

Why is pre-workout nutrition important?

To replenish needed energy during the workout.

- Muscle fibers need energy during workout. This energy comes in the form of ATP. ATP has to be rapidly and continuously replenished during a workout. This fuel (needed for performance in the weight room or on the field) can come from creatine phosphate and/or muscle glycogen. These forms of energy are limited in storage and only available for a short period time. Fueling before/during a workout can spare energy in storage.

To maximize effects of muscle building hormones.

- Two important hormones play a key role in our ability to improve lean mass. Insulin plays a role in causing positive changes to muscle whereas cortisol plays a negative role in our efforts to increase lean mass. Proper nutrition during the workout period can elevate insulin and thus produce positive changes while also decreasing cortisol thereby limiting negative changes to our muscle building efforts.

For faster delivery of oxygen and fuel and elimination of wastes.

- Nutrition during the workout results in increased blood flow. Increased blood flow means faster delivery of oxygen and energy to working tissue.

To maintain protein balance.

- During intensive training sessions such as lifts or practice protein loss occurs. When we participate in intense activity for long durations there is an increased use of branch chain amino acids (BCAAs) for energy. BCAAs are needed for protein synthesis or muscle growth. Proper nutrition before and/or during a workout can spare the use of BCAAs for energy.

To limit tissue damage and Immune system suppression

- During exertive activity such as practice and weight room sessions tissue damage occurs. Tissue damage can result from physical damage occurring from forces acting on the muscle to hormonal damage from certain chemicals signaling protein breakdown. Additionally, the release of free radicals can damage multiple cells in the body. The immune system responds to this volatile activity by increasing fighters of infection. However, during intense training sessions the immune system response can be quelled. Proper nutrition before or during the workout can set the stage for increased recovery and also limit the suppression of the immune system.

To limit fluid loss

- Exertive activity results in fluid loss and can cause dehydration. Dehydration impairs mental and physical performance. Proper nutrition before and/or during the workout can abate dehydration resulting in greater performance.

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