

NUTRIENT NEEDS FOR THE OFF-SEASON

By Heather Mangieri, RD, CSSD, Owner/Nutrition Consultant of Nutrition CheckUp in Pittsburgh and Spokesperson for the Academy of Nutrition and Dietetics.

Each phase of the training cycle brings about changes to volume and intensity that demand different nutritional considerations. The recovery period or “off-season” is no exception. Although limited data exist on the negative effects of the off-season on body composition, studies do show that detraining can lead to increased body fat and weight and decreased VO_{2peak} and metabolic rate.^{1,2} That’s why it’s important to evaluate the lifestyle and training differences that occur and adjust the nutrition plan accordingly. Without appropriate adjustments to the nutrition plan, adipose tissue can accumulate and muscle mass can be lost. The negative changes in body composition that can occur may negatively affect sports performance once the next season begins.

The duration of the recovery phase varies for different sports, but for all athletes the recovery phase is a time to reflect on the previous season and plan for the one ahead. Some athletes may need to adjust their nutrition needs to maintain their current body composition. Others may wish to adjust their nutrition plan to change their body composition in the hope of achieving a potential performance advantage in the year ahead. Both are achievable if goals are set appropriately.

Depending on the athlete, the goal may be one of the following:

1. Maintain competition weight and preserve skeletal muscle
2. Increase skeletal muscle mass
3. Decrease body fat
4. Increase skeletal muscle mass and decrease body fat simultaneously
5. Increase skeletal muscle mass and slightly increase body fat
6. Increase body fat

Maintaining Competition Weight and Preserving Skeletal Muscle

Energy intake and distribution will need to be reevaluated to match the decreased volume and intensity of training. A reduction in carbohydrates is needed to support the reduction in activity. Endurance and strength athletes should aim to consume at least 1.2 g of protein per kg of body weight daily.³ Athletes can often achieve this by cutting back on their portion sizes at meals and avoiding nutrient-poor foods such as cakes, candies, and cookies. If athletes were consuming sports beverages to fuel their activity, they may be able to switch to drinking water. (For tips on maintaining weight during the off-season, see the fact sheet, “Goals for Off- Season Fueling.”)

Increasing Skeletal Muscle Mass

Determining the number of calories an athlete needs is a prediction based on the individual’s resting metabolic rate (RMR) and physical activity on any given day. For athletes who wish to gain skeletal muscle,

a rule of thumb for males is baseline calorie intake plus 400 to 500 kcal/day.³ For females, an addition of 300 to 400 kcal/day above baseline is recommended.³ The recommended protein intake to increase skeletal muscle mass in strength athletes is typically ~1.7 g/kg bw/day.³ Athletes should be reminded that muscles need stimulation to grow. The increase in calories will serve to support the additional training needed to build lean muscle. (For tips on increasing skeletal muscle mass, see the fact sheet, “Goals for Off-Season Fueling.”)

Decreasing Body Fat

Most athletes will require fewer calories during the off-season because of their reduced activity level. It's important to first establish new baseline caloric needs before calories can be estimated for decreasing body fat. Sports dietitians can help athletes determine what their new “off-season” baseline should be. If the athlete's goal for the off-season is to lose weight by decreasing body fat, a guideline is to consume the new baseline calories minus 300 to 500 kcal/ day for males, and minus 200 to 300 kcal/day for females.³ Research suggests that consuming protein at an intake of ~1.5 g/kg bw/day while trying to lose weight may help to protect against loss of lean body mass when calories are restricted.³ Fat restriction should be moderate. (For tips on decreasing body fat during the off-season, see the fact sheet, “Goals for Off-Season Fueling.”)

Increasing Skeletal Muscle and Decreasing Body Fat Simultaneously

Increasing skeletal muscle while decreasing body fat is a balancing act not easily accomplished. The body requires additional fuel to support the training needed to build lean muscle, yet too much fuel can prevent the use of stored triglyceride for energy. A starting point for daily intake is the athlete's baseline requirement plus 300 kcal/day for males and 200 kcal/day for females.³ Taking weekly anthropometric measurements can help the athlete evaluate his or her progress. If body composition goals are not being met, total energy intake may need to be adjusted by 50 to 100 kcal/day until the desired outcome is achieved.³

Increasing Body Fat Percentage

Although not as common as the need to lose body fat, some athlete's may need to gain body fat. To increase body fat, energy intake above baseline is necessary—but increasing energy intake is not an invitation to eat whatever the athlete wants. The eating plan should still provide nutrient-dense foods to support growth and development while keeping the athlete healthy. The increased calories can easily be obtained by increasing the portion size of meals and adding one or two additional snacks.

Athletes should welcome the rest, relaxation, and less strict eating plan that comes with the off-season, but it's important that they do so mindfully.

Author

Written by SCAN/CPSDA Registered Dietitians (RDs). For advice on customizing an eating plan to meet your nutrition goals, consult an RD who specializes in sports, particularly a Board Certified Specialist in Sports Dietetics (CSSD). Find a qualified RD at www.scandpg.org or www.sportsrd.org.

References

1. Ormsbee MJ, Arciero PJ. Detraining increases body fat and weight and decreases VO₂peak and metabolic rate. *J Strength Cond Res.* 2012; 26(8):2087-2095. Print.
2. Liu TC, Liu YY, Huang CY, et al. Effects of short-term detraining on measures of obesity and glucotolerance in elite athletes. *J Sports Sci.* 2008; 26(9): 919-925.
3. Sports, Cardiovascular, and Wellness Nutrition Dietetic Practice Group, Rosenbloom C, Coleman E. *Sports Nutrition: A Practice Manual for Professionals*, 5th edition. Academy of Nutrition and Dietetics; 2012. Print.

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