

Gluten-free diet provides necessary nutrients without gastric sensitivity

Chances are you've seen products on grocery store shelves, entrees listed on restaurant menus and even celebrities proclaiming it as a diet, but do you really know what it means when a food is gluten-free? If you do, have you tasted a gluten-free food? For many the name alone may be a turnoff, but for millions of people, worldwide, following a gluten-free diet is the difference between enjoying a healthy, normal lifestyle or dealing with the ill side effects of gluten intolerance.

Gluten is a protein found in certain grains such as wheat, rye, barley and triticale (a cross between wheat and rye). Traces may be found in oats unless marked gluten-free and milled in a facility that does not package other gluten containing foods. Gluten also is used as a food additive to help improve both taste and texture in foods like gravy, french fries and deli meats.



Gluten is completely harmless for most people, except for those diagnosed with celiac (see-lee-ak) disease, also known as celiac sprue, non-tropical sprue and gluten-sensitive enteropathy, or non-celiac gluten sensitivity (NCGS). Both celiac disease and NCGS involve an immune reaction to gliadin, a form of protein found in gluten. Over time, the immune reaction can damage the inner surface of the small intestine making it unable to absorb certain nutrients needed for growth and development and cause or contribute to such conditions as:

- Malnutrition
- Anemia
- Osteoporosis or osteomalacia, a softening of the bone that also is known as rickets in children.
- Lactose intolerance
- Cancer
- Neurological complications

There are no typical signs and symptoms of celiac disease. Most people with the disease have general complaints such as intermittent diarrhea, abdominal pain and bloating after eating gluten. However, these also are symptoms of other gastrointestinal conditions including irritable bowel syndrome, gastric ulcers and Crohn's disease, to name a few. Sometimes, though, symptoms are less obvious such as muscle cramps, joint pain or a skin rash. If you or your child suffers from any of these symptoms, you should consult a physician to be screened for celiac disease before eliminating gluten from your diet. To get accurate test results, you have to be eating gluten products as part of your regular diet.

Presently, there is no known cure for celiac disease or NCGS, but you can effectively manage it by changing your diet. If you have been diagnosed with celiac disease or NCGS, or if you are unsure how to modify your diet to one that is gluten-free, you might want to consult a Registered Dietitian to ensure you get all of your nutritional needs while following a gluten-free diet.



Keen what?

No, (*keen-wah*).

Spelled quinoa, this odd sounding word actually is one of the most nutritious grains in the world with more than 16% protein compared to 7.5% for rice or 14% for wheat when you compare 1 cup cooked



portions. Quinoa's protein contains all nine essential amino acids including lysine that is necessary for cell production. The World Health Organization touts quinoa's protein equivalence to that of milk and NASA is considering it as a possible sustaining food for long space flights. In addition to protein, quinoa is a good source of potassium, B-vitamins, iron and fiber.

Generally considered a grain, quinoa technically is the seed of the Chenopodium or Goosefoot plant—a relative of leafy green vegetables with edible leaves like

spinach and Swiss Chard. The origins of this super grain date back thousands of years to the Incas where it was one of their dietary staples along with corn and potatoes.

As a crop, quinoa thrives in poor soil, arid climate and mountainous altitudes so it remained a regional "secret" until 1982 when it was introduced to the United States. Today, most quinoa is imported from South America, although it is being raised on the high slopes of the Rocky Mountains. Because most quinoa is imported it is more expensive than other grains, but when cooked it increases three to four times in volume so you do not need as much in a recipe making it a reasonable value for an exceptional nutrition benefit.

Quinoa grains are about the same size as millet, but more flat with a pointed, oval shape. The color varies—from pale yellow and red, to brown and even black. Quinoa cooks quickly to a light, fluffy texture. As it cooks, the external germ, which forms a band around each grain, spirals out, forming a tiny crescent-shaped "tail," similar to a bean sprout. Although the grain itself is soft and creamy, the tail is crunchy, providing a unique texture to complement quinoa's delicate flavor. It can be substituted for rice in most recipes and used to enhance foods like soup, salad and pudding. It also is available as pasta that makes it more versatile for those needing to restrict gluten or wheat products from their diets.

Quinoa seeds are naturally coated with a bitter substance called saponin that can be mildly toxic. Therefore, it is important to wash/rinse it before cooking even if the package claims it was washed/rinsed. To remove this coating, place the seeds in a fine meshed strainer and run water through until it is no longer cloudy or sudsy. In its raw state, quinoa is gluten free. However if you have a gluten intolerance, make sure to check the package information to ensure the quinoa was not processed in a location that also processes wheat, barley, rye or triticale because cross-contamination could occur.

You can find quinoa at these local grocery stores and online at:

Costco Wholesale	Trader Joe's	IHerb.comNuts.com	Puritan.com
Dominick's	Whole Foods	Nuts.com	SunOrganicFarm.com
Jewel-Osco	BulkNuts4You.com	PleasantHillGrain.com	



Gluten-free baked quinoa ratatouille

If you are looking for a hearty and nutritious new recipe, try this one for ratatouille made with quinoa. If you don't have quinoa on hand, it can be made without.

- 1 Tablespoon olive oil
- 2 Cloves garlic, minced
- 1 Red onion, thinly sliced
- 1 can 14.5 ounces diced tomatoes and the liquid
- 2 Tablespoons tomato paste
- 1 Teaspoon dried basil
- 1/2 Teaspoon dried oregano
- 1/2 Teaspoon dried thyme
- 1 Tablespoon chopped fresh parsley
- 1 Large eggplant (about 1 pound) cubed
- 1 Green pepper, thinly sliced
- 2 Zucchini squash, sliced
- 1 Yellow summer squash, sliced
- 1 Cup rinsed and cooked quinoa (Cook according to package instructions. **Rinse*** before cooking.)
- 3/4 Cup shredded part-skim mozzarella cheese (or Italian cheese blend, if desired)



Preheat the oven to 375° degrees

1. In a large, nonstick skillet, heat the olive oil over medium heat. Add the minced garlic and onion slices and sauté for 5 minutes until soft and translucent.
2. Add the diced tomatoes and liquid, tomato paste, basil, oregano, thyme and parsley. Continue to cook for 1 to 2 minutes. Remove from heat.
3. Spray a 9"x 11" baking dish with a non-stick cooking spray. Begin layering the ratatouille starting with half of the tomato and onion mixture. Top with all of the uncooked, sliced and cubed vegetables. Add the remaining tomato and onion mixture.
4. Spread the cooked quinoa on top and sprinkle with shredded cheese.
5. Cover with foil and bake for 40 to 45 minutes. Remove the foil for the last 5 minutes of cooking time to slightly brown the toppings.

Makes approximately 4, 1-1/4 cup servings.

Nutrition per serving

Calories: 234	Fat: 8 g	Cholesterol: 13.4 mg	Sodium: 380 mg
Carbohydrates: 31.4 g	Fiber: 8.3 g	Protein: 11 g	

Recipe courtesy of John Wiley & Sons, from *Easy Gluten-Free: Expert Nutrition Advice with more than 100 Recipes* by Tricia Thompson, MS, RD, and Marlisa Brown, MS, RD, CDE, CDN, and the American Dietetic Association. ©2010, John Wiley & Sons.

*Purchasing quinoa already rinsed saves preparation time. Quinoa's outer shell contains saponin, a bitter resin-like coating. Quinoa is usually rinsed before it is packaged and sold, but it is best to rinse again to remove any of the powdery residue that may remain on the seeds. The presence of saponin is obvious by the production of a soapy looking "suds" when the seeds are swished in water. Placing quinoa in a fine mesh strainer and rinsing thoroughly with water easily washes the saponin from the seeds.

Healthful, easy snacks are family game winners

Busy schedules crammed with kids' activities, meetings, social commitments and chores can make eating healthfully a challenge unless you and your family have a game plan. Fast foods are the usual "first down play" for many families on the go because of convenience and reasonable prices, but they are not necessarily the most healthful choice. Therefore, your game plan needs to include team participation and practice, practice, practice. First, everyone should become acquainted with the new "play book."



Your body needs fuel throughout the day, as well as pre- and post-game carbohydrates, protein and fats. Research shows eating before exercising or playing improves an athlete's performance compared to those who fasted.

Whenever you eat a pre-game snack/meal make sure to allow adequate digestion time. A large, high carbohydrate meal can be consumed 3.5 to 4 hours before the start of a game or exercise. A small meal or snack should be consumed 2 to 3 hours prior to playing/exercising. Most small carbohydrate snacks are usually tolerated if consumed an hour before the game/exercise starts.

A pre-game or pre-workout energy snack/meal should contain fluids to maintain hydration, be high in carbohydrates to maintain blood sugar levels and replace glycogen stores and moderate amounts of protein and iron. It also is important the food is familiar to the athlete to avoid gastrointestinal distress.



These pre-game snacks are winners:

- Half of a bagel with peanut butter
- Energy or granola bar
- Piece of fresh fruit and small handful of nuts
- Fruit smoothie made with lowfat milk, yogurt, or both
- Handful of homemade trail mix made of Cheerios®, nuts, pretzels and dried fruit
- Raw vegetables with hummus or lowfat dressing for dipping
- String cheese with whole grain crackers

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For a post-game/post-workout snack, it is extremely important to replenish lost nutrients and fluids to ensure proper recovery. Food choices should include an adequate amount of complex carbohydrates—potatoes, rice, bread, pasta or cereal, healthy fats, protein and lowfat chocolate milk (February OTRF newsletter).

These easy post-game ideas will help ensure you and your body are ready for the next game:

- Lean turkey sandwich on whole grain bread with or without soup
- A salad with quinoa, garbanzos or other beans and vegetables
- Baked potato with broccoli, lowfat cottage cheese and sesame seeds
- Whole grain wrap sandwich with your favorite protein food, lettuce and tomato
- Whole grain burrito with lowfat cheese, black beans or lean chicken, cilantro, salsa and corn



These suggestions will get your season off to a successful start, but you will probably want to add some of your own plays. If you are unsure what to include, or want to check some player favorites, use the United States Department of Agriculture's (USDA) National Nutrient Database, <http://ndb.nal.usda.gov/>, for an easy way to check nutrients and calories in comparable mounts.

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Welcome to the USDA National Nutrient Database for Standard Reference

Find nutrient information on nearly 8,000 foods using this new and improved search feature. You can now search by food item, group, or list to find the nutrient information for your food items. In addition, you can now access the **USDA Ground Beef Calculator** from the same search page.

Start your search here.

For more information and documentation on the current version of this database, see About the Database. For assistance using this search application, visit the FAQ page.

The Database used in this search program, The USDA National Nutrient Database for Standard Reference, is maintained by the Nutrient Data Laboratory, Beltsville Human Nutrition Research Center. The web site was jointly developed by the USDA Nutrient Data Laboratory, and the Food and Nutrition Information Center and Information Systems Division of the National Agricultural Library.

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Why not start the game clock with National Nutrition Month and begin choosing healthier and more nutrient-dense foods for snacks and meals and skip the fast food? Not only will the team feel better and have more energy, you also can have fun planning your next winning play.

Nutrition in the news

Here are some noteworthy items making news headlines you might have missed.

New guidelines planned for school vending machines

The Obama administration is working on setting nutritional standards for foods that children can buy outside the cafeteria. With students eating 19% to 50% of their daily food at school, the administration says it wants to ensure what they eat contributes to good health. The proposed rules are expected soon.

Study reveals exercise "fuels" the brain

A study published the February 2012 *Journal of Physiology* found that eating after exercising not only restores glycogen levels in the brain, but increased it by as much as 60% resulting in "super-compensation"—a type of brain carbo-loading that returned to normal levels within 24 hours. In participants who continued daily exercises, the glycogen levels remained elevated when compared to sedentary participants. These findings suggest to researchers that increased storage and utility of brain glycogen could be involved in the "development" of a better, sharper brain, or at the very least the reason to reach for chocolate milk or a banana after a prolonged/strenuous sports event or exercise that leaves you tired.

Orthopaedic Surgery and Sports Medicine Teaching and Research Foundation Helps People Stay Fit and Healthy

Steven Chudik, orthopaedic surgeon and sports medicine physician with the Steven Chudik Shoulder and Knee Injury Clinic, founded the Orthopaedic Surgery and Sports Medicine Teaching and Research Foundation (OTRF) in 2007. OTRF is a nonprofit, 501 (c)(3) organization dedicated to funding research and education for the purpose of keeping people active and healthy.

Dr. Chudik has experienced a growing demand by patients, athletic trainers and clinicians for up-to-date medical information and unbiased research on injury prevention—especially for children—as well as facts on arthritis and wear and tear on joints, cartilage, tendons, ligaments, etc. To fulfill these requests, OTRF produces and distributes this newsletter, shares information about health performance-related issues like nutrition and fitness, hosts athletic training educational programs, conducts seminars for healthcare providers and the community and most important, funds unbiased research and development particularly in emerging areas such as arthroscopic and minimally invasive surgery for injuries to the meniscus, labrum, rotator cuff, ACL and cartilage.

However, none of this is possible without ongoing financial support. We are extremely grateful to all those who have contributed in the past. Many of the donations came from patients or their family members who benefited from Dr. Chudik's orthopaedic and sports medicine expertise. If you might be interested in helping us continue our research, please speak with Dr. Chudik or one of his staff. Also, many companies sponsor programs that match charitable contributions made by their employees. Some even match donations made by retirees and/or spouses. Matching gift programs are a great way to double your generosity. Regardless of the amount, every contribution helps make a difference.

