

# Glycemic index explained: Managing blood sugar levels for better health and energy.

Jud Youn\*

Department of Nutrition and Dietetics and Food Services, the Royal Brisbane and Women's Hospital, Brisbane, Queensland, Australia

## Introduction

Understanding how different foods impact your blood sugar levels is crucial for maintaining energy, preventing chronic diseases, and promoting overall well-being [1]. The Glycemic Index (GI) is a valuable tool that helps you make informed dietary choices by ranking carbohydrates based on their effect on blood glucose levels. This article explains the Glycemic Index, its significance in managing blood sugar levels, and provides practical tips for incorporating low-GI foods into your diet for better health and sustained energy [2].

The Glycemic Index is a numerical system that ranks carbohydrates on a scale from 0 to 100 based on how quickly and how much they raise blood sugar levels after eating. Foods are classified into three categories:

**Low GI (55 or less):** Foods that cause a slow and steady rise in blood sugar levels. Examples include most fruits, vegetables, legumes, and whole grains [3].

**Medium GI (56-69):** Foods that have a moderate impact on blood sugar levels. Examples include whole wheat products, brown rice, and sweet potatoes.

**High GI (70 and above):** Foods that cause a rapid spike in blood sugar levels. Examples include white bread, white rice, and sugary snacks [4].

**Stable Blood Sugar Levels:** Consuming low-GI foods helps maintain stable blood sugar levels, reducing the risk of insulin resistance and type 2 diabetes.

**Energy Levels:** Low-GI foods provide a more sustained release of energy, preventing the highs and lows associated with high-GI foods [5].

**Satiety:** Low-GI foods tend to be more filling, helping to control appetite and reduce overall calorie intake.

**Reduced Cravings:** Stable blood sugar levels can help prevent cravings for sugary and high-calorie foods [6].

**Cholesterol Levels:** Low-GI diets have been linked to lower levels of LDL (bad) cholesterol and higher levels of HDL (good) cholesterol.

**Reduced Inflammation:** Consuming low-GI foods can help reduce inflammation, a key factor in heart disease.

**Sustained Energy:** Athletes benefit from the steady energy release of low-GI foods, which helps maintain endurance and performance [7].

**Practical Tips for Incorporating Low-GI Foods into Your Diet**

**Whole Grain Options:** Replace refined grains with whole grains like brown rice, quinoa, barley, and whole wheat products.

**Oats and Bran:** Opt for steel-cut oats or oat bran instead of instant oatmeal [8].

**Non-Starchy Vegetables:** Focus on non-starchy vegetables such as leafy greens, broccoli, and peppers.

**Whole Fruits:** Choose whole fruits over fruit juices, as the fiber content helps lower the GI.

**Beans and Lentils:** Add beans, lentils, chickpeas, and other legumes to your meals. They are excellent sources of protein and fiber with a low GI.

**Nuts and Seeds:** Snack on nuts, seeds, and low-GI fruits like apples and berries.

**Yogurt:** Choose plain, unsweetened yogurt and add fresh fruit or a small amount of honey for flavour [9].

**Al Dente:** Cook pasta al dente (firm to the bite) to lower its GI.

**Minimize Processing:** Avoid overly processed foods, as they tend to have higher GIs.

**Combine Foods:** Pair high-GI foods with low-GI foods to balance the overall effect on blood sugar levels. For example, add vegetables or legumes to a meal with rice.

**Protein and Fat:** Include lean proteins and healthy fats in your meals to slow down the absorption of carbohydrates and maintain stable blood sugar levels.

**Check Ingredients:** Look for whole grain ingredients and avoid foods with added sugars and refined flours.

**GI Labels:** Some products include the GI rating on the packaging, making it easier to choose low-GI options [10].

## Conclusion

The Glycemic Index is a valuable tool for managing blood sugar levels, promoting better health, and maintaining sustained energy throughout the day. By incorporating low-GI

---

\*Correspondence to: Jud Youn, Department of Nutrition and Dietetics and Food Services, the Royal Brisbane and Women's Hospital, Brisbane, Queensland, Australia, E-mail: judyoun@gmail.com

Received: 29-May-2024, Manuscript No. AAJNHH-24-140132; Editor assigned: 31-May-2024, Pre QC No. AAJNHH-24-140132(PQ); Reviewed: 14-Jun-2024, QC No. AAJNHH-24-140132; Revised: 17-Jun-2024, Manuscript No. AAJNHH-24-140132(R); Published: 24-Jun-2024, DOI: 10.35841/ajnhh-8.3.212

foods into your diet, you can enjoy numerous health benefits, including improved blood sugar control, better weight management, and enhanced heart health. Making mindful choices about the types of carbohydrates you consume can lead to a healthier and more balanced lifestyle. Prioritize low-GI foods, balance your meals, and enjoy the long-term benefits of stable blood sugar levels and improved overall wellness.

## References

1. Zeisel SH. Precision (personalized) nutrition: understanding metabolic heterogeneity. *Annu Rev Food Sci Technol.* 2020;11:71-92.
2. Wang DD, Hu FB. Precision nutrition for prevention and management of type 2 diabetes. *Lancet Diabetes Endocrinol.* 2018;6(5):416-26.
3. Livingstone KM, Ramos-Lopez O, Perusse L, et al. Precision nutrition: A review of current approaches and future endeavors. *Trends Food Sci Technol.* 2022.
4. San-Cristobal R, Navas-Carretero S, Martínez-González MÁ, et al. Contribution of macronutrients to obesity: implications for precision nutrition. *Nat Rev Endocrinol.* 2020;16(6):305-20.
5. Tebani A, Bekri S. Paving the way to precision nutrition through metabolomics. *FRONT NUTR.* 2019;6:41.
6. Roberts SB, Rosenberg I. Nutrition and aging: Changes in the regulation of energy metabolism with aging. *Physiol Rev.* 2006;86(2):651-67.
7. Soutoukis GA, Partridge L. Dietary protein, metabolism, and aging. *Annu Rev Biochem.* 2016;85:5-34.
8. Luís C, Maduro AT, Pereira P, et al. Nutritional senolytics and senomorphics: Implications to immune cells metabolism and aging—from theory to practice. *Front Nutr.* 2022;9:958563.
9. Russell RM. The aging process as a modifier of metabolism. *Am J Clin Nutr.* 2000;72(2):529S-32S.
10. Slawik M, Vidal-Puig AJ. Lipotoxicity, overnutrition and energy metabolism in aging. *Ageing Res Rev.* 2006;5(2):144-64.