Diabetes Care and Education
a dietetic practice group of the American Dietetic Association

Memorandum

TO: Diabetes Care and Education Dietetic Practice Group (DCE DPG) members

FROM: Molly Gee, Med, RD, LD
DCE Chair 2010-2011
Jill Weisenberger, MS, RD, CDE
DCE Publications Committee Chair 2010-2011

DATE: October 8, 2010

TOPIC: Reproduction of the educational handouts, *Healthful Eating with Whole Grains* and *Whole Grains with Carb Counting*

Two new educational handouts are now available on the DCE website (www.dce.org): *Healthful Eating with Whole Grains* — and its expanded companion, *Whole Grains with Carb Counting*, which features an additional section dedicated to carb counting. Both handouts were developed by the DCE DPG; authored by Jan Kincaid Rystrom, MEd RD, CDE, Chavanne B. Hanson, MPH, RD, CDE and Johanna Burani, MS, RD, CDE; and generously sponsored by Lean Cuisine®. These handouts may be reproduced for educational purposes only through the end of 2013 with credit granted to DCE. Reproduction for sales purposes is not authorized. Please check the DCE website or contact the DCE publications chair for the status of these educational handouts after the expiration date.

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Whole Grains with Carb Counting

Can you name any whole grains? More importantly, do you know if you are eating enough of them? While research continues to stress the benefits of eating whole grains, the average American eats only one serving per day. Unfortunately, that's at least two servings short of the Dietary Guidelines recommendation.

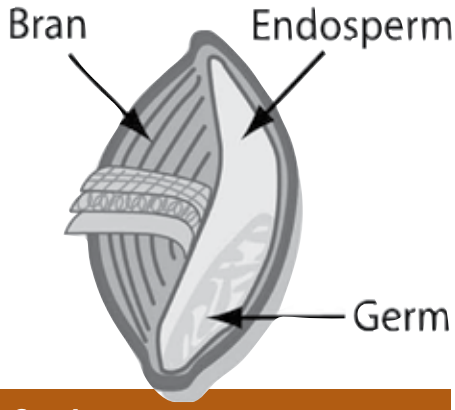
What are whole grains?

Whole grains contain all three parts of the entire grain seed (kernel) and their naturally occurring nutrients.

1. Bran — The outer shell of the grain that acts as a barrier to protect the germ from all external elements, including digestive enzymes, is the **bran**. Filled with fiber, several B vitamins and minerals, this layer is often removed during the manufacturing of refined grains like white bread.
2. Endosperm — Inside the grain, the **endosperm** contains carbohydrates, protein and B vitamins and serves as the food source for the germ (seed).
3. Germ — Rich in unsaturated fat, vitamin E, some B vitamins, phytochemicals and antioxidants, the **germ** is the inner core or the seed of a new plant.

How do you know if a food is whole grain?

- Read product labels and watch for these ingredients: 100% whole wheat, oats, brown or wild rice, whole-grain corn and hulled barley.
- Check the ingredient list. If you see "whole" in the first ingredient (*whole* wheat, *whole* oats, *whole* rye), it is whole grain.
- Use caution when reading nutrition labels, as the phrases "100% wheat," "multi-grain," "stone-ground" and "enriched" do not necessarily mean whole grain.
- Look for breads, crackers and ready-to-eat cereals that appear dense, have small pieces of whole grain visible and feel heavy, as these foods likely were made with whole grain.



Know your grains!

Whole	Refined
Brown rice (including instant); wild rice	White rice
Whole cornmeal	Corn flakes; de-germinated cornmeal
Whole wheat flour	"Enriched" flour (used in breads, pasta, crackers, baked goods); wheat germ; wheat bran
Oats (whole, steel cut, rolled, quick, instant)	Oat grits; oat bran
Popcorn	Pretzels
100% whole-wheat or 100% whole-grain or whole rye bread	White bread made with "enriched" wheat flour
100% whole-grain or whole rye crackers	Crackers made with "enriched" wheat flour
Whole wheat pasta	"Enriched" wheat or semolina pasta

How much whole grain should you eat?

According to the *Dietary Guidelines for Americans:*

- Eat three or more one-ounce servings of whole-grain products every day.
- Aim to have at least half of the grains you eat as whole grains.
- Be certain the amount you eat is consistent with your meal plan.

The USDA Food Guide Pyramid defines a one-ounce serving of grains as follows:

- 1 slice of whole-grain bread
- ½ cup cooked brown or wild rice
- ½ cup cooked whole-grain pasta
- ¾–1 cup ready-to-eat cereal made from whole-grain ingredients (e.g., oats)
- ½ 100% whole-wheat hamburger bun or English muffin

How do whole grains benefit you?

Whole grains are less processed than refined grain products, so essential nutrients (vitamins, minerals, fiber) are not removed during the manufacturing process. Review the grams of dietary fiber listed under "total carbohydrate" on the Nutrition Facts label. Try to choose whole-grain products with 3 or more grams of fiber per serving. In addition to providing important nutrients, whole grains:

- Add texture and flavor to foods
- Are more slowly digested by the body, which may keep you feeling fuller longer and help you manage your weight
- May help normalize blood glucose levels and lower blood cholesterol

Menu ideas for adding whole grains to meals

Breakfast	Lunch	Dinner	Snacks
Oatmeal	Beef barley soup and whole-grain crackers	Whole-wheat pasta primavera with chicken, beef or shrimp	Oatmeal cookies or muffins
High-fiber, ready-to-eat cereals	Sandwich made with 100% whole- wheat or rye bread	Whole-wheat couscous with grilled lamb or beef and vegetable kebobs	Pizza made with mini 100% whole-wheat pita
100% whole-wheat or rye toast	Frozen meals containing wild rice or corn	Chicken, beef or vegetable fajitas made with whole cornmeal tortillas	Whole-grain and dried fruit snack bars
Whole-grain bagel or muffin	Brown or wild rice with chicken, beef or vegetable stir-fry	Corn-on-the-cob with grilled chicken breast and steamed vegetables	Baked 100% whole-wheat pita chips and low-salt salsa
Buckwheat pancakes	Cold whole wheat pasta and tuna salad	Quinoa pilaf with scallops and roasted vegetables	Popcorn
Frozen, whole-grain waffles	Pizza made with whole-grain crust	Steamed kasha with mushroom omelet and green salad	Whole-grain pretzels

For more information on balanced meal planning with whole grains, go to www.MyPyramid.gov.
Visit these websites to learn more about whole grains: www.wholegrainscouncil.org and www.wheatfoods.org.

How to count whole grains for optimal glucose control:

The carbohydrates in whole-grain foods are included in the total amount of carbohydrates consumed in a meal or snack. However, the fiber portion of the whole grain does not elevate blood glucose as much as refined carbohydrate foods. To account for this, if a food contains five or more grams of dietary fiber per serving, subtract half of the grams of fiber from the total grams of carbohydrate in that serving. This gives you the number of grams of carbohydrate ("choices") you will consider for that portion of that food.

Example: A particular whole grain contains 33 grams of total carbohydrate and 6 grams of dietary fiber:

33 grams	–	3 grams	=	30 grams total carbohydrate
(total carbohydrate)		(half amount dietary fiber)		(2 carbohydrate choices)

Check your blood glucose before eating and two hours after to see the effect the whole grain you have just eaten has on your blood glucose levels.

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For more information contact the American Dietetic Association at www.eatright.org.