

NUTRITION FOR THE FOOTBALL STUDENT-ATHLETE



KENT GIDLEY / ALABAMA; ADDITIONAL PHOTOS FROM NCAA PHOTOS ARCHIVE AND SHUTTERSTOCK

I've heard I need to weigh 320 pounds or more in order to be a successful lineman. I've been eating big meals and having a couple of protein shakes every day. I'm seeing some gains on the scale, but I'm not sure I'm gaining muscle. What can I eat to get bigger and stronger without feeling so full that I need to go lie down after meals?

Football is often called the ultimate team sport, requiring each position player to do his job in order for the play to be successful. Games are lengthy, but are played in rapid, short-duration bursts requiring speed, endurance and mental toughness, especially late in the game. Speed, power, strength and agility are important factors in all football athletes. Body composition of football athletes relates directly to position on the field, with larger, higher body-mass athletes playing line positions and smaller, more-lithe body types in skill positions.

As a collegiate football student-athlete, your focus should not be on a specific number on the scale. Instead, train your body to be hungry for a substantial breakfast, and fit meals and snacks in throughout the day. Protein should always

be included, and must be balanced with carbohydrates such as fruits and vegetables, and fats such as nuts and seeds. The key to gaining muscle isn't bigger meals, necessarily, but their timing, composition and nutrient density.

Information presented by



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TIPS FOR JUNE AND JULY

- Establish nutrition habits that are conducive to your own performance goals for the upcoming season.
- Remember, this time of year offers great opportunity to add lean mass, lose body fat and optimize sleep habits.
- Capitalize on downtime by using it to learn more about shopping, cooking, grilling and meal preparation. Your performance benefits from using basic skills in the kitchen, and these lessons help prepare you for a healthy, productive life in the future.

PRESEASON

June and July:

Eight-Week Summer Program

Summer conditioning focuses on preparing for the upcoming preseason camp and the competitive season. It includes strength training to optimize body composition after the May break, and running outdoors to prepare for games in the heat of late August. During this period, acclimating and persevering through heat is a priority. Summer on campus has a slower feel, and meals may be less available if campus dining services are not functioning at the same level as during the long semesters.

August

Call it "fall camp" or the traditional "preseason" – no matter the term, all football student-athletes anticipate an intense few weeks preparing for the season. Meals and snacks are planned around your practice schedule, and fluids should be readily available. Here are some key concerns:

Get enough fluids. During this period, you'll be weighed before and after practice to determine how much fluid you've lost via sweat in each practice. Each pound of body weight lost in a practice requires 20 to 24 ounces of fluid and one gram of sodium for repletion. Fluid and sodium (or salt) needs must be met in order to keep you on the field. You can help meet these needs by consuming sports drinks along with high-fluid foods such as fruits, vegetables and soups; and salty foods such as pretzels, crackers, salted nuts, beef jerky, lunch meats, cheeses, marinara sauce, mustard and pickles. You may have learned to salt your plate at each meal to help prevent muscle cramps, and that may work for some.

Maintain lean mass. Targeting your energy, protein and nutrient needs is key in maintaining lean mass during these weeks, regardless of whether you struggle to maintain or control your weight. Use the structure of your schedule to your advantage; whatever your weight or performance goals are, be sure to eat something at every meal that is provided. Consider preseason camp as an opportunity to



train yourself to be hungry early and throughout the day, and continue that ideal eating pattern during your season!

Struggling to maintain weight and gain muscle? If you have a difficult time maintaining weight or gaining muscle, start with a balanced meal at each opportunity and drink a protein shake in addition to or in place of the water or sports drink you choose. You want high-calorie, high-quality foods that give you a “big bang for your buck,” meaning lots of energy packed into a small bite. For example:

- Look for energy-dense foods such as trail mix, guacamole, cheeses, nut butters, granolas, nuts, 2 percent milk and chocolate milk — and find ways to add these to your meals.
- Add peanut butter to your toast, granola bar, waffles or shakes.
- Layer cheese and mayonnaise on your sandwiches, graze on trail mix and nuts, and sip shakes as the schedule permits.
- If the heat takes your appetite away, try cool foods such as yogurt parfaits, puddings with fruit toppings, tuna salad, deviled eggs, cheese and crackers, lunch meat or pimento cheese sandwiches, fruit dipped in peanut butter, or smoothies.

You may find you can start your meal with cool foods and work up to a hot, protein-centered meal.

Is weight control a concern?

If you need to control weight while maintaining lean mass and strength, eating quality foods at each meal or snack will optimize your camp experience. Seek out lean proteins and high-quality, high-fiber sides to feel full and satisfied. Some tips:

- Make sure breakfast, lunch and dinner are protein-centered meals with lots of colorful produce on the plate.
- Look for baked, grilled or roasted chicken, turkey, fish, tenderloin or sirloin cuts of beef and pork.
- High-fiber carbohydrates such as 100 percent whole-wheat breads, brown rice, whole-grain pasta,

quinoa and beans make meals more satisfying.

- Snack on tuna salad, apples with almond or peanut butter, carrots or pretzels with hummus, boiled eggs, cottage cheese with fruit, Greek yogurt, and dried or fresh fruits such as cherries and plums.
- Experienced student-athletes may prefer to minimize snacks or limit themselves to fruit, fluids or protein shakes between meals. This may be effective as long as earlier meals are adequate and balanced including protein, quality carbohydrates, and plenty of fruits and vegetables.



WINNING RECOVERY NUTRITION STRATEGIES

- Stay committed to nutritional recovery as the season progresses.
- Make sure to mix up your choices to avoid getting tired of your recovery snack.
- As the season progresses, you may experience “food fatigue” (particularly about week 6 or 7). Ask your sports dietitian or training table manager to shake up the menus, offer choices in live-cook stations, incorporate theme nights and provide player menu requests during the second half of season to keep you and your teammates interested in fueling your bodies to finish the season strong.

IN SEASON

Late August to December

Once the fall semester begins, life settles into a more normal routine. Everything may feel easier to manage on a daily basis after the grind of football camp. Practices and conditioning continue to demand your energy, but training table and pre-competition meals go a long way in offsetting the workload.

Recovery nutrition eaten after practice and conditioning is a factor in your

game performance and in stimulating immune function. While team meals are more prevalent, optimizing recovery means continuing to prioritize consuming recovery foods — such as fruit, protein shakes, bagels with spreads, energy bars and sports drinks — within 30 to 60 minutes of practice.

Remember: Consistent recovery yields better performance late in the season, keeping you on the field, helping you bounce back from injury, and maintaining your body weight and composition.

POSTSEASON

Late December and January:

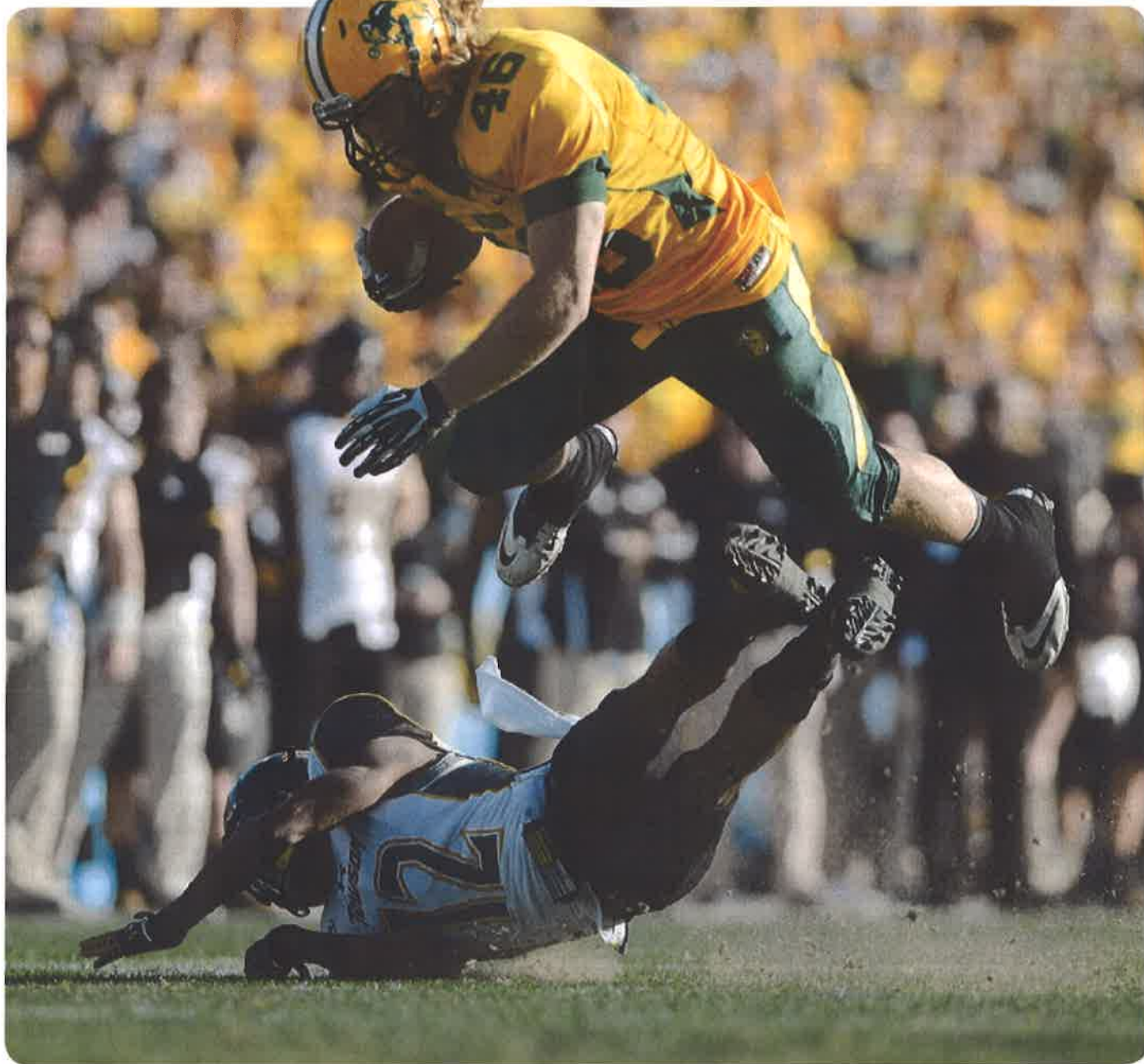
Championship and Bowl Preparation

Your team has earned a postseason game, and if you're lucky, you can wrap up finals before preparation begins. The emphasis now falls on recovering from the grind of the season and going into championship practices feeling fresh and ready to tackle the last game of the season. Meal plans may end along with the academic calendar, so meals and snacks function to cover your energy needs for practice and conditioning while optimizing weight and body composition for your last performance. Keep these things in mind:

- Catch up on rest.
- Keep your recovery nutrition strategy in place as a permanent element of your preparation.
- Once you're at the championship site, meals may be offered, but they may not be designed with performance in mind. Make the best choices you can — focus on proteins and keep

salads, veggies and fresh fruits well represented on your plate when available — and know that those indulgent, local foods will still be there the minute the game is completed!

- As much as possible, stick to your typical eating and recovery pattern because these have become part of your performance. Recovery at the practice site or quickly thereafter back at the hotel is key.



OFFSEASON

Late January and February: Winter Conditioning

The plan and timing for the offseason will be designed for your team, but typically this includes four weeks of winter conditioning, followed by spring football practices. Although the intensity may vary, winter conditioning is usually the most physically and mentally demanding time of year. Nutritional recovery from these sessions is critical, because you may not have pre-competition or travel meals built into this period of training. Therefore, greater demand for energy, protein and nutrients comes at a time when meals are provided via a meal plan and fit within the individual athlete's schedule.

March and April: Spring Ball

Although practices are scheduled on alternating days, you may find yourself challenged to manage academic work, conditioning and the mental demands of the installation for next year's new offense or defense. With few practices to execute new plays and show your abilities, you must make the most of your reps and elevate your performance when the opportunity arises. You also need to make the most of fueling your body throughout classes, meetings and practices. Proper fueling requires commitment:

- Ideally, you would enter afternoon practice after two meals and a snack or two, with fluids throughout the day.
- Incorporate liquids into your

practice preparation and take sips during meetings up to the time you head for the field.

- Stock your backpack with a water bottle, nuts, trail mix and your favorite protein bars. Use breaks between classes as occasions to pre-fuel your practice.

May: Active Rest

This is the period when you can spend quality time with family, be active, and enjoy your time away from the game. Eat those foods that you enjoy from your childhood that aren't usually a part of your training nutrition. You can also share new menu ideas and show off new cooking skills with your family. Savor and make the most of your time!



PROTEIN & PERFORMANCE

Protein is essential for building and repairing muscle, in addition to many other tissues in the body.

- Animal-derived proteins (meat, seafood, dairy and eggs) contain all of the essential amino acids (EAAs, which are crucial building blocks for protein synthesis).
- Vegetarian or vegan athletes should make a concerted effort to get protein from a variety of plant-based proteins to ensure they get all of the EAAs in their diet.

Aim to get your protein from a variety of sources – this ensures that you will get the wide variety of nutrients that these foods offer, like iron, EPA/DHA, calcium and vitamin D, choline, fiber and omega-3 fatty acids.

MEAT/ SEAFOOD

Beef
Poultry
Pork
Fish
Shellfish

DAIRY

Milk
Yogurt
Cottage cheese
Cheese

EGGS

Whole eggs
Quiche
Omelet

PLANT SOURCES

Beans
Lentils
Nuts/seeds
Whole grains
Soy



Information presented by



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FUELING VICTORY

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HOW MUCH PROTEIN DO YOU NEED?

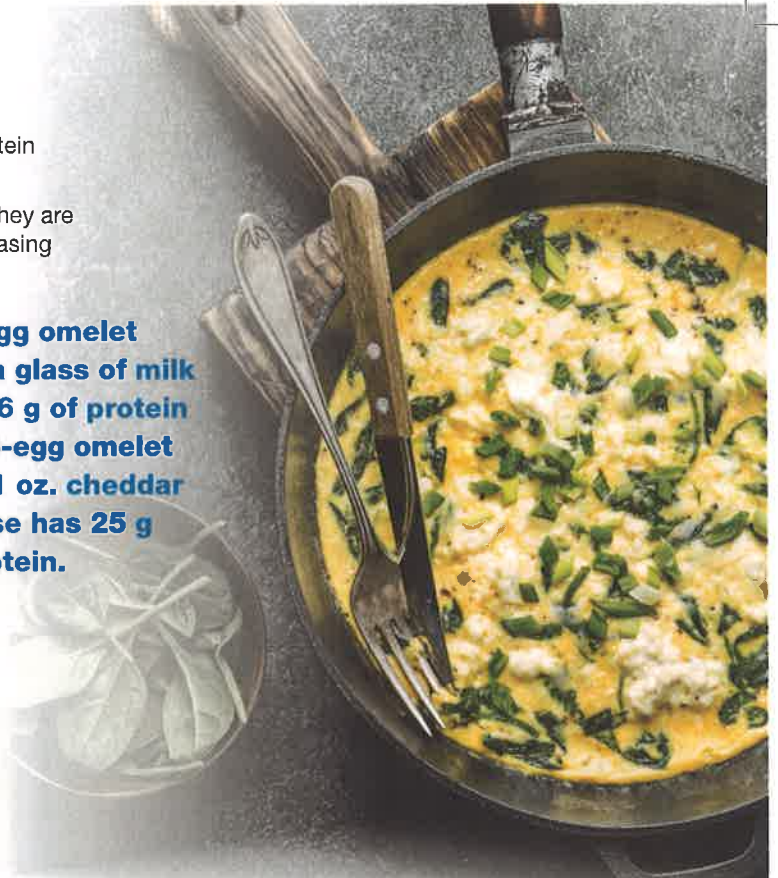
Athletes should aim to consume 1.2 - 2.0 grams of protein per kilogram of body weight per day (g/kg/d).¹

- Athletes should aim for the high end of this range if they are participating in intense training with the goal of increasing lean mass, or if they are recovering from an injury.

Weight	Grams of protein/day
150 LBS (68.2 kg)	80-135 g/day
200 LBS (90.9 kg)	110-180 g/day
250 LBS (113.6 kg)	135-225 g/day
300 LBS (136.4 kg)	165-275 g/day

This protein intake should be spread throughout the day with each meal and snack providing 20-40 g of protein.

A 3-egg omelet with a glass of milk has 26 g of protein or a 3-egg omelet with 1 oz. cheddar cheese has 25 g of protein.



Post-workout needs can be met by combining foods rich in carbohydrate and protein, or foods that naturally contain both!

POST-WORKOUT

To optimize muscle synthesis and recovery, athletes should consume 20-40 g of protein in conjunction with carbohydrate within 30 minutes of finishing a workout.

EXAMPLES

Chocolate milk	Bagel + peanut butter
Protein shake	Oatmeal + peanut butter
Smoothie	Yogurt + granola
Protein bar	Hard-boiled eggs + fruit
PB&J sandwich	Cottage cheese + fruit
Deli sandwich	Hummus + pita
Trail mix	Cheese + crackers
Cereal + milk	Nuts + granola bar

both carbohydrates
and protein



carbohydrates



protein

¹Caspero, A. (2017, July 17). Protein and the Athlete - How Much Do You Need? Retrieved from <https://www.eatright.org/fitness/sports-and-performance/fueling-your-workout/protein-and-the-athlete>

ATHLETE'S PLATE

HARD TRAINING / RACE DAY:

FATS

2 Tablespoons



Avocado
Oils
Nuts
Seeds
Cheese
Butter



ATHLETE'S PLATE

Training volume and intensity vary from day to day and week to week along your training/competition plan. Eating your meals and fueling your workout or race should also be cycled according to how hard or easy it is. Consult with your sport dietitian to put the Athlete's Plate into practice!

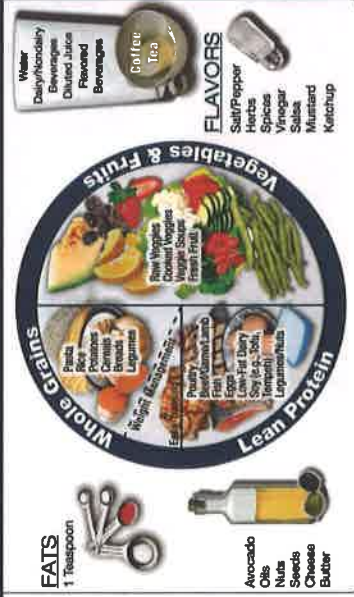
The Athlete's Plates are tools for you to better adjust your eating to the physical demands of your sport!

EASY An easy day may contain just an easy workout or tapering without the need to load up for competition with energy and nutrients. Easy day meals may also apply to athletes trying to lose weight and athletes in sports requiring less energy (calories) due to the nature of their sport.

MODERATE A moderate day may be one where you train twice but focus on technical skill in one workout and on endurance in the other. The moderate day should be your baseline from where you adjust your plate down (easy) or up (hard/race).

HARD A hard day contains at least 2 workouts that are relatively hard or competition. If your competition requires extra fuel from carbohydrates, use this plate to load up in the days before, throughout, and after the event day.

EASY TRAINING / WEIGHT MANAGEMENT:



MODERATE TRAINING:



HARD TRAINING / RACE DAY:



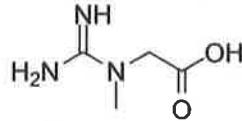
The Athlete's Plates are a collaboration between the United States Olympic Committee Sport Dietitians and the University of Colorado (UCCS) Sport Nutrition Graduate Program.

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CREATINE

What is
creatine?

Creatine is a naturally occurring nutrient our body makes and stores. It is also consumed via meat products.



What does
creatine do?

Food Sources of Creatine (uncooked; creatine amount listed in g/kg wet weight)

Chicken	3g
Beef	4.5g
Lamb	5g
Most fish/seafood	2-2.5g

Creatine has been shown to assist in providing energy (ATP) for short bouts of maximal exercise effort (~3 seconds)

To simplify, creatine is produced in the liver and transported to muscle cells via blood. Once in muscle cells, it delays the rate of ATP (energy) breakdown

This can be beneficial for resistance exercise performance, short-maximal sprinting, and multiple-sprint endurance sports such as football and other team sports

Safe Supplementation

- "Creatine Loading": 4 x 5g creatine monohydrate per day for 5-7 days
- 2g daily after loading phase to keep muscle cells saturated above rate of breakdown
- Be aware of creatine salts- questionable safety and not regulated
 - creatine malate, creatine pyruvate, creatine citrate, creatine-magnesium chelate, creatine ester ethyl, and many more!

Side Effects

- Increase in body mass from water retention (usually first few days)
- Decreased urine output (first 3 days, see above)
- Not recommended in those with kidney disease

Fun Facts

- Muscle creatine content returns to baseline after 4-6 weeks after cessation of supplementation
- Brief periods of rest (30-40 sec) can help resynthesize creatine before the next exercise bout
- Greater than 20g of creatine daily beyond a few days does not show performance benefit

Thinking about taking a supplement?

Ask yourself these important questions:

Is it safe?

- Do I recognize all the ingredients on the label and know them to be safe?
- Is it produced by a manufacturer with a good reputation
- Am I intending to take the recommended dose?
- Have I checked with a sports nutrition expert
- Will it negatively effect my health in any way?

Is it legal?

- Is this product and its ingredients permitted for sale in my country?
- Are any of the ingredients of this product banned for use in sport?
- Have I checked with the appropriate anti-doping experts?

Is it effective?

- Does this product have good evidence to show that it can help me to meet my nutrition goals or specifically assist performance of my event?

Can I afford it?

- How much will it cost and does it fit into my budget?
- Is there a lower cost food choice that I can use instead or for some scenarios?
- Are there other resources or activities that I should be investing in to improve my sports performance?

For more information contact:

SportsNutrition@sluhn.org

Adapted from: Karpinski, C., Rosenbloom, C. (2017). *Sports Nutrition: A Handbook for Professionals*. 6th ed.

Resources: Maughan, R. (2014). *Sports Nutrition*. Volume XIX of the *Encyclopedia of Sports Medicine*