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Grain Consumption by Americans

Nutrition Insight 32

According to the 2005 Dietary Guidelines for Americans:

Consuming at least 3 or more ounce-equivalents of whole grains per day can reduce the risk of several chronic diseases and may help with weight maintenance. Thus, daily intake of at least 3 ounce-equivalents of whole grains per day is recommended by substituting whole grains for refined grains. However, because three servings may be difficult for younger children to achieve, it is recommended that they increase whole grains into their diets as they grow. At all calorie levels, all age groups should consume at least half the grains as whole grains to achieve the fiber recommendation.

Given the importance of whole grains in the diet, this *Nutrition Insight* examines the role of total grains, with particular attention on whole grains, in the diet more closely.

Data Used

The Federal Government's National Health and Nutrition Examination Survey (NHANES) provides information on people's consumption of foods and nutrients, as well as extensive health-related data, and information about Americans' demographic and socioeconomic characteristics. NHANES data for 1999-2002—the most recent data available—were used for this Insight.

For the 1999-2002 NHANES, individuals' dietary intakes were collected for 1 day. Prior research has indicated that food intake data based on 1-day dietary recall are reliable measures of usual intakes of population groups. Data were collected through an in-person interview by using the 24-hour dietary recall method. Information about dietary intake for individuals 12 years of age and older was self-reported.

NHANES 1999-2002 is a complex, multistage probability sample of the civilian noninstitutionalized population of the United States. Individuals of all ages were sampled. The NHANES 1999-2002 sample includes expanded samples of some population subgroups such as Mexican Americans, African Americans, adolescents age 12 to 19, and adults age 60 and older. Statistical weights were used to make the sample representative of the U.S. population. For this Insight,

only people age 12 and over were included in the sample. The final analytical sample size was 13,904 people.

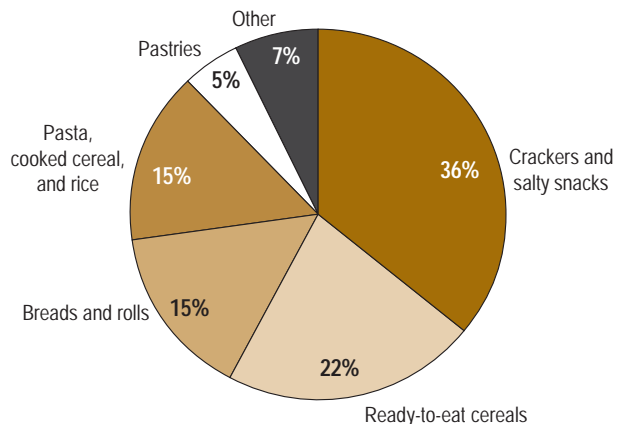
Sources of Whole Grains and When Consumed

People can eat whole grains in many forms. Whole grains may be consumed when one eats a whole grain cereal at breakfast, consumes a slice of pizza for lunch (provided it is a whole grain crust), snacks on popcorn, or eats whole grain bread or brown rice at dinner.

Most individuals consume their grains as refined grains. Of total grain servings consumed, only 11 percent is from whole grains, far less than the recent recommendation that at least half of grain consumption should come from whole grains. Of this 11 percent from whole grains, 36 percent came from crackers and salty snacks; 22 percent from ready-to-eat cereals; 15 percent from bread and rolls; another 15 percent from pasta, cooked cereals, and rice; 5 percent from cakes, cookies, pies, and pastries; and 7 percent from other sources, such as pancakes and grain mixtures (fig. 1).

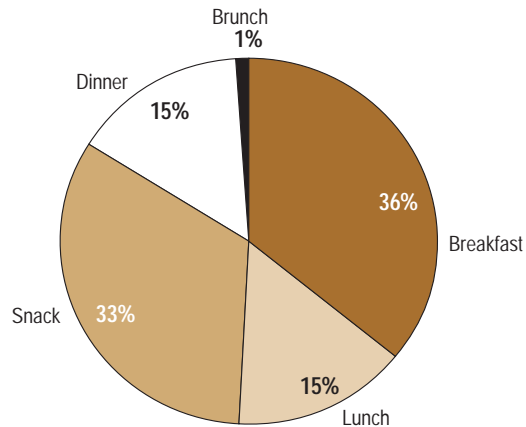
When do people consume whole grains? Thirty-six percent of total whole grain servings consumed are at breakfast. This

Figure 1. Sources of whole grain consumption



is not surprising given the wide variety of whole grain cereals available in supermarkets today. Snacks account for one-third of whole grain consumption. Again, this is not surprising given the wide variety of whole grain snacks available today, such as whole wheat crackers and probably the most popular of all—popcorn. Lunch and dinner each account for 15 percent of whole grain consumption. This was likely in the form of bread for a sandwich and bread, rice, or pasta at dinner (fig. 2).

Figure 2. When People Consume Whole Grains



Meeting the Grain Recommendation

Although the most recent Dietary Guidelines were issued in 2005, it would be interesting to see how Americans during the 1999-2002 period did in terms of these guidelines. The Guidelines recommend 3 to 10 1-ounce-equivalents of grain per day, with at least half being whole grains; higher recommendations are for people with higher caloric needs, such as teenage boys and younger men. As table 1 shows, Americans have a long way to go to meet these guidelines, especially in terms of whole grain consumption. Thirty-five percent of people age 12 and over met the total grain recommendation; only 4 percent met the whole grain recommendation. People of mixed race and other races, such as Asian or American Indian descent, were more likely to meet the grain consumption recommendation than other racial/ethnic groups. Forty-six percent of people of mixed or other race met the total grain recommendation and 5 percent met the whole grain recommendation. For non-Hispanic Blacks, 27 percent met the total grain recommendation and 3 percent met the whole grain recommendation.

Females were more likely than males to meet the recommendations. Thirty-six percent of females met the total grain recommendation, compared with 33 percent of males; 5 percent of females met the whole grain recommendation, compared with 3 percent of males. People age 12 to 18 were more likely to meet the total grain recommendation than people age 51 and over (39 vs. 34 percent), but were less likely to meet the whole grain recommendation (3 vs. 6 percent).

Table 1. Percent meeting grain recommendation

Characteristic	Meet total grain recommendation	Meet whole grain recommendation
	<i>Percent</i>	
All	34.6	4.1
Race/ethnicity*		
Non-Hispanic White	34.5	4.4
Non-Hispanic Black	26.5	3.1
Hispanic	38.6	3.1
Mixed and other	46.1	5.0
Sex*		
Female	36.2	4.8
Male	33.0	3.4
Age*		
12-18	39.1	3.4
19-50	33.8	3.0
51 +	34.3	6.1

*Variables in terms of meeting requirement statistically significant at .05 level

Summary

Most grain consumption by Americans is in nonwhole grain form and people consume grains throughout the day. Looking at 1999-2002 data, most people do not meet the 2005 Dietary Guidelines recommendations for total and whole grain consumption. As the food industry addresses the whole grain availability issue in the marketplace and as nutrition education messages reach consumers, we will continue to monitor whole grain consumption.

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