

Post Workout Nutrition for the High School Athlete

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 utilize, 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 in a school setting.

The NSCA 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 that have been scientifically proven to be beneficial. (1) Depending on your state, coaching bylaws the process of providing or recommending supplements may or may not be appropriate. In addition to the NSCA and State guidelines, high school coaches have school administration policies to follow as well. A high school coach views a protein recovery drink with no creatine as relatively safe; the school administration may see it as potentially harmful as it is considered 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 a 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." (2) These findings

suggest that with all the products available on the market that 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 (3) 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. Their findings saw little to no difference in the two, however a trend to higher fat free mass gain in the commercial drink was noted that warrants further research. In addition to these findings it was noted that no improvements were recorded in 1-RM 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 as 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. Additional research (5) found whey protein plus creatine increased fat free mass more than a control group but noted a limitation in the study as there was no dietary analysis to determine protein intakes before or after the supplements were given.

It is agreed that athletes need to refuel their bodies after exercise to replenish, repair, and grow properly. In the high school community this can become tricky with so many layers of administration and uncertainty. However, the above 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 Smuckers Uncrustable peanut butter and jelly sandwich. One serving of fat free chocolate milk contained 140 cal, 27g Carb, and 8g Protein. One serving of peanut butter and jelly sandwich contained 320 cal, 33g Carb, 9g of Protein, and 16g of Fat. The totals for this recovery meal are 460 cal, 60g Carb, 17g protein, 16g 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 – 4:15. Many of our athletes are stopping by the ala carte line and buying 2 of each, they have a snack prior to training and then another immediately after our training session. This provides 920 cal, 120g Carb, 34g Protein, and 32g Fat for \$2.40. This money comes from their school lunch accounts.

Obviously some recovery options work better than others depending on the situation you are in. Athletes need to be educated 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 3oz serving of Tuna which contains approximately 150 calories and 25 grams protein.

References

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