

The Dietitian's Guide to Vegetarian Diets

ISSUES AND APPLICATIONS **FOURTH EDITION**

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Preface

Nutrition is an ever-changing field, and vegetarian nutrition is no exception. In the 10 years since the third edition of *The Dietitian's Guide to Vegetarian Diets* was published, much new research has been conducted in areas related to vegetarian nutrition. Of course, vegetarian nutrition is not limited to studies of the nutritional status of vegetarians. Vegetarian nutrition also examines the nutrient needs and sources of nutrients for those who follow vegetarian diets, the use of vegetarian diets in the prevention and treatment of disease, and the impact on health of vegetarian diets.

This fourth edition of *The Dietitian's Guide to Vegetarian Diets* is an update and expansion of the information presented in the 1996, 2004, and 2011 volumes. Since the last edition of *The Dietitian's Guide to Vegetarian Diets*, new discoveries have been made in many areas related to vegetarian nutrition. These are the result of several large-scale studies of vegetarians, increased interest in vegetarian diets in the prevention and treatment of chronic diseases and in athletes, and new research into several key nutrients.

Like its predecessors, this edition of *The Dietitian's Guide to Vegetarian Diets* is written for dietitians and other health-care professionals and is meant to be used as an aid for counseling vegetarian clients and those interested in becoming vegetarian. It can also serve as a textbook for classroom study for students who have completed introductory coursework in nutrition. Finally, investigators will find it a useful review of the literature on vegetarian diets.

All chapters have been updated to include the latest research on vegetarian diets as well as newer recommendations and findings regarding general nutrition. To make this text a more practical tool for dietetics practice, many chapters include expanded counseling points to help professionals translate the material into simple messages for clients. Most chapters also include case studies that allow practitioners and students to test their understanding of the material presented.

The first part of the book provides an overview of the vegetarian population and health status of this

group. Chapters address demographics and the history of vegetarianism and vegetarian health status, including chronic disease rates. The following section examines nutritional needs within the context of a vegetarian diet, with chapters devoted to the macronutrients, nutrients involved in bone health, minerals, vitamins, soy foods, and non-nutrient compounds in plant foods. This part also includes a chapter on meal-planning guidance for vegetarians. The third part of the book addresses vegetarian diets throughout the life cycle, with chapters devoted to pregnancy and lactation, infants, children, adolescents, and older people. The final section summarizes practical issues for vegetarians with chapters devoted to the use of vegetarian diets in the management of chronic diseases and vegetarian diets for athletes. This section also contains material on best practices when working with vegetarian clients and on food preparation, with particular emphasis on foods that play important roles in vegetarian diets. The appendixes present data on vegetarian and nonvegetarian micronutrient and macronutrient intakes, serum lipid levels, blood pressure, and anthropometry, all in tabular form.

It is our hope that this updated and expanded review of the vegetarian literature combined with practical recommendations will help dietitians and other health professionals continue to serve the needs of their vegetarian clients.

What's New to This Edition

Four new chapters have been added.

- Chapter 5 explores the role of carbohydrates in vegetarian diets and examines topics including the Glycemic Index, dietary fiber intakes and recommendations, the impact of sugar on health and the low-FODMAP diet for vegetarians.
- Chapter 6 focuses on important nutrients for bone health, including calcium, vitamin D, and protein

and provides research-based recommendations for optimizing bone health for vegetarians.

- Chapter 18 addresses nutritional needs of vegetarian athletes and includes an overview of research related to vegetarian athletes, an examination of macronutrient needs, and a discussion of performance enhancers.
- Chapter 19 provides practical information for dietitians and other health-care professionals working with vegetarians or those interested in vegetarian diets. Topics in this chapter include creating a vegetarian-friendly practice, simple meal planning, and making the transition to a vegetarian diet.

Several chapters have undergone particularly extensive revision.

- Chapter 2 provides an update on the health of vegetarians. It includes new information about large cohort studies of vegetarians as well as research examining “healthy” versus “less healthy” plant-based diets. This chapter summarizes the most recent research related to the role of vegetarian diets in the prevention of diseases, including cardiovascular disease, hypertension, cancers, diabetes, and obesity.
- Chapter 4 includes information about plant fats that are popular with the public such as coconut and palm oil and extensively updates information

about the ability of vegetarian diets to meet requirements for omega-3 fatty acids.

- Chapter 9, which formerly addressed phytochemicals, now includes information on phytochemicals and antinutrients (including lectins, protease inhibitors, oxalates, and lectins) in plant foods and their effects on health outcomes.
- Chapter 10 provides updated information on the possible role of soy foods in reducing risks for cancer, heart disease, and osteoporosis, as well as in alleviating symptoms of menopause.
- Chapters 12 through 16 provide updated information on the use of vegetarian diets throughout the life cycle and include recommendations for nutritional assessment of vegetarians at various life-cycle stages.
- Chapter 17 supplies much new information on the use of vegetarian diets to manage weight, diabetes, and risk factors for cardiovascular disease. This chapter includes a discussion of weight stigma, recommendations for choosing the best vegetarian diet for weight management, and comparisons of diets with differing macronutrient ratios.

Chapter Features

The textbook uses many **tables** and **exhibits** to further explain concepts and make it easy for students to find and review information

Table 2-1 Comparison of Vegetarian and Nonvegetarian Intakes of Protein, Fat, Carbohydrate, Cholesterol, and Fiber

	Adventist Health Study-2 (North America) ⁷			EPIC-Oxford (United Kingdom) ⁸		
	Vegan	Lacto-Ovo Vegetarian	Nonvegetarian	Vegan	Lacto-Ovo Vegetarian	Nonvegetarian
<i>Calories (kcal/day)</i>	1894	1896	1893	2130	2190	2280
<i>Fat (% Total Calories)</i>	28.2	31.9	33.8	30.4	30	30.9
<i>Saturated Fat (g/day)</i>	11.6	16	19.9	NA	NA	NA
<i>Dietary Fiber (Total Grams)</i>	46.7	37.5	30.4	30.3	27	22.2
<i>Protein (Total Grams)</i>	72.3	72	75.8	NA	NA	NA

Exhibit 12-1 Sample Menus for Pregnancy

Meal	Day 1	Day 2
Breakfast	1 oz fortified ready-to-eat cereal with ½ cup fortified soy milk and ½ cup sliced strawberries	½ cup scrambled calcium-set tofu with onions and mushrooms 2 slices whole wheat toast with 1 tsp margarine
Snack	¼ cup walnuts with ¼ cup raisins	5 dried figs, ¼ cup almonds
Lunch	1 cup vegetarian baked beans 1 corn muffin Carrot and celery sticks	Sandwich with 3 oz veggie deli slices, shredded lettuce, and tomato slices ½ cup grapes
Snack	½ cup calcium-fortified juice ½ cup tofu salad Crackers	½ cup hummus (made with 2 Tbsp tahini) Crackers
Dinner	1 cup spaghetti with ½ cup sauce and ½ cup chickpeas 1 cup steamed kale with olive oil Whole wheat roll with margarine	Stir-fry with 2 cups bok choy, broccoli, and Chinese cabbage, ½ cup tofu, and 1 cup rice ½ cup sliced pineapple
Snack	Crackers with 2 Tbsp almond butter, ½ cup calcium-fortified soy milk	1 cup fortified soy milk 2 graham crackers

Case Studies are included to apply chapter concepts to real-life scenarios.

For Instructors

- Instructors will be provided with lecture slides in PowerPoint format.

CASE STUDY

Melissa is a 30-year-old female with a BMI of 28 who has been using a low-carbohydrate diet for weight loss for the past 6 months. She reports that she has been on at least 20 different diets since her teens and that this is the first that has allowed her to lose weight while managing hunger. She is currently aiming to consume no more than 100 grams of carbohydrates per day. Melissa also has high blood pressure; although it has decreased as she has lost weight, she still has hypertension. She works as a horticulturist at a botanical garden and is active in her job and participates in a yoga class twice per week. She also volunteers as a dog walker at her local humane society on the weekends. A group of volunteers at the humane society have recently decided to take a “vegan challenge.” Melissa is highly motivated to participate in this but is unsure about how to manage carbohydrates on a vegan diet and is concerned that it will affect her efforts at weight loss.

Based on her 24-hour recall, how would you help Melissa transition to a vegan diet in a way that will support her desire to restrict carbohydrates, help her manage her blood pressure, and also help her meet nutrient needs?

Breakfast

2 eggs cooked in 1 Tbsp canola oil
3 slices of bacon
1 slice of low-carb toast with 1 tsp butter

Snack

¼ cup salted nuts
1 orange

Lunch

Protein shake with 1 oz whey-based protein powder and 1 cup 2% milk
Green salad, tomato, ¼ avocado, with 2 Tbsp dressing [2 tsp olive oil]

Snack

Celery sticks with 2 Tbsp peanut butter

Dinner

6 oz chicken breast
1 slice low-carb bread
1 cup broccoli cooked in 2 tsp olive oil



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About the Authors

Reed Mangels is a Nutrition Advisor for the nonprofit educational Vegetarian Resource Group as well as nutrition editor and a regular columnist for the quarterly publication *Vegetarian Journal*. She is a past chair of the Vegetarian Nutrition Dietetic Practice Group. She has written numerous articles and book chapters for professionals and the public on vegetarian nutrition in the life cycle. She was an adjunct faculty member of the Department of Nutrition at the University of Massachusetts Amherst.

Virginia Messina is a nutrition consultant in private practice, serving as an advisor to nonprofit organizations that produce educational materials on vegetarian diets. She is on the editorial staff of the newsletter of the Vegetarian Nutrition Dietetic Practice Group. She speaks and writes about plant-based nutrition for both the public and health professionals.

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Mark Messina is the co-owner of Nutrition Matters, Inc., a nutrition consulting company, an adjunct associate professor at Loma Linda University, and the Executive Director of the Soy Nutrition Institute. He is a former program director with the National Cancer Institute (NCI). He devotes his time to the study of the health effects of soy foods and soybean components such as isoflavones. He writes extensively on these subjects, has published more than 100 articles and book chapters for health professionals, and has given more than 750 presentations to both consumer and professional groups in 54 countries.

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