

Healthy Eating Patterns for People with Diabetes

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Objectives

- To understand the goals and implications for medical nutrition therapy (MNT) in individuals with diabetes
- To explore a variety of eating patterns that individuals with diabetes may choose
- To examine other lifestyle behaviors that may impact diabetes management

Goals for Medical Nutrition Therapy[1]

- Support a healthful eating pattern, with an emphasis on a variety of *nutrient-rich foods* inappropriate *portion sizes*
- Address personal and cultural food preferences
- Maintain the pleasure of eating
- Provide practical tools for developing healthy eating patterns, rather than focusing on one individual macro or micronutrient or single food

[1]American Diabetes Association Standards of Care, Diabetes Care 2026

Impact of medical nutrition therapy on diabetes management

- Gestational diabetes/Diabetic pregnancy- fetal and maternal benefits
- Prediabetes- prevention or delay of type 2 diabetes onset
- Type 2 diabetes- improved A1C/management
- Type 1 diabetes- stabilizing blood glucose levels and improved management

Latest Nutrition Recommendations

- Not an ideal percentage of carbohydrate, protein and fat[1]
- A variety of eating patterns can be considered for adults with diabetes
- Weight loss of at least 5% is recommended for patients who are overweight or obese

[1]American Diabetes Association, Diabetes Care 2026

Nutrition behaviors encouraged[1]

- Emphasize non-starchy vegetables
  - Fresh, frozen, and low-sodium canned are acceptable
- Fruit, especially whole fruit
  - Fresh, frozen, or canned in own juice or no added sugar are acceptable
- Minimize added sugars and refined grains
  - Increase water and whole grains
- Choose whole foods over highly processed foods

[1]American Diabetes Association, Diabetes Care 2026

Carbohydrates

- Reducing overall carbohydrate intake may improve glycemia
- Emphasize nutrient-rich high fiber carb choices
  - Non-starchy vegetables, fruit, legumes, whole grains and dairy
  - 14 grams per 1,000 kcal (28-36 g/day)[2]
- Replace sugar-sweetened beverages (including fruit juice) with water

[2] Academy of Nutrition and Dietetics- Dietary Fiber. 2025

Protein

- Protein goals should be individualized
- Research is inconclusive to suggest a specific percentage will improve glucose
- Typically protein intake is 1.0 - 1.5 g/kg/body weight/day or 15-20% of total calories[1]
- Some research has found meal plans for people with diabetes with a slightly higher protein percentage (20-30%) may increase satiety[3]

[1]American Diabetes Association, Diabetes Care 2026, [3]Ley et al., 2014

Fat

- People with diabetes should be advised to follow the recommendations for the general population regarding intake of saturated fat and trans fat
- The quality of fat is more important rather than a specific percentage
- Dietary guidelines for Americans (DGA) recommends 25-35% total fat with <10% from saturated fat
- As saturated fat is decreased, it should be replaced with unsaturated fat (mono and polyunsaturated) and not with refined carbohydrates

Micronutrients and herbal supplements

- Insufficient evidence to recommend herbal or non-herbal (ex: vitamin/mineral supplementation) to improve glycemia; unless there is an underlying deficiency[1]
- Vegetarian/Vegan eating patterns are at a higher association with Vitamin B12 deficiency
- Metformin is association with Vitamin B12 deficiency
  - Periodic testing should be considered

[1]American Diabetes Association, Diabetes Care 2026

Alcohol, Sodium and Non-Nutritive Sweeteners

- Alcohol
  - One drink per day for women
  - Two drinks per day for men
  - Risk of hypoglycemia
  - Excess calories may hinder weight loss efforts
- Sodium
  - No more than 2300 mg/day
- Non-Nutritive Sweeteners
  - Sugar substitutes (ex: Stevia; Splenda) can replace high calorie and high sugar sweeteners (ex: sugar; honey)
  - Emphasis on increasing water

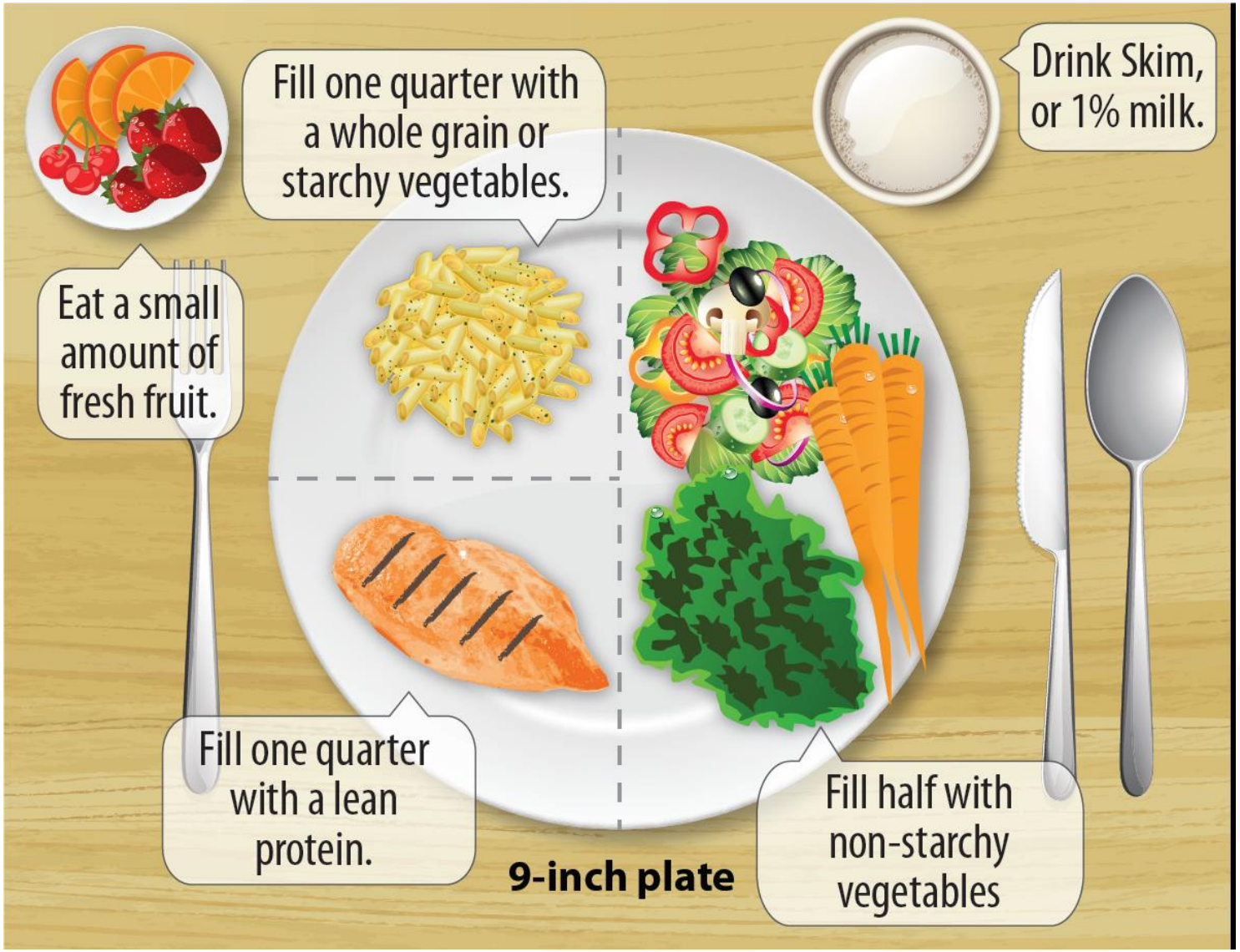
Eating/Meal plan approaches and methods

- Head-to-head studies have compared different eating approaches and methods
  - Diabetes plate method
  - Carbohydrate counting

- One random control trial (RCT) found that both eating approaches were effective in A1C improvement[1]

[1]American Diabetes Association, Diabetes Care 2026

The Diabetes Food Plate



Carbohydrate counting

- More advanced skill that helps track carbohydrate intake at meals and snacks
- Count carbohydrates in carbohydrate containing foods
  - Starch, fruit, milk/yogurt, snacks/sweets
- 1 serving carbohydrate = 15 grams carbohydrate
  - 1 slice of bread
  - 1 tortilla (6”)
  - 1/3 cup cooked rice or pasta
  - ½ cup mashed potatoes
  - 1 apple
  - ½ banana
  - 1 cup milk

Eating patterns

- Low Carb and Very Low Carb
  - Keto
- Intermittent fasting
- Mediterranean-style
- Vegetarian & Vegan

Low Carb and Very Low Carb Eating Pattern

- Research difficult to evaluate due to inconsistent definitions of “low carb”
- The ADA Consensus Report[4] defines:
  - Low Carb (LC) <45% carbs
  - Very Low Carb (VLC) <26% carbs
- Review of studies analyzing VLC (<26%) on A1C outcomes[5]
  - A1C benefits greater in VLC at 3 to 6 months
  - However, not at 12 to 24 months

[4]Evert et al., 2019
[5]Evert and Chomko, 2023

Low Carb and Very Low Carb Eating Pattern

- 12-week RCT analyzed a well-formulated ketogentic diet in adults with prediabetes or type 2 diabetes
  - 20-50 grams total carbohydrate/day
  - Protein to ~1.5 g/kg ideal body weight a day
  - Remaining energy from fat
    - No significant improvement in A1C and increased LDL cholesterol compared to a low-carbohydrate Mediterranean eating pattern[6]

- Challenges with long-term sustainability

Low Carb and Very Low Carb Eating Pattern

- If a patient wants to follow a low carb diet, we need to determine what their definition is of low carb.
- Are they currently having low blood sugars?
- What medications are patients on?
  - Insulin, sulfonylureas & meglitinides should be reduced or discontinued if patient is starting very low carb eating plan.
- Further research is needed to recommend for:
  - Pt with Chronic Kidney Disease
  - Pregnant Women
  - Pt with disordered eating

Intermittent Fasting

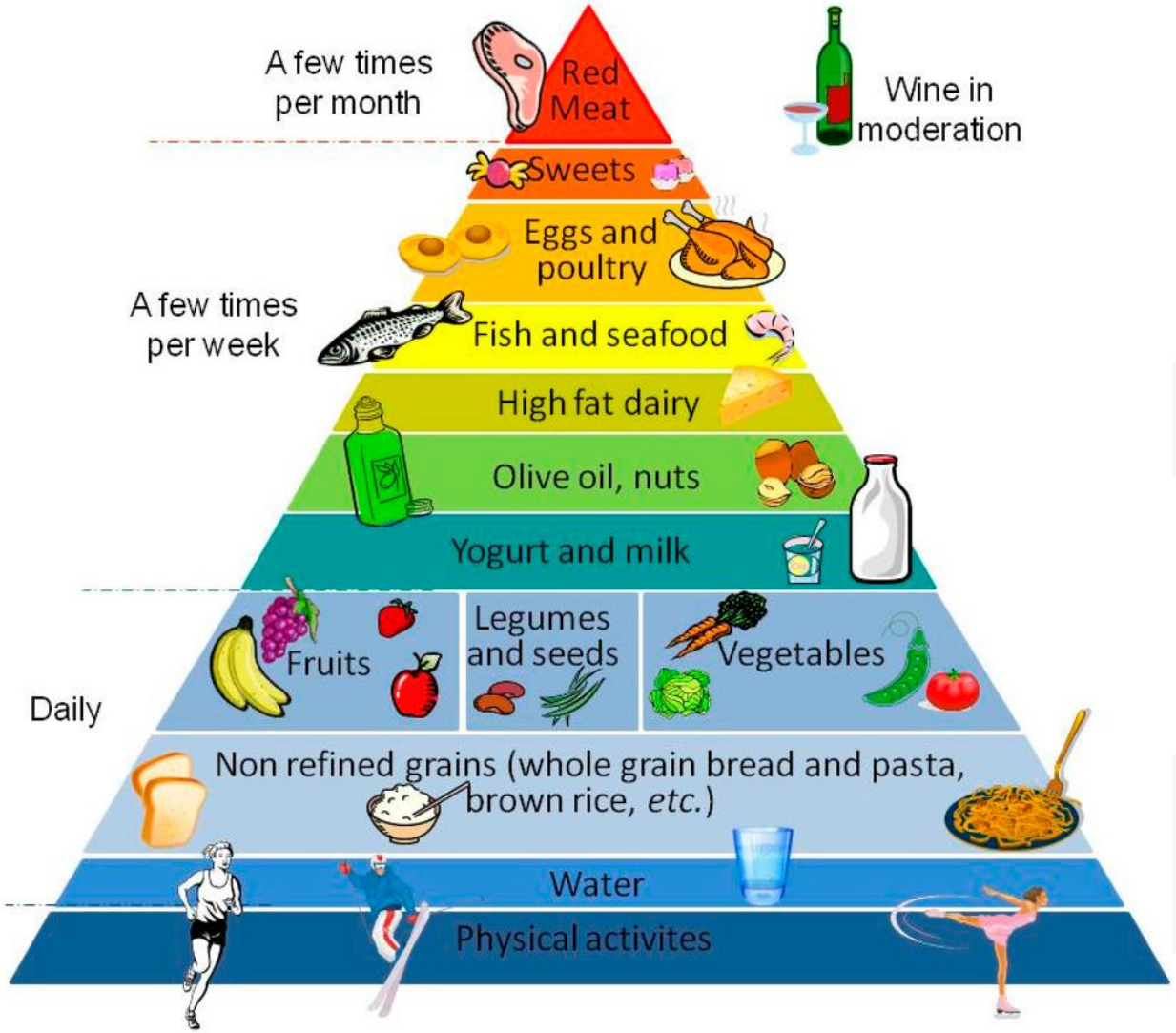
Types:

- Alternate-day fasting
  - Little or no food on fasting days
  - Followed by unrestricted intake on non-fasting days
- Modified intermittent fasting
  - 5:2
  - Five days of normal caloric intake
  - Two days (non-consecutive) of 20-25% of caloric needs
- Time-restricted eating
  - Eating within a certain time frame; 16/8 method
  - Eating between 8 am to 4 pm or 12 pm to 8 pm and fasting the other 16 hours
- Religious fasting

Intermittent Fasting

- Safety is a concern
- Not recommended for:
  - Patients with Type 1 Diabetes and Type 2 Diabetes who take insulin
  - Patients with reoccurring hypoglycemia
  - Children, older frail adults
  - Pregnant, breastfeeding women
  - Patients with disordered eating

Mediterranean Diet



Mediterranean Diet

- Practical tips to share with patients.
  - Add a serving of vegetable or fruit to a meal.
  - Eat one meatless dinner per week.
  - Substitute a vegetable or salad instead of white rolls or fries when dining out.
  - Incorporate healthy fats (ex: avocado, nuts, olive oil) in meals.
  - Choose fruit in small portions to satisfy a sweet tooth.

- Important that patients continue to recognize carbohydrate foods and appropriate serving sizes.
- May need to check blood glucose more often after starting a new eating plan.

Vegetarian and Vegan

- Educating patient on alternative food sources that contain protein
  - Plant-based options typically have more carbohydrates
  - Try to still include a balanced plate

Other Lifestyle Behaviors

- Exercise
  - Assists with weight management, improves blood sugars
  - Set realistic exercise goals with patient
    - Include shorter times of activity to reach 30 minutes, 5 times per week
      - 3 times a day for 10 minutes
  - Reduce sedentary behavior
    - Have patients avoid sitting more than 60 minutes

Sending referrals to MPC Outpatient RDs

- In system referrals
  - Place order in patient's chart
    - Consult Diabetes/Nutrition Education
  - Staff to complete the power form found under patient's task list
  - Once completed the referral is received by our staff to call and schedule the patient

Questions

- Attendees, thank you for joining us today!



References

1. American Diabetes Association Standards of care in diabetes- 2026. 2026. Diabetes Care. standards-of-care-2026.pdf. page s89 – s102
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6. Effect of a ketogenic diet versus Mediterranean diet on glycated hemoglobin in individuals with prediabetes and type 2 diabetes mellitus: the interventional Keto-Med randomized crossover trial. Gardner CD, Landry MJ, Perelman D, et al. 2022. Am J Clin Nutr. Effect of a ketogenic diet versus Mediterranean diet on glycated hemoglobin in individuals with prediabetes and type 2 diabetes mellitus: The interventional Keto-Med randomized crossover trial - PMC. 116: 640-652.