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Volume 191

FOOD AND FITNESS

Understanding the Meanings of Both Glycemic Index and Glycemic Load



Every food we eat affects our bodies in different ways especially when referring to blood sugar and energy levels. The terms glycemic index and glycemic load are both related to blood sugar. Also, both are used when talking about diabetes and preventing insulin resistance. So the question is, what are they and how are they different?

As for the glycemic index (GI), is a ranking system that ranks food on a scale of 1 to 100 on how it affects the blood sugar. Foods with a low GI value (55 or less) are more slowly digested and cause a slower and lower rise in the blood glucose levels. The GI value accounts for how it raises blood sugar, affects insulin secretion, the stimulation of fat-storage mechanisms, and how it affects the pancreas. The low levels are classified as 55 or less, moderate at 56-69, and high at 70+.

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Understanding the Meanings of Both Glycemic Index and Glycemic Load

The glycemic load (GL) is defined as the function of carbohydrate intake and the glycemic index. The GL combines both the quality and quantity of carbohydrates that the GI does not take into account. The best part about the GL is it takes into account all parts of the foods as a whole, making it a completely different number than that of the GI. The GL is calculated using the GI multiplied by the grams of carbohydrates per serving size and then divide by 100. The confusing part is that foods can sometimes have a high GI, but have a low GL. When this happens, it can mean that the food can be better than originally thought with the GI value. The values are classified differently than the GI. For GL, low is a value of 10 or less, medium is at 11-19, and high values are 20 or more. It is recommended that a GL of 100 or less is for optimal health. However, most people fall in the range of 60 to 180.

When choosing to follow the method of choosing foods with a low glycemic load, there are some basic strategies to follow. Increasing the amount of whole grains, nuts, legumes, fruits and non-starchy vegetables. Lowering the amount of high and moderate GI foods. Lastly, avoiding foods that have a high sugar content like cakes, cookies, and sugar sweetened beverages.

Table 1. GI and GL Values for Selected Foods

| Food | GI (Glucose=100) | Serving Size | Carbohydrate* per Serving (g) | GL per Serving |
|---------------------------------|---------------------|------------------|----------------------------------|-------------------|
| Russet potato, baked | 111 | 1 medium | 30 | 33 |
| Potato, white, boiled (average) | 82 | 1 medium | 30 | 25 |
| Puffed rice cakes | 82 | 3 cakes | 21 | 17 |
| Cornflakes | 79 | 1 cup | 26 | 20 |
| Jelly beans | 78 | 1 oz | 28 | 22 |
| Doughnut | 76 | 1 medium | 23 | 17 |
| Watermelon | 76 | 1 cup | 11 | 8 |
| Soda crackers | 74 | 4 crackers | 17 | 12 |
| Bread, white-wheat flour | 71 | 1 large slice | 14 | 10 |

Table 1. GI and GL Values for Selected Foods

| Food | GI (Glucose=100) | Serving Size | Carbohydrate* per Serving (g) | GL per Serving |
|------------------------------------|---------------------|-----------------|----------------------------------|-------------------|
| Pancake | 67 | 6" diameter | 58 | 39 |
| Rice, white, boiled | 66 | 1 cup | 53 | 35 |
| Table sugar (sucrose) | 63 | 2 tsp | 10 | 6 |
| Dates, dried | 62 | 2 oz | 40 | 25 |
| Spaghetti, white, boiled (20 min) | 58 | 1 cup | 44 | 25 |
| Honey, pure | 58 | 1 Tbsp | 17 | 10 |
| Pineapple, raw | 58 | ½ cup | 19 | 11 |
| Banana, raw | 55 | 1 cup | 24 | 13 |
| Maple syrup, Canadian | 54 | 1 Tbsp | 14 | 7 |
| Parsnips, peeled, boiled | 52 | ½ cup | 10 | 5 |
| Rice, brown, boiled | 50 | 1 cup | 42 | 20 |
| Spaghetti, white, boiled (average) | 46 | 1 cup | 44 | 20 |
| Whole-grain pumpernickel bread | 46 | 1 large slice | 12 | 5 |
| All-Bran™ cereal | 45 | 1 cup | 21 | 10 |
| Spaghetti, whole-meal, boiled | 32 | 1 cup | 37 | 14 |
| Orange, raw | 42 | 1 medium | 11 | 5 |
| Apple, raw | 39 | 1 medium | 15 | 6 |
| Pear, raw | 38 | 1 medium | 11 | 4 |
| Skim milk | 33 | 8 fl oz | 13 | 4 |
| Carrots, boiled | 33 | ½ cup | 4 | 1 |
| Lentils, dried, boiled | 29 | 1 cup | 24 | 7 |
| Kidney beans, dried, boiled | 28 | 1 cup | 29 | 8 |
| Pearled barley, boiled | 28 | 1 cup | 38 | 11 |
| Cashews | 25 | 1 oz | 9 | 2 |
| Peanuts | 18 | 1 oz | 6 | 1 |

*Amount of available carbohydrates in a food serving that excludes indigestible carbohydrates, i.e., dietary fiber.

Table Received From: <http://lpi.oregonstate.edu/mic/food-beverages/glycemic-index-glycemic-load#table-1>

Fruit—Avocado

The avocado throws a bit of a curve ball to when heard that it is in fact a fruit. Even more questions come when it is announced that not only is it a fruit, it is classified as a berry. The pulpy flesh and seed puts the avocado into the berry and fruit group. They are in the shape of a pear and the outer leather skin in green or black in color. The inside of the avocado is green with a large brown seed.

Avocados have around 20 vitamins and minerals. Avocados are predominantly fat. However, it is the “good” fat. The avocado provides monounsaturated fats which are known to lower cholesterol when eaten in moderation. The avocado’s recommended service size is about 1 ounce which is about 1/5 of a whole avocado and accounts for nearly 50 calories.

Avocados can be eaten a variety of ways. The most common is in the use of guacamole but can be in anything like salads, wraps, smoothies, or as a fat replacement in baking. Try avocados in a variety of ways because this magnificent fruit is packed with nutrients.



Caloric Ratio Pyramid [What is this?](#)

Caloric Ratio Pyramid for Avocados, raw, California

This feature requires Flash player to be installed in your browser. [Download the player here.](#)

| | | |
|-------|------|---------|
| 19% | 77% | 4% |
| Carbs | Fats | Protein |

NutritionData's Opinion

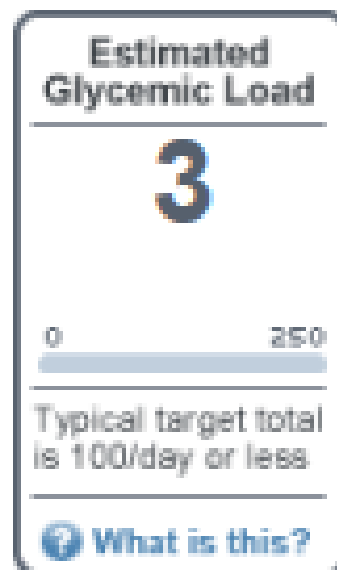
[What is this?](#)

Weight loss: ★★★★★

Optimum health: ★★★★★

Weight gain: ★★★★★

The good: This food is very low in Cholesterol and Sodium. It is also a good source of Dietary Fiber, Vitamin K and Folate.



Joke: **What do you call an avocado that's been blessed by Pope Francis?**

Holy Guacamole.

Avocados, raw, California

Serving size: 1 fruit, without skin and seed (136g) ▼



NUTRITION INFORMATION

Amounts per 1 fruit, without skin and seed (136g)

Calorie Information

| Amounts Per Selected Serving | | %DV |
|------------------------------|---------------|-----|
| Calories | 227 (950 kJ) | 11% |
| From Carbohydrate | 42.7 (179 kJ) | |
| From Fat | 175 (733 kJ) | |
| From Protein | 9.0 (37.7 kJ) | |
| From Alcohol | ~ (0.0 kJ) | |

Carbohydrates

| Amounts Per Selected Serving | | %DV |
|------------------------------|--------|-----|
| Total Carbohydrate | 11.8 g | 4% |
| Dietary Fiber | 9.2 g | 37% |
| Starch | 0.1 g | |
| Sugars | 0.4 g | |

[More details ▼](#)

Fats & Fatty Acids

| Amounts Per Selected Serving | | %DV |
|-----------------------------------|---------|-----|
| Total Fat | 21.0 g | 32% |
| Saturated Fat | 2.9 g | 14% |
| Monounsaturated Fat | 13.3 g | |
| Polyunsaturated Fat | 2.5 g | |
| Total trans fatty acids | ~ | |
| Total trans-monoenoic fatty acids | ~ | |
| Total trans-polyenoic fatty acids | ~ | |
| Total Omega-3 fatty acids | 150 mg | |
| Total Omega-6 fatty acids | 2298 mg | |

[Learn more about these fatty acids and their equivalent names](#)

[More details ▼](#)

Protein & Amino Acids

| Amounts Per Selected Serving | | %DV |
|------------------------------|-------|-----|
| Protein | 2.7 g | 5% |

[More details ▼](#)

Vitamins

| Amounts Per Selected Serving | | %DV |
|------------------------------|----------|-----|
| Vitamin A | 200 IU | 4% |
| Vitamin C | 12.0 mg | 20% |
| Vitamin D | ~ | ~ |
| Vitamin E (Alpha Tocopherol) | 2.7 mg | 13% |
| Vitamin K | 28.6 mcg | 36% |
| Thiamin | 0.1 mg | 7% |
| Riboflavin | 0.2 mg | 11% |
| Niacin | 2.6 mg | 13% |
| Vitamin B6 | 0.4 mg | 20% |
| Folate | 121 mcg | 30% |
| Vitamin B12 | 0.0 mcg | 0% |
| Pantothenic Acid | 2.0 mg | 20% |
| Choline | 19.3 mg | |
| Betaine | 1.0 mg | |

[More details ▼](#)

Minerals

| Amounts Per Selected Serving | | %DV |
|------------------------------|---------|-----|
| Calcium | 17.7 mg | 2% |
| Iron | 0.8 mg | 5% |
| Magnesium | 39.4 mg | 10% |
| Phosphorus | 73.4 mg | 7% |
| Potassium | 689 mg | 20% |
| Sodium | 10.9 mg | 0% |
| Zinc | 0.9 mg | 6% |
| Copper | 0.2 mg | 12% |
| Manganese | 0.2 mg | 10% |
| Selenium | 0.5 mcg | 1% |
| Fluoride | ~ | |

Southwest Avocado Toast

Ingredients:

- ◆ 2 pieces bread, toasted
- ◆ 1 avocado, peeled and seeded
- ◆ 2 tsp cilantro, plus more for garnish
- ◆ Juice of 1/2 lime
- ◆ 1/4 tsp cayenne powder
- ◆ 1/2 tsp red pepper flakes
- ◆ Salt and pepper
- ◆ 2 eggs, scrambled
- ◆ Salsa

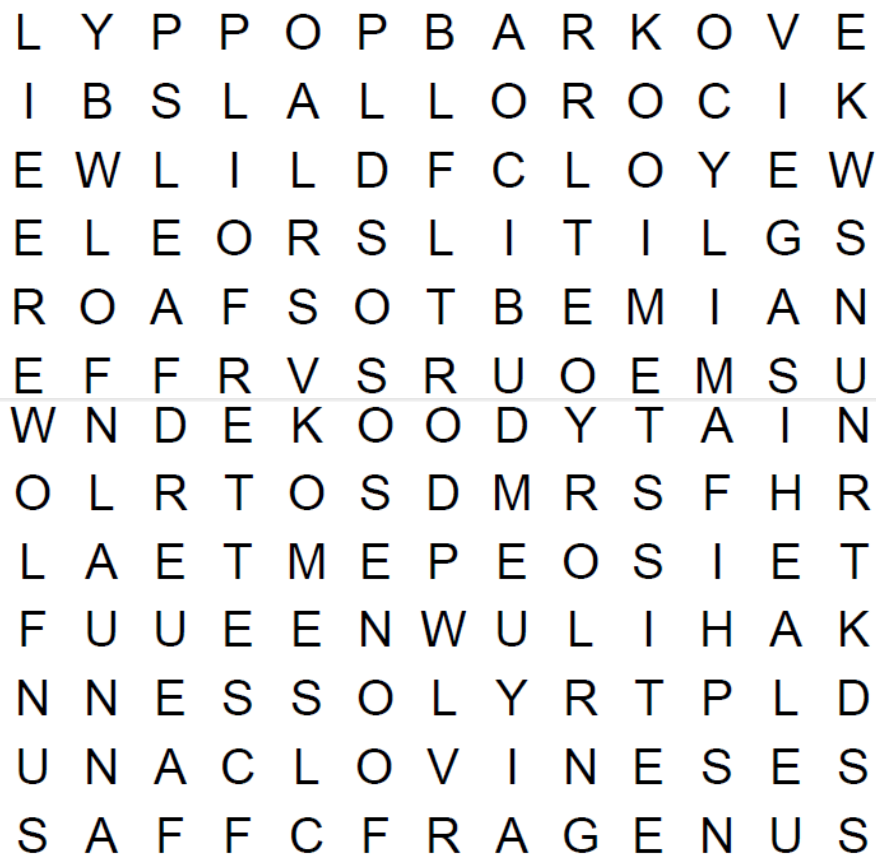
Directions:

- ◆ In bowl mix together your avocado, cilantro, lime, cayenne, red pepper flakes and salt and pepper and stir until mashed.
- ◆ Spread half mixture on each of your pieces of toast.
- ◆ Top with your scrambled eggs and desired amount of salsa.
- ◆ Garnish with cilantro if desired.



Don't Just Exercise Your Body, Workout Your Brain!**WILDFLOWERS**

Find the words in the grid. When you are done, the unused letters in the grid will spell out a hidden message. Pick them out from left to right, top line to bottom line. Words can go horizontally, vertically and diagonally in all eight directions.

By Evelyn Johnson - www.qets.com

| | | |
|---------|----------|-----------|
| Annual | Daisy | Root |
| Anther | Family | Rose |
| Bark | Flower | Sage |
| Blossom | Genus | Seed |
| Bud | Larkspur | Stem |
| Clover | Leaf | Sunflower |
| Corolla | Poppy | Vines |

June 2018

Monthly Observations

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-------------------------------|------------------------------------|---|--------------------------------------|---------------------------------------|-------------------------------------|--|
| | | | | | 1 National Doughnut Day | 2 National Rocky Road Day |
| 3 Repeat Day | 4 National Cheese Day | 5 Hot Air Balloon Day | 6 National Gardening Exercise Day | 7 National Chocolate Ice Cream Day | 8 Best Friends Day | 9 National Strawberry Rhubarb Pie Day |
| 10 Herb and Spices Day | 11 National Corn on the Cob Day | 12 National Peanut Butter Cookie Day | 13 National Weed Your Garden Day | 14 Flag Day | 15 Smile Power Day | 16 Fresh Veggie Day |
| 17 Eat Your Vegetables Day | 18 International Picnic Day | 19 National Kissing Day | 20 Ice Cream Soda Day | 21 International Yoga Day | 22 National Chocolate Éclair Day | 23 National Pink Day |
| 24 Swim a Lap Day | 25 National Catfish Day | 26 Forgiveness Day | 27 Sun Glasses Day | 28 Insurance Awareness Day | 29 Hug Holiday | 30 Meteor Day |



- > National Fresh Fruit and Vegetables Month
- > Aquarium Month
- > Candy Month
- > Dairy Month
- > Fight the Filthy Fly Month
- > National Gardening Month
- > National Accordion Awareness Month
- > National Adopt a Cat Month
- > Rose Month
- > Turkey Lovers Month



June

Liver and Blood Health

By Cheryl Kaczor, WVU Extension Agent – Marshall County



Monthly Challenge: Get your blood pressure checked this month.

Health Motivator Talking Points

The liver is an organ on the right side of your abdomen. It is important to the body's digestive system. Nutrients you absorb from foods and beverages you consume all pass through the liver. Nutrients are prepared to go to every part of the body to do their jobs. The liver also gets rid of toxins from the blood before the blood circulates through the body.

About 8 percent of an adult's body weight is blood. We need blood to transport things around the body. Blood transports:

- Oxygen and carbon dioxide between the lungs and the rest of the body.
- Nutrients from the digestive tract to the rest of the body.
- Waste products to be purified or removed by the liver and kidneys.
- Heat to the skin to help regulate body temperature.

How can you keep your blood and liver healthy?

- Eat foods from all the food groups. Limit fat, sugar and salt.
- Stay hydrated by drinking plenty of water all day long.
- Be active every day. Exercise improves circulation and increases oxygen to the blood.
- Avoid too much alcohol and take your medications as prescribed.
- Have regular checkups. Keep blood pressure in a healthy range.



Chuckle of the Month:

Two blood cells met and fell in love, but it was all in vein.

Quick Club Activity:

Keep the Blood Flowing

1. Form a circle. Pass a ball or object around the circle. Move it as quickly as possible. (Suggestion: blow up a few balloons and label them "oxygen," "water," "food," "medicine," "alcohol," "waste," etc.)
2. Keep the ball going! This is how our blood flows through our body. We don't want our blood to stop. We want it to move quickly and do its job transporting everything through our body.
3. Talk about what may happen if the blood gets held up. How do you keep your liver and blood healthy?
4. Share the Monthly Challenge.

Learn More

www.Liverfoundation.org

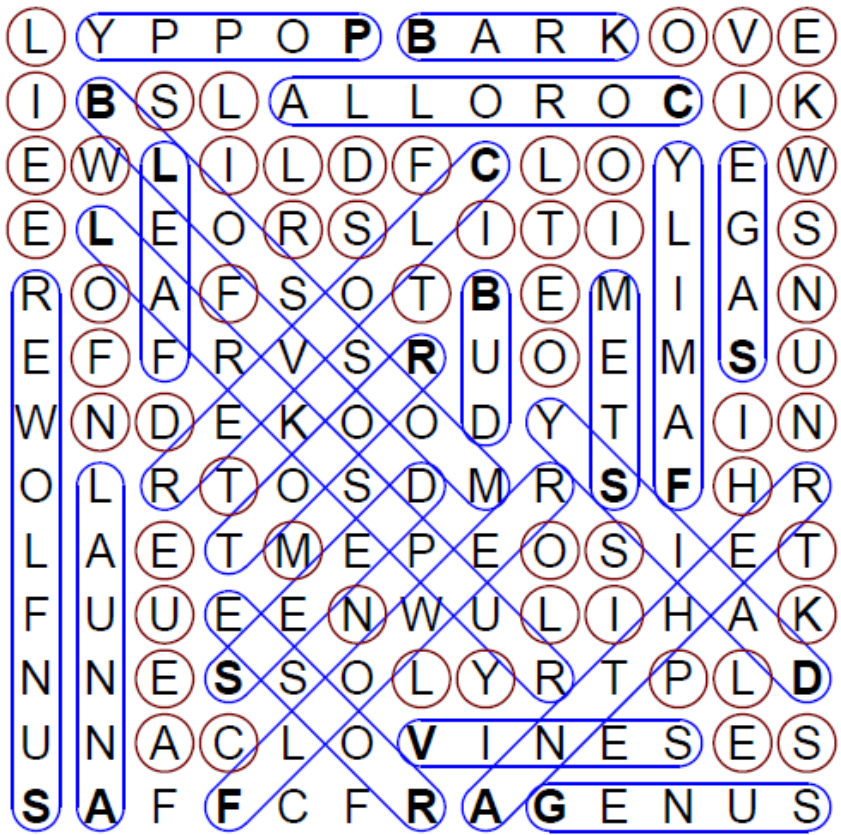
<https://www.niddk.nih.gov/health-information/liver-disease>

West Virginia Bureau of Senior Services



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Brain Exercise Answers



This newsletter is created by Kathrine J. Clark, MS, RD, LD, Nutrition Consultant to the West Virginia Bureau of Senior Services.

