

Carbohydrates

The Body's Main Energy Source

Edition 3

What are sources of carbohydrates?

Carbs come from fruits, vegetables, grains, honey, and table sugar. Beans, legumes, and dairy products also provide carbs although they provide a substantial amount of protein and sometimes dietary fats as well.



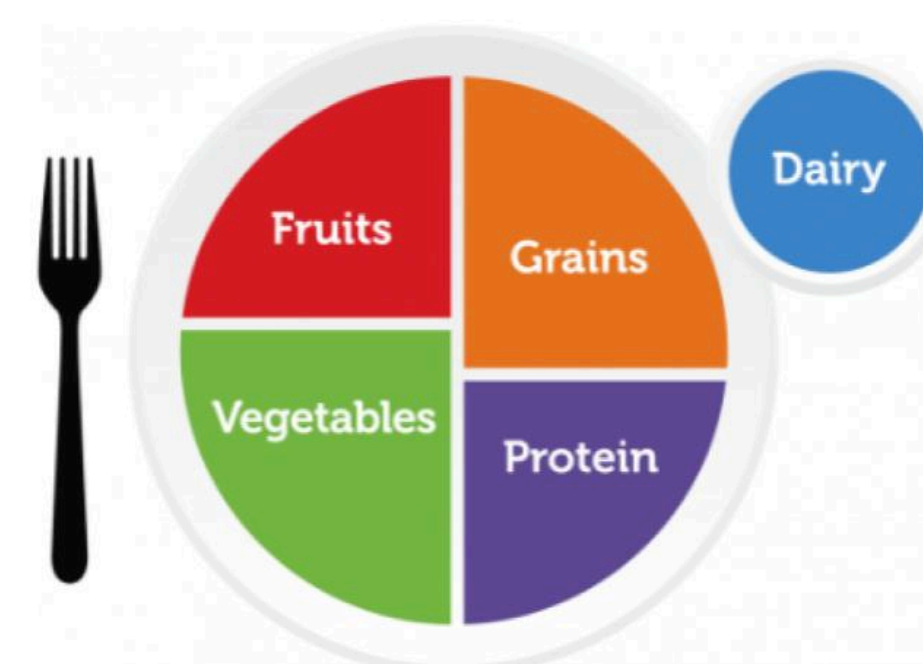
Why are carbs important?

Carbs are the body's main source of energy and the only macronutrient that can fuel the brain!



How much carbs should I consume?

Carb needs vary based on activity level and health conditions. Generally, 45-65% of your daily intake should come from carbs. Following the MyPlate guidelines helps most people get the right amount.



USDA's MyPlate

Understanding Simple & Complex Carbs

Simple Carbohydrates	Complex Carbohydrates
<ul style="list-style-type: none"> Made of 1 or 2 sugar molecules Quickly digested and absorbed Naturally found in fruits, vegetables, and milk, providing vitamins, minerals, and/or fiber <ul style="list-style-type: none"> Added sugars (found in candy, soda, and cakes) and refined carbs (like white bread and pastries) can cause blood sugar spikes and crashes when consumed in excess 	<ul style="list-style-type: none"> Made of long chains of sugar molecules Take longer to digest, providing sustained energy Rich in fiber and nutrients Found in fruits, vegetables, whole grains, beans, and legumes

Note: Some foods contain a mix of carbohydrates, along with protein and/or dietary fats.

Fiber

Fiber is a type of carbohydrates that the body can't digest or use for energy. It passes through the digestive track, helping to keep digestion regular. Fiber also helps you feel full longer and provides more sustained energy by slowing digestion.



Whole Grains

Health Benefits

Heart Health: Fiber, antioxidants and healthy fats in whole grains are known to reduce cholesterol levels and improve heart function.

Digestion: Whole grains promote gut health as they contain prebiotics that feed and grow the good bacteria in the gut. The fiber in whole grains also aids in digestion and keeps things regular.

Feelings of Fullness: The fiber in whole grains helps with satiety, keeping you full longer.

Blood Sugar Control: Both complex carbohydrates in whole grains are more slowly digested helping to stabilize blood sugar levels.

Nutrient-Rich: Whole grains are packed with nutrients like B vitamins, iron, magnesium, and antioxidants.

Reduced Risk of Certain Cancers: The fiber and antioxidants in whole grains may lower the risk of certain cancers, especially colorectal cancer.

USDA Recommendation

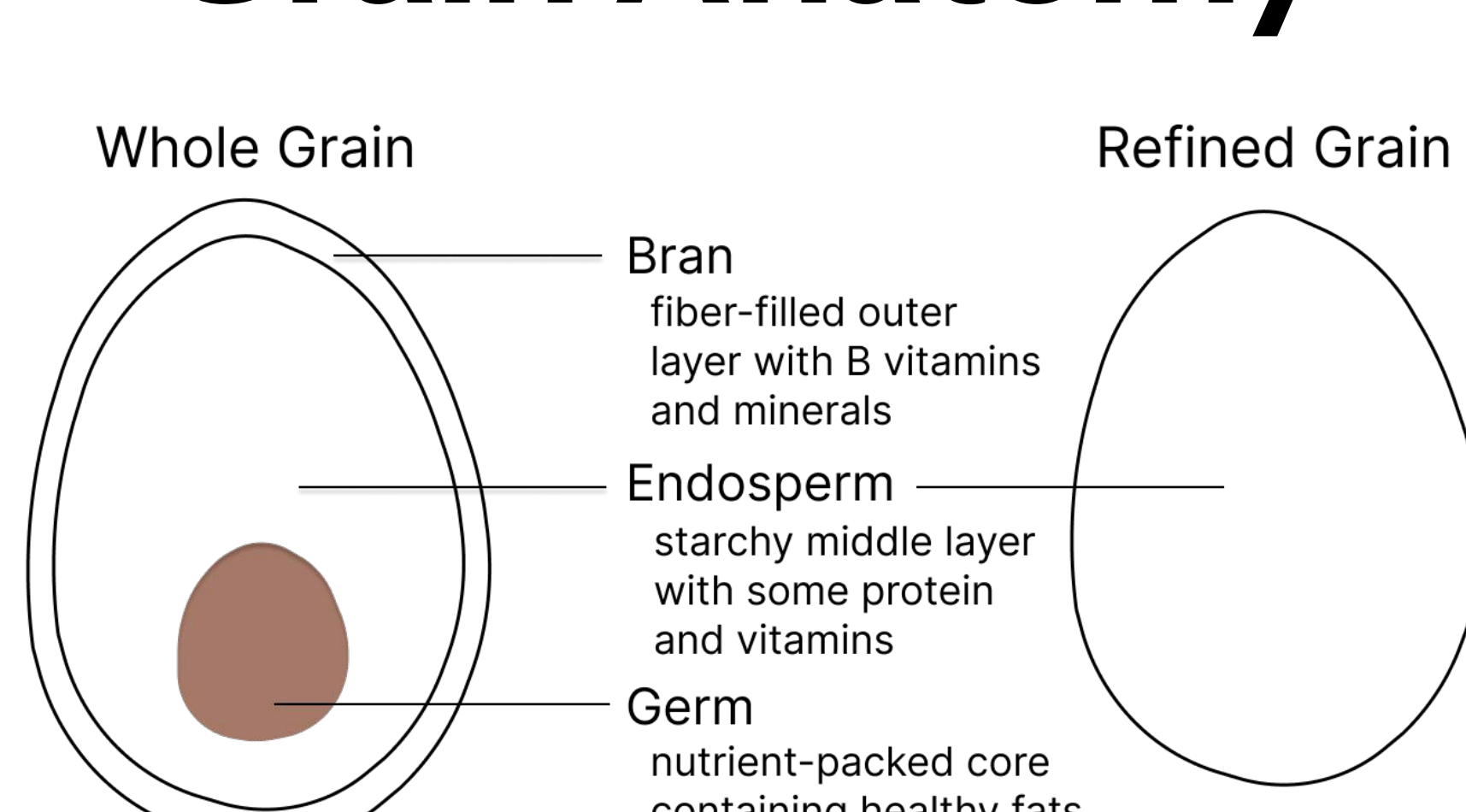
The USDA recommends that **half** of our daily grain intake come from whole grain sources.

**This means aim to make half of your grains for the day whole grains, and enjoy the other half however you like!*

Some examples of whole grains are:

- Quinoa
- Brown rice
- Whole grain bread
- Popcorn
- Oats
- Farro

Grain Anatomy



Whole grains contain all three layers—the bran, the germ and the endosperm

Refinement

During refining, the bran and germ are removed, leaving only the endosperm. This strips away the fiber, healthy fats, and some vitamins and minerals.

The refining process improves texture and extends shelf life. While both whole and refined grains provide energy and are beneficial, whole grains offer more nutrients.

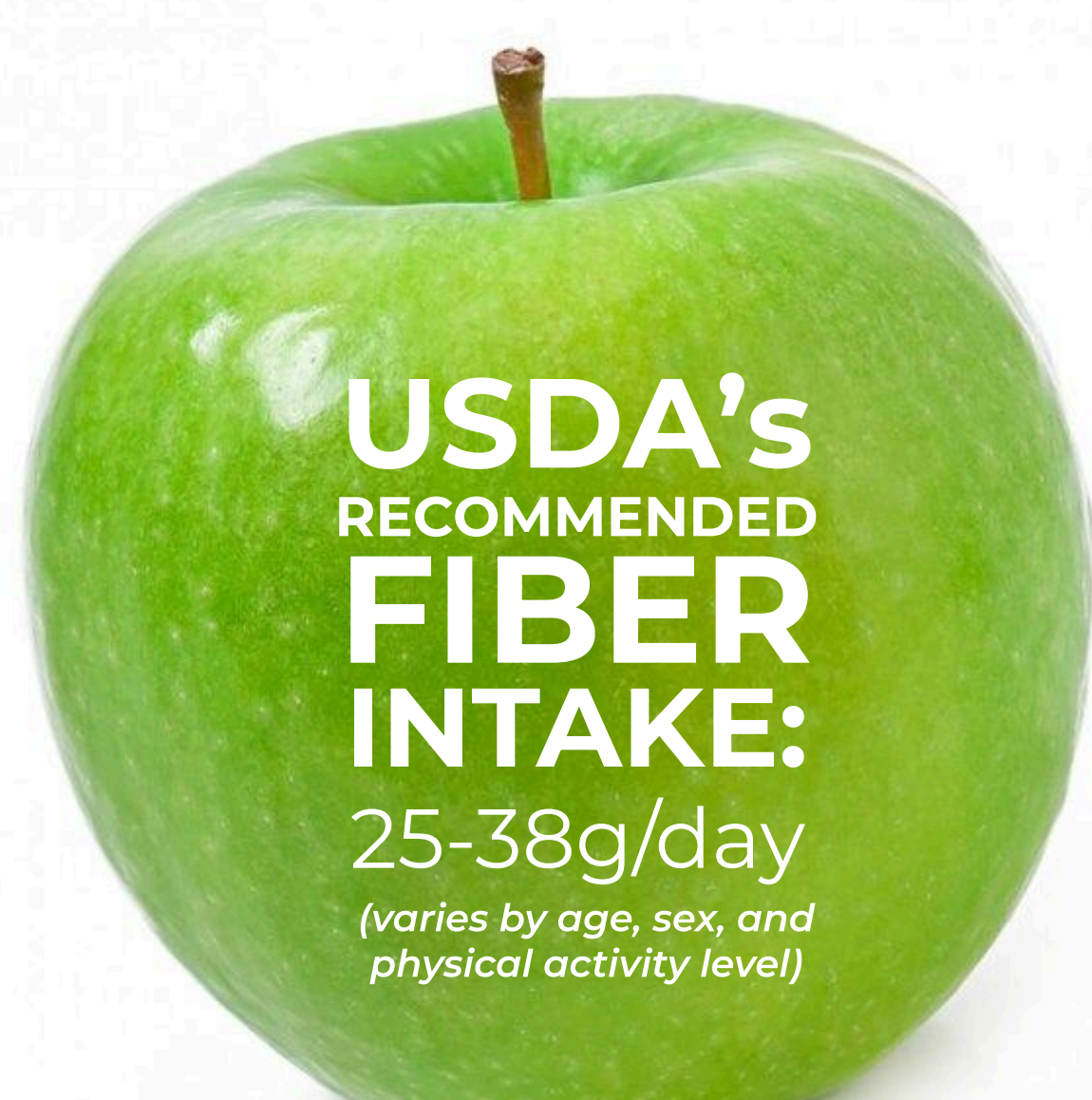
Fiber Sources Include:

- Whole grains
- Fruits
- Vegetables
- Nuts & seeds
- Beans & legumes

Ways to Incorporate Whole Grains on Campus:

- Choose whole grain bread for sandwiches and panini's
- Build a grain bowl with quinoa, farro or brown rice
- Enjoy oatmeal or overnight oats for breakfast
- Pick brown rice at homestyle station when available
- Snack on popcorn available at the Emporium
- Select breakfast cereals that contain whole grains (e.g., Chex, Cheerios, Kix, Corn Flakes, Lucky Charms)

When choosing whole grains, opt for options that best fit your dietary preferences, cultural tastes, and lifestyle.



A Fiber-Filled Sample Day

Meal	Food
Breakfast	Overnight oats, banana
Lunch	Quinoa chickpea salad
Dinner	Grilled chicken, broccoli, brown rice
Snacks	Apple and peanut butter Tortilla chips and guacamole

Designed as a guide for fiber, not a full meal plan or diet prescription

Source: Beshgetoor et al., (2012). Wardlaw's perspectives in nutrition. McGraw-Hill Education.