

# Post-Workout Nutrition for the High School Athlete

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## SUMMARY

EVERY ATHLETE WANTS TO GAIN A LEG UP ON THE COMPETITION, AND HIGH SCHOOL ATHLETES ARE NO DIFFERENT. SUPPLEMENTS AND RECOVERY DRINKS ARE POPPING UP EVERYWHERE, AND SO ARE PEOPLE'S THEORIES ABOUT THEM. MANY HIGH SCHOOL ATHLETES HAVE ACCESS TO, AND USE, SUCH SUPPLEMENTS AS RECOVERY DRINKS. MANY HIGH SCHOOL ADMINISTRATORS ARE FEARFUL OF ANY SUBSTANCE THAT COULD BE INVOLVED IN ANY FORM OF LITIGATION AND ARE HESITANT TO SEE THEM USED IN A SCHOOL SETTING.

The National Strength and Conditioning Association standard 9.1 states that strength and conditioning professional must not prescribe supplements that are harmful or illegal to athletes and only recommend or provide those

supplements that have been scientifically proven to be beneficial (5). Depending on one's state of residence, coaching bylaws the process of providing or recommending supplements may or may not be appropriate. In addition to the National Strength and Conditioning Association and State guidelines, high school coaches have school administrative policies to follow as well. A high school coach views a protein-recovery drink as relatively safe; however, the school administration may see it as potentially harmful as a supplement. Several studies have focused on the importance of recovery nutrition and maximal protein uptake timing. Ready-to-drink protein shakes are an example of immediate nutrition; however, high school cafeteria items may provide the same results.

Research has found that an excellent recovery drink may be as simple as a childhood favorite. "Chocolate milk contains an optimal carbohydrate to protein ratio, which is critical for helping refuel tired muscles after strenuous exercise and can enable athletes to exercise at a high intensity during subsequent workouts." (1) These findings suggest that, with all the products available on the market, regular chocolate milk may actually be better for athletes for recovery from glycogen-depleting exercise. This information most certainly surprised coaches and athletes.

A larger double-blind, placebo-controlled study by Chromiak et al. (2) investigated the effects of a 10-week strength training program and

recovery drinks. Their study used a commercial recovery drink that contained creatine, whey protein, amino acids, and carbohydrates for the supplement group and a carbohydrate only drink in the control group. In their findings, they observed little to no difference in the 2; however, a trend to higher fat free mass gain in the commercial drink was noted that warrants further research. In addition to these findings, no improvements were recorded in a 1-repetition bench press, and leg press, muscular endurance, or anaerobic power. These findings suggest that it may not be quite as important as to what recovery drink is being ingested but rather the timing of the recovery drink, because both groups were given their drinks immediately after training.

Protein supplementation is effective at promoting increases in fat free mass and muscle endurance during the initial stages of a resistance-training program (4). This finding pertains specifically to whey protein and casein protein, both ingredients in recovery drinks. In additional research by Coburn et al. (3), they found that whey protein plus creatine increased fat free mass more than a control group but noted a limitation in the study because there was no dietary analysis to determine protein intakes before or after the supplements were given.

Athletes need to refuel their bodies after exercise to replenish, repair, and grow properly. In the high school community, this activity can become

difficult, with so many layers of administration and uncertainty. However, the aforementioned information lets us look at a high school-friendly alternative to post-workout recovery nutrition. After reading the results of these studies, I visited our high school cafeteria and recorded the nutritional information of a carton of chocolate milk and a single serving of a peanut butter and jelly sandwich. One serving of fat-free chocolate milk contained 140 calories, 27g of carbohydrates, and 8 g of protein. One serving of peanut butter and jelly sandwich contained 320 calories, 33 g of carbohydrates, 9 g of protein, and 16 g of fat. The totals for this recovery meal are 460 calories, 60 g of carbohydrates, 17 g of protein, 16 g of fat and cost a grand total of \$1.20. Other than the possibility of a nut allergy,\* I can see absolutely no interference on behalf of any national, state, or school administration policies with the practice of recommending this nutritional meal as a means of recovery as well as a source of weight gain by eating this meal between classes. The other additional bonus is that our lunch room carries this food on its ala carte line, so it is readily available any time the ala carte line is open. Our school day is over at 2:20, and our after school training program runs from 3:00 to 4:15. Many of our athletes are stopping by the ala carte line and buying 2 of each—they have a snack before training and then another immediately after our training session. This provides 920 calories, 120 g of carbohydrates, 34 g of protein, and 32 g of fat for \$2.40. This money comes from their school lunch accounts.

Obviously, some recovery options work better than others depending on one's situation. Athletes need education about the importance of post-exercise recovery nutrition, and this

may be a healthy safe alternative to recovery drinks.

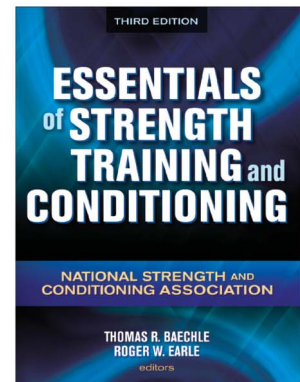
\*Nut allergy alternative may include substituting a 3 oz serving of tuna, which contains approximately 150 calories and 25 grams protein.■

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**Ryan Johnson** is the *Strength and Conditioning Coordinator for Wayzata Public Schools, and Assistant Football Coach (Director of Player Development) for Wayzata High School.*

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