**Food Atlas Entry**

One of the crucial components of high performance within athletic competition is energy. High energy levels help muscle performance for athletes, resulting in better athletic performance. Carbohydrates are related to providing our muscles with the glycogen they need, providing our muscles with the energy they need for peak athletic performance. The main energy source in the diet is carbohydrate which is why it’s such an imperative source of fuel for our muscles when exercising.3 Carbohydrates compose the highest percentage of energy-providing nutrients for the body’s diet.2 This nutrient is essential for maintaining high energy levels and maintaining training intensity during exercise.4

To help sustain physical performance, especially endurance performance, you need to have the optimal carbohydrate intake before and after your exercise.2 Incorporating a carbohydrate heavy diet would result in higher energy levels for athletes just by loading up on carb heavy foods like pasta. After exercise has been completed, carbohydrate intake will replenish the muscle glycogen which is what the body uses for energy during exercise.2 Carbohydrate intake post-exercise is what speeds up the recovery process while also preparing the body for future exercise as well.4 This shows why: when carbs are consumed is just as important as the amount of carbs consumed. Athletes should be replacing their carbohydrate stores during the recovery process by consuming carbohydrate-rich snacks within thirty minutes of exercise and carbohydrate-rich meals within two hours of exercise.5

In our society today, it has become a lot more popular to implement a higher-protein diet with lower carbohydrates, which can have a negative impact on the athletes doing so.2 Just like carbohydrates are, protein is an energy giving nutrient.3 On the other hand, unlike carbohydrates, protein is not a primary fuel source during exercise.5 A very small amount of energy is derived from protein whereas it’s really used to build muscle and tissues instead.3 Most of the energy our body demands during exercise is through the breakdown of carbohydrates. On a general level, most athletes are recommended to have sixty percent or more of their energy come from carbohydrates and only fifteen percent to come from protein (The remaining twenty five percent coming from fats).3 While protein is not a primary source of fuel for energy it’s still very helpful in many phases of exercise. There have been several studies proving that just carbohydrates are not able to increase protein synthesis post exercise but carbohydrates and protein consumed together, before and/or after exercise, can create a positive protein balance rather than just consuming one or the other.2 When protein and carbohydrates are consumed together in recovery post-exercise, it can help improve net protein balance, enhance glycogen re-synthesis, and reduce muscle soreness which is crucial for athletes approaching competition dates.3

Carbohydrate intake is dependent on the athlete’s body weight, body composition, and their training demands.5 The belief in sports nutrition and nutritional science is that carbohydrate is the crucial macronutrient not only for sport but for your health as well.3 Since exercise rapidly depletes carbohydrate stores in the body, it’s very important for athletes to consume more than enough carbohydrates before, during, and after exercise in order to obtain peak athletic performance. This can be achieved by doing something as easy as adding pasta to the diet.