Vegetarian Teens

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Section 10

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What Is a Vegetarian?

A vegetarian can be someone who only eliminates red meat from their diet, or it can be someone who avoids any foods of animal origin. More dm 50% of those who consider themselves vegetarian do not eat meat or fish, but will consume dairy and egg products. Vegetarian eating plans can be very health-promoting and can provide all of the calories, protein, vitamins, and minerals required for growth. Vegetarian diets also have the potential to be deficient in many essential nutrients if foods containing these nutrients are eliminated without compensation with other foods.

Adequate caloric intake and a variety of foods are critical components to planning a healthy vegetarian diet. There are many ways to get a varied and balanced diet. A sound vegetarian eating plan includes fruits, vegetables, leafy greens, whole grains, legumes, nuts, seeds, and for some, dairy products, dairy product alternatives, and eggs. Vitamin and mineral supplements are recommended. Because the term vegetarian is so often used loosely, the nutritional and medical consequences of the diet depend on what foods are actually eaten.

Teenagers are the fastest growing segment of our population trying vegetarian dietary patterns. Although there are many different types of vegetarians, it is important not to assume all vegetarian eating patterns support health.

Vegetarians — whatever the details of their diet — need to be aware of the foods they eliminate and the specific essential nutrients that may subsequently be missing from their diet Vegetarian diets do not support health when the proper foods are not replaced for the foods omitted, and when fruits, vegetables, whole grains, and legumes (dried beans, peas, and lentils) are not consumed in adequate quantities.

It is possible to eat french fries, potato chips, and candy and technically be a "vegetarian," but this type of diet does not support optimal health. With planning and education, any type of vegetarian diet can include all essential nutrients.

The Many Faces of Vegetarians

There are many ways to live a vegetarian lifestyle. Some classic types of vegetarians are: (adapted from http://www.oldwayspt.org):

Lacto-Ovo-Vegetarian: A diet containing eggs and dairy products, but no meat, poultry, and fish.

Lacto-Vegetarian: A diet containing dairy products, but no meat, poultry, fish and eggs.

Pollo-Vegetarian: A diet containing eggs and dairy products, as well as poultry. Meat, fish, and seafood are not eaten.

Pesca-Vegetarian: A lacto-ovo vegetarian diet that adds fish and seafood.

Semi-Vegetarian: The least restrictive vegetarian diet, it is lacto-ovo vegetarian diet with the occasional use of meat, poultry, fish, and seafood.

Strict Vegetarian or Vegan: The most restrictive vegetarian diet, it contains no animal products: meat, fish, seafood, poultry, milk and other dairy products, or eggs. Vegans, who make up about 10% of the total vegetarian population, also avoid foods with animal products as ingredients. For example: beans made with lard (pork fat), baked goods made with butter or eggs, or margarine made with milk solids

Why Teens Choose to Go Veggie

There are many reasons why a teen might choose to eat a vegetarian diet. Some adolescents may be developing an interest in animal rights, while others have religious beliefs that support a vegetarian diet.

One impetus that health care professionals should be aware of is the use of vegetarian eating patterns as a method to restrict food consumption. There is no evidence to show that vegetarianism leads to disordered eating but it is possible that teens with eating disorders or disordered eating may be using vegetarianism to disguise their eating patterns. To learn more about disordered eating and eating disorders see Section 7: *Body Image and Disordered Eating* guideline.

What Are the Nutritional Concerns for Vegetarian Adolescents?

Vegan Diets
Adolescents who attempt to practice a vegan - strictly plant — based - diet are at greater risk for deficiencies of nutrients such as Vitamin B12, Vitamin D, calcium, iron, zinc, and some essential fatty acids. Low zinc intake is a concern because of its role in growth. *Referral to a registered dietitian is recommended.*

Energy
Vegetarian diets are usually lower in calories than omnivorous diets — those that include animal products — because they provide more fiber and less fat. Adolescents have greater needs for energy (calories) than adults, therefore calorie- and nutrient-dense foods am an important component to any vegetarian diet.

Good sources of energy include dried beans and peas, nuts and nut butters, dried fruits, and whole grains and seeds (these also provide many vitamins and minerals). Added fats and dairy products (for those who use them) are also good sources.

Protein
Concerns about protein deficiencies in the vegetarian diet arise when no meat, poultry, fish, seafood, eggs, or dairy products are consumed. With careful planning, the protein needs of vegetarian teens may be met with consumption of a variety of plant foods. Plant foods such as legumes, nuts, seeds, grains, and some vegetables are rich in protein.

Concern for the protein adequacy of vegetarian diets focuses on the differences in amino acid com-

position between plant and animal proteins. Amino acids are the building blocks of proteins; some "essential" amino acids cannot be made by the body and must be obtained from food. All animal proteins contain the necessary types and amounts of essential amino acids, and thus are sometimes referred to as "complete proteins." Plant proteins lack one or more essential amino acid — or do not contain them in the amounts needed — and so are sometimes referred to as "incomplete proteins."

When animals — and humans — consume only a single plant protein, they will not grow adequately because they will not, have sufficient quantities of all the essential amino acids. An appropriate combination of plant foods can, however, produce normal growth because the amino acid deficiencies of one plant can be corrected by another. These two-plant combinations are called "complimentary" protein foods.

The most common complimentary protein pairs are grains and beans or grains and legumes. Classic examples of complimentary meals are rice and beans or lentils, tortillas and beans, black-eyed peas and cornbread, bean or pea soup with whole grain bread, and peanut butter sandwiches.

Although at one time it was thought that complimentary protein foods needed to be eaten at the same meal, recent research has shown that complimentary protein eaten in the same day can support normal growth.

Nonmeat sources of complete protein include eggs, milk, cheese, yogurt, and soy products. Vegans must eat more legumes or nuts, combined with whole grains and soy products, as substitutes for the protein other vegetarians get from eggs, milk, and other dairy products.

Calcium and Vitamin D

It takes more planning for vegans to get adequate calcium from their diet. Vegetarians who avoid milk and other dairy products should supplement their diet with a calcium-fortified milk alternate that is low-fat, and fortified with Vitamin D.

Some nondairy sources of calcium include tofu processed with calcium, calcium-fortified soy beverages, broccoli, sunflower seeds, nuts, legumes, calcium fortified orange juice, and fortified breakfast cereal. See Section 3 *Calcium* guideline for more information on dairy and nondairy sources of calcium.

Vitamin D is not a problem for vegetarians who drink milk and for those who get sunshine exposure on a regular basis (sunbathing is not necessary; about 15 minutes of minimal hand, arm and face exposure without clothing or sunscreen is adequate). What should vegans do when the sun is not visible? They should eat foods are fortified with Vitamin D such as breakfast cereals and soy beverages, or take a supplement that contains no more than 100% of the Recommended Diet Allowance (RDA). Larger doses of Vitamin D can be dangerous.

Iron

Most studies show that vegetarian teens have higher intakes of iron than omnivorous teens, but regardless of dietary choice, iron intake is a concern for all teens. Vegetarian adolescents should be encouraged to include iron-rich plant foods at every meal (see Section 4: *Iron* guideline). Plant foods contain iron, but it is not absorbed as well as the iron from animal sources.

There are ways to improve the absorption of the iron in plant foods (such as legumes, whole-wheat breads, tofu, spinach). One way is to include Vitamin C-foods (citrus fruits or juices, broccoli, tomatoes, for example) at every meal. Semi-vegetarians who eat

Additional Screening

Adapted from ADA Complete Food and Nutrition Guide, 1998

Use the following questions to determine if a client is following a vegetarian diet.

- Do you eat beef, chicken, fish or seafood every day?
- Do you avoid any of the following foods?
  Milk or dairy, eggs, beef, chicken, fish or seafood

Once vegetarianism has been established, use the following questions to determine whether she needs education on how to follow a healthy vegetarian lifestyle.

Do you eat...

1. Whole-wheat bread, nuts, vegetables, and fruits every day?
2. Bread, rice, pasta and other grain products each day?
3. Vegetables daily?
4. Fruit every day?
5. Beans and other meat alternatives each day?
6. Do you have a difficult time maintaining a healthy weight?

(Vegans or those who do not eat any foods of animal origin can skip to #10)

7. Milk, yogurt, or cheese daily?
8. Eggs occasionally?
9. Foods of plant origin that are high in calcium? (See Section 3: Calcium guideline for nondairy calcium foods.)
10. Foods that are fortified with Vitamins B12 and D (or take a supplement that provides no more than 100% of the RDA for B12 and D)?

If the client answers “no” to any item, she may be at risk for a nutritional deficiency. Check the “Vegetarian Food Guide” for suggestions on how to improve her diet.

small amounts of meat, poultry, or fish are getting a great source of iron that the body can readily use.

Zinc

More than two-thirds of the zinc the American diet comes from animal sources. Vegetarians who include milk, cheese, yogurt, or eggs in their diet get enough zinc.

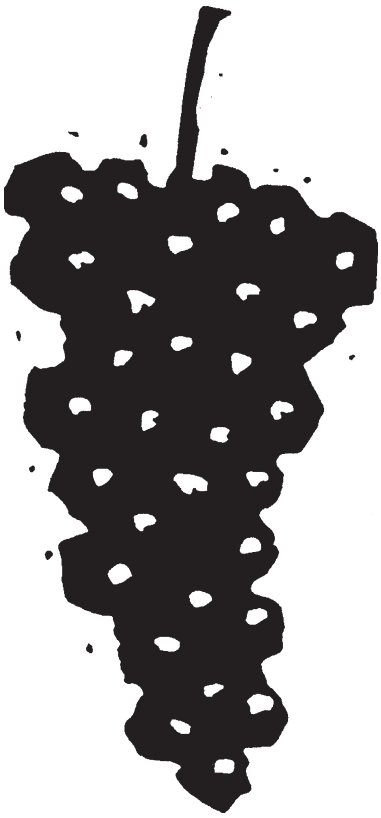
Vegans can get zinc by eating legumes, tofu, seeds, nuts, and the germ and bran of whole grains. Be aware that these plant sources of zinc also contain substances (phytates and fiber) that make it difficult for the body to absorb the zinc contained in them.

A multi-vitamin/mineral supplement may be a good way for vegans to get adequate zinc. Such supplements should only contain 100% or less of the Recommended Dietary Allowance (RDA) of zinc; higher doses can have harmful side effects (adapted from the ADA Food and Nutrition Guide, 1998).

Vitimins B12

A Vitamin B12 deficiency may occur with vegetarian diets that omit all animal products. Deficiency of this vitamin can cause neurological problems that may be irreversible, especially in infants or young children. Vegetarian adolescents who eat no animal products must include food products fortified with Vitamin B 12 or take a vitamin supplement that includes it.

Vegans should look for cereals, soymilk products, or vegetarian burger patties that are fortified with B12. Vegan products such as seaweed, algae, spirulina, and fermented plant foods such as terapeh and miso are not good sources Of B12 because it is in a form that cannot be used by the human body.



Interventions/Referral

Use the additional screening questions to identify if the client is following a vegetarian diet.

Use "Vegetarian Food Guide" activity sheet to educate client on healthy eating pattern for vegetarian diet.

Use the "Tips for Vegetarians" activity sheet to give the clients suggestions for how to have a healthy vegetarian diet.

Use "Smart Choices: activity sheet with clients to instruct them on how to replace nutrients in their diet that may be missing due to food group elimination.

Adolescents who do not substitute particular foods with the foods they eliminate are at risk for nutrient deficiencies. If you suspect that the client's diet is inadequate, refer them to a health care professional such as a registered dietitian.

Refer adolescents who follow a **vegan** diet to a registered dietitian to assess the adequacy heir diet to a registered dietitian to assess the adequacy of their diet

Follow-Up

Review the completed "Smart Choices" activity sheet with the client. Ask her to fill out a new sheet and indicate the changes she has made since the nutrition intervention.

If the client did not make any changes...
... Explore what barriers prevented them from doing so and discuss possible strategies for removing the barriers.

If the client made changes but still falls short of recommended intake...
... Revise action plan with the client to change or add goals for behavior change.

If the client has made changes achieved the recommended intake...
...Help the client develop a new action plan for maintaining the new behavior.

Vegetarian Food Guide

Food Group	Servings	Serving Size	Nutrition-Tip
Legumes, eggs, egg substitute, soy-based meat substitutes, and nuts/seeds	6-9	■ 1/2 cup cooked dry beans, peas, or lentils ■ 3 ounces soy-based meat substitute ■ 1/4 cup tofu or tempeh ■ 1 egg, 2 egg whites, or 1/4 cup egg substitute	Select tofu set with calcium sulfate for a calcium bonus: a 1/2-cup serving can have as much as calcium as 1 cup of milk
Milk or milk Substitute	4	■ 1 cup milk or yogurt ■ 1 cup calcium- and Vitamin D-fortified soy milk or soy yogurt ■ 1 1/2 ounces cheese or soy cheese	Protect your bones: Calcium-fortified juices, cereals, tofu with calcium sulfate, and calcium-rich plant foods like collard greens can also help meet calcium needs.
Grains	8-11	■ 1 slice bread ■ 1/2 cup pasta or rice ■ 1 ounce (-1/2 cup) ready-to-eat cereal	Check the label: Look for 100% whole breads and fortified cereals. Whole grains provide fiber, vitamins, minerals, and protein.
Vegetables	4-5	■ 3/4 cup juice ■ 1 cup raw leafy greens ■ 1/2 cup chopped cooked vegetables	Eat plenty of nutrient-rich, dark green, deep red, and yellow-orange vegetables. Vegetables provide fiber, vitamins, and minerals
Fruits	3-4	■ 3/4 cup juice ■ 1/4 cup dried fruit ■ 1/2 cup fresh or canned ■ medium-size piece	Vitamin C-rich foods like strawberries and orange juice boosts iron absorption from legumes and iron-fortified cereals.
Fats	4-5	■ 1 teaspoon olive oil, vegetable oil, margarine, or butter ■ 1 tablespoon of salad dressing or mayonnaise	Margarine or butter? It is okay to eat either if you do so in moderation. If you like margarine, try to purchase the brands that contain less trans-fatty acids (look on the label).

TIPS FOR VEGETARIANS

(Adopted from ADAs Complete Food and Nutrition Guide)

Be sure you eat enough calories!

- Many vegetarian meals are low in fat and high in fiber, so you may fill up before you get enough calories to support growth and proper brain function,
- Include foods like nuts, peanut butter, and cheese to be sure you are getting what your body needs to be its best.

Make grain dishes the centerpiece of your menu!

- Add interest to vegetarian meals with a greater variety of breads including focaccia, bagels, tortillas, pita bread, chapatis, and naan.
- Choose fortified breakfast cereals for added nutrients such as iron, folate, Vitamin B12, and zinc.

Eat those veggies!

- Aim for at least four servings of vegetables each day.
- Plan meals with several different vegetables.
- Choose vegetables that are good sources of calcium: dark green leafy veggies (kale, mustard, collard, or turnip greens), bok choy, and broccoli. These foods also supply iron.
- Choose vegetables that are high in Vitamin C: broccoli, tomatoes, and green pepper.
- Include two to three servings of legumes and other meat alternatives every day.

Add fruit to your life!

- Include at least three servings of fruit each day.
- Fruits high in Vitarnin C include citrus fruits, melons, and berries.
- To get enough fruit in your diet, serve it for dessert and snacks.
- Look for calcium-fortified juices.

Include more soy products in your meal planning!

- Soy milk can be a good substitute for cow's milk, but be sure to check the Nutrition Facts on the food label - some brands are fortified with calcium, but not all.
- Experiment with soybean products such as tofu, tempeh, textured soy protein, and soy milk in your meal planning.
- For lacto-vegetarians (if you eat dairy but no other animal products), be sure to include two to four servings of milk, yogurt, or cheese every day.

SMART CHOICES

Identify the foods you don't eat in the "If I don't eat this..." column and circle the foods you can use to replace them from the "I can choose this...' column. Use this handout as an action plan for change.

If I don't eat this...	I can choose this...
Meat, fish, or chicken (lacto-ovo vegetarians)	Milk, dairy foods, eggs or eggs substitutes, beans, lentils, peas, fortified soy beverages, whole and fortified grains, a wide variety of fruits and veggies
Meat, fish, chicken, milk, dairy foods, eggs (vegans or strict vegetarians)	Beans, lentils, peas, whole and fortified grains, fortified soy beverages, tofu with calcium, dark green leafy vegetables, and a wide variety of fruits and veggies
Meat, chicken, eggs, milk, dairy foods	Beans, lentils, peas, fortified soy beverages, whole and fortified grains, dark green leafy veggies, and a wide variety of fruits and veggies
Chicken, milk, dairy foods	Beans, lentils, peas, fortified soy beverages, fish, other meats, whole and fortified grains, eggs or egg substitutes, dark-green veggie, and a wide variety of fruits and veggies
Meat, chicken, or fish occasionally (semi-vegetarians)	Beans, lentils, peas, a wide variety of fruits and veggies, milk, dairy foods, eggs, whole and fortified grains, tofu with calcium. On days when red meat is not eaten, choose chicken or fish
Meat, chicken (pesca-vegetarian)	Milk, dairy foods, eggs, fish, seafood, whole and fortified grains, and a wide variety of fruits and vegetables
Milk, dairy foods	Fortified soy beverage, dark-green vegetables, tofu with calcium, whole and fortified grains, eggs, fish, meat, chicken, and a wide variety of fruits and vegetables