of commercially available post workout beverages and meals. Again, evaluation of all these products is beyond the scope of this health topic, but these commercially available products range from awful to excellent.

A great choice is to consume a protein smoothie with creatine, branched-chain amino acids and glutamine.

If you prefer eating whole foods after exercise instead of a commercial beverage, try the following post-workout snacks:

- Peanut butter/almond butter on a banana
- Avocado on toast
- Whole grain pasta



Summary

Nutrient Timing involves eating the proper nutrients at the right time before and after your exercise session. This week's health topic just scratched the tip of the iceberg. However, the above suggestions are easy to implement and will maximize your results.

This is a complicated topic, and we are always here to discuss it in more detail.

Keep in mind, your overall diet matters most. No matter what your goal is, pre-and post-workout nutrition is only a part of the equation. Ask about our nutrition services so we can help you eat in a well-rounded sustainable way that features plenty of nutrient-dense whole foods that are tasty and will go a long way to helping you prevent disease and promote health.



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References

1. Arent, S. M., Cintineo, H. P., McFadden, B. A., Chandler, A. J., & Arent, M. A. (2020). Nutrient timing: a garage door of opportunity?. *Nutrients*, 12(7), 1948.
2. Jäger, R., Kerksick, C. M., Campbell, B. I., Cribb, P. J., Wells, S. D., Skwiat, T. M., ... & Antonio, J. (2017). International society of sports nutrition position stand: protein and exercise. *Journal of the International Society of Sports Nutrition*, 14(1), 20.
3. Schoenfeld, B. J., & Aragon, A. A. (2018). Is there a postworkout anabolic window of opportunity for nutrient consumption? Clearing up controversies. *Journal of orthopaedic & sports physical therapy*, 48(12), 911-914.
4. Winter, K. (2023). Maximizing Muscle Recovery: The Role of Post-Workout Nutrition. *Nutrition*.
5. Shirreffs SM, Watson P, Maughan RJ. Milk as an effective post-exercise rehydration drink. *British Journal of Nutrition*. 2007;98(1):173-180. doi:10.1017/S0007114507695543
6. Kerksick C, Harvey T, Stout J, Campbell B, Wilborn C, Kreider R, Kalman D, Ziegenfuss T, Lopez H, Landis J, Ivy JL, Antonio J. International Society of Sports Nutrition position stand: nutrient timing. *J Int Soc Sports Nutr*. 2008 Oct 3;5:17. doi: 10.1186/1550-2783-5-17. Erratum in: *J Int Soc Sports Nutr*. 2008;5:18. PMID: 18834505; PMCID: PMC2575187.
7. Tipton KD, Ferrando AA, Phillips SM, Doyle D Jr, Wolfe RR. Postexercise net protein synthesis in human muscle from orally administered amino acids. *Am J Physiol*. 1999 Apr;276(4):E628-34. doi: 10.1152/ajpendo.1999.276.4.E628. PMID: 10198297
8. Nutrient Timing (unm.edu)
9. The Benefits of Nutrient Timing - NASM
10. Eating and exercise: 5 tips to maximize your workouts - Mayo Clinic
11. Anabolic vs. Catabolic Processes (verywellfit.com)
12. What to Eat Before and After a Workout (webmd.com)
13. Food as Fuel Before, During and After Workouts | American Heart Association

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