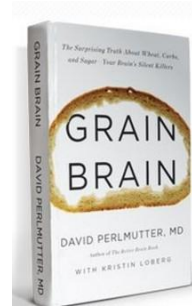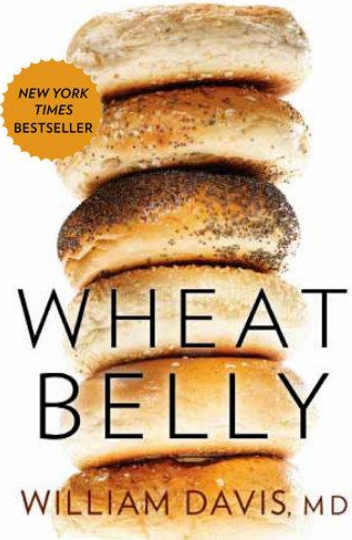# Myths and Realities Involving Grain Food Consumption
What Does the Scientific Evidence Say?

Yanni Papanikolaou, PhDc, MHSc

Joint 2018 CWFHB and CWS Conference, Winnipeg, MB

Current environment leaving many to think enriched grains and/or all grains are not part of a healthy diet…but where is the evidence?
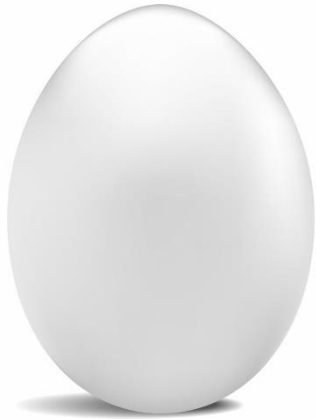
What lessons can we learn from the past? These foods were once considered to be unhealthy?

2015-2020
Dietary Guidelines
no longer include a
limit on cholesterol

_____
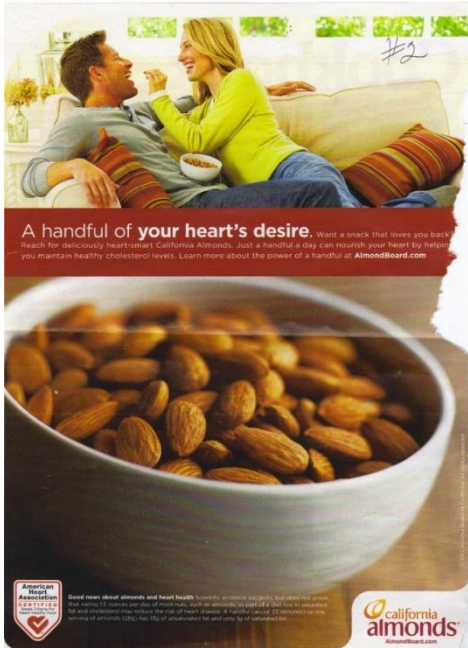
Eggs are included
in the
recommended
dietary patterns
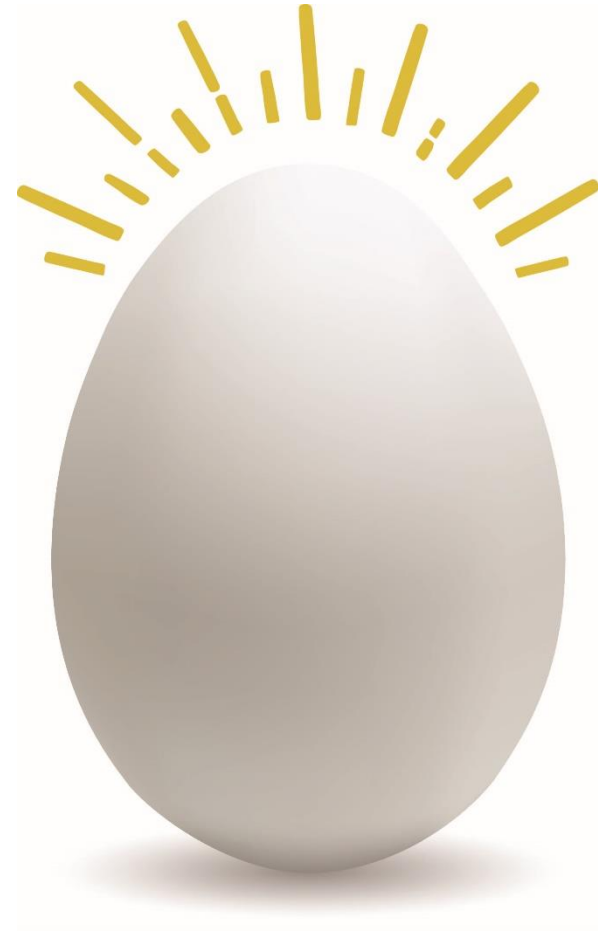
We once believed nuts made us fat!

Dairy also had a bad reputation, until….

2015-2020 Dietary Guidelines: Dairy products included in all 3 recommended dietary patterns

So let's talk about grains and how they fit into the diet…

Rationale for conducting grains research in American kids and adults….
is this needed and does it fill a gap in the literature and advance public health?

7 studies completed to date
5 have been published in peer-review journals

How do American adults and children consume grain foods?

Are grain foods associated with overall nutrient intakes and shortfall nutrients (i.e., dietary fiber)?

Are grain food patterns of consumption linked to BMI?

Are grain food patterns linked to diet quality?

Scientific
Research
Publishing

Certain Grain Food Patterns Are Associated with Improved 2015 Dietary Guidelines Shortfall Nutrient Intakes, Diet Quality, and Lower Body Weight in US Adults: Results from the National Health and Nutrition Examination Survey, 2005-2010

Yanni Papanikolaou[1*], Victor L. Fulgoni III[2]

[1]Nutritional Strategies Inc., Paris, ON, Canada
[2]Nutrition Impact, LLC, Battle Creek, MI, USA
Email: *papanikolaou.yanni@gmail.com

Adult Study

All Grain Consumption
(Whole and
Refined/Enriched Grains)

8 Unique Grain Food Patterns Identified in US Adults, 19+ Years-Old

No Grains

Grain Patterns (whole/enriched)

Bread/Rolls

Mixed Grains

Cereals

Pasta/Cooked Cereals/Rice

Quick Breads

Cakes, Cookies, Pies

Crackers & Salty Grains
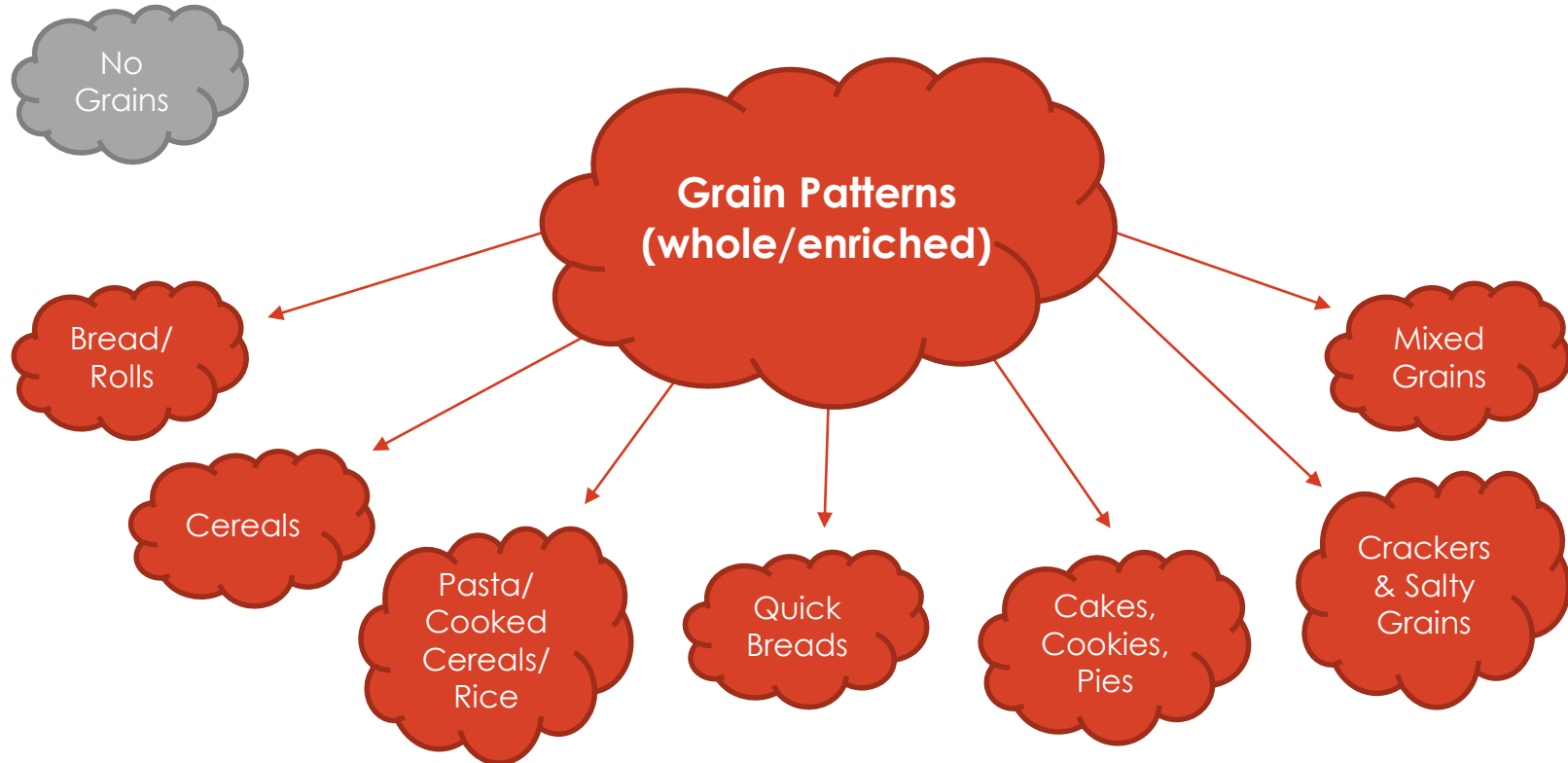
What are Adults in the *No Grains* Group Consuming?

Comparison of Energy Intake Based on Grain Clusters In Those 19+ Years
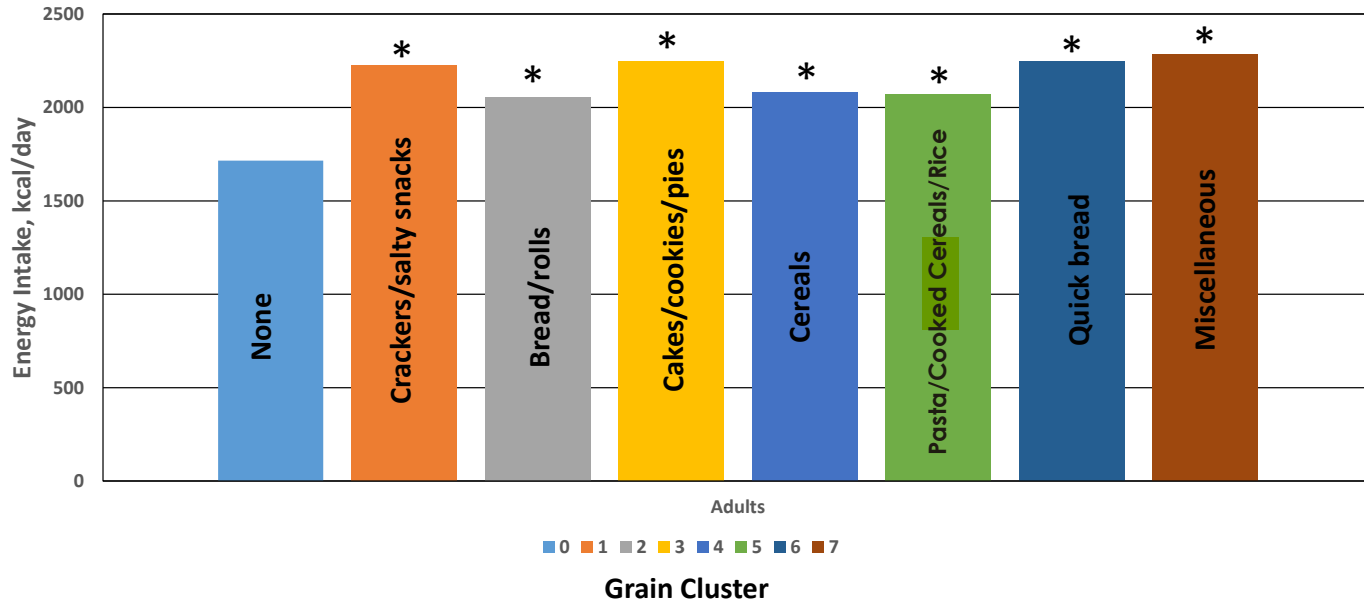
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2016 *Food and Nutrition Sciences*

Adults Consuming Enriched Grains Had Reduced Risk of Being Overweight or Obese and Smaller Waist Sizes

7.6 lbs and 1.2 inches in adults consuming pasta/cooked cereals/rice vs. no grains ($p<0.01$, vs. no grains)

27% reduced risk of being obese in adults consuming pasta/cooked cereals/rice vs. no grains ($p<0.03$ vs. no grains)

Certain Grains are Associated with a Better Diet Quality, Adults 19+ Years Old, NHANES 2005-2010
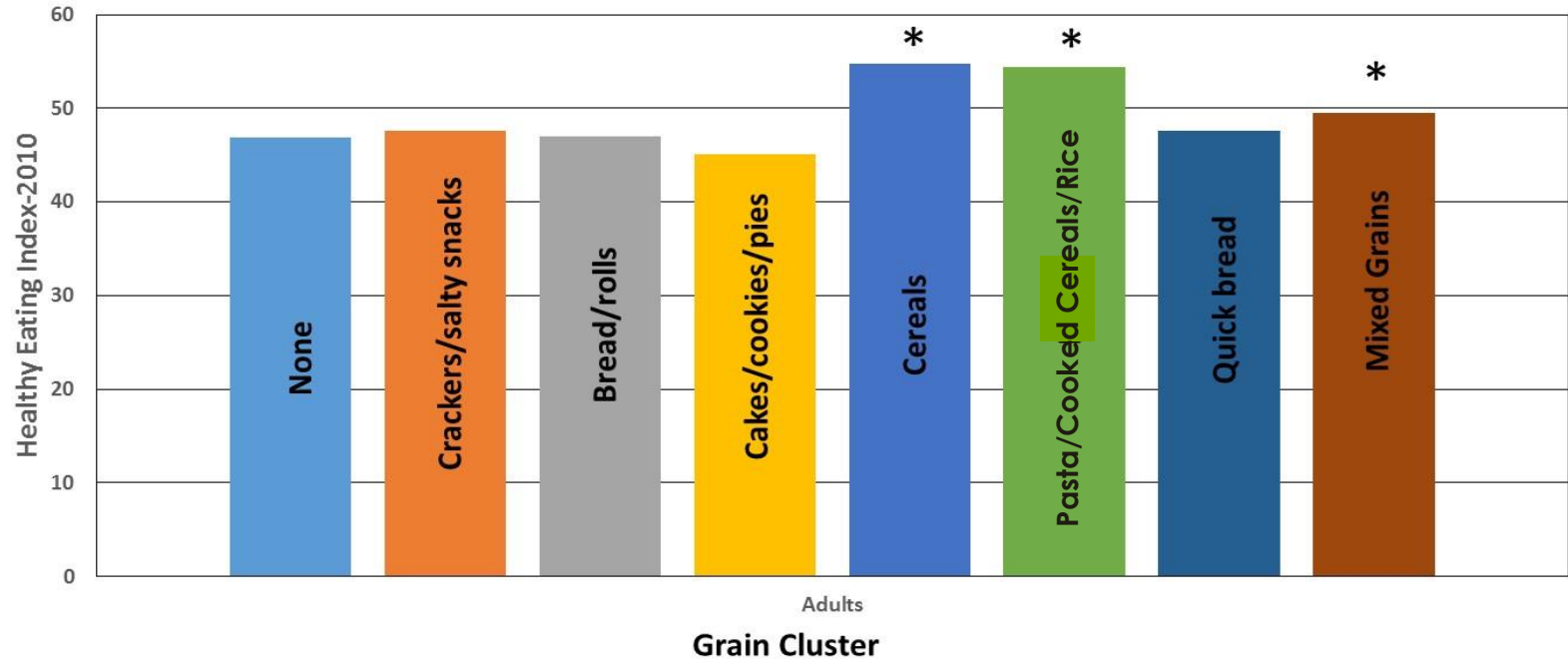
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2016 *Food and Nutrition Sciences*

Certain Grains are Associated with Higher Dietary Fiber

Comparison of Dietary Fiber Intake Based on Grain Clusters
In Those 19+ Years
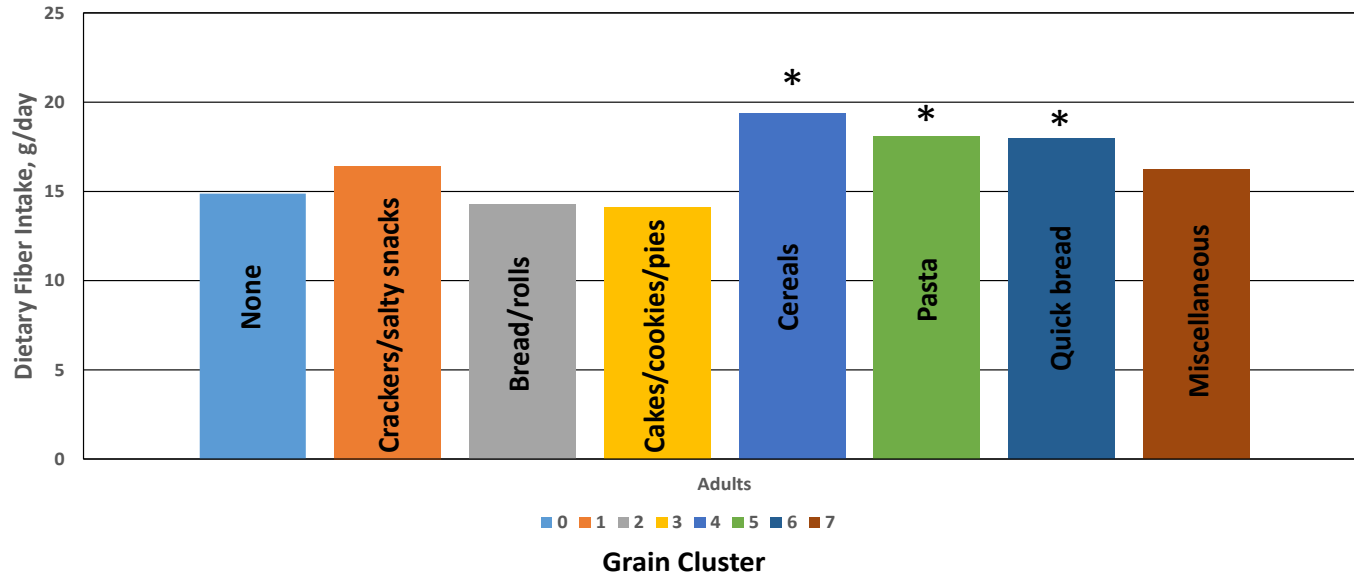
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2016 *Food and Nutrition Sciences*

Comparison of Sodium Intake Based on Grain Clusters In Those 19+ Years
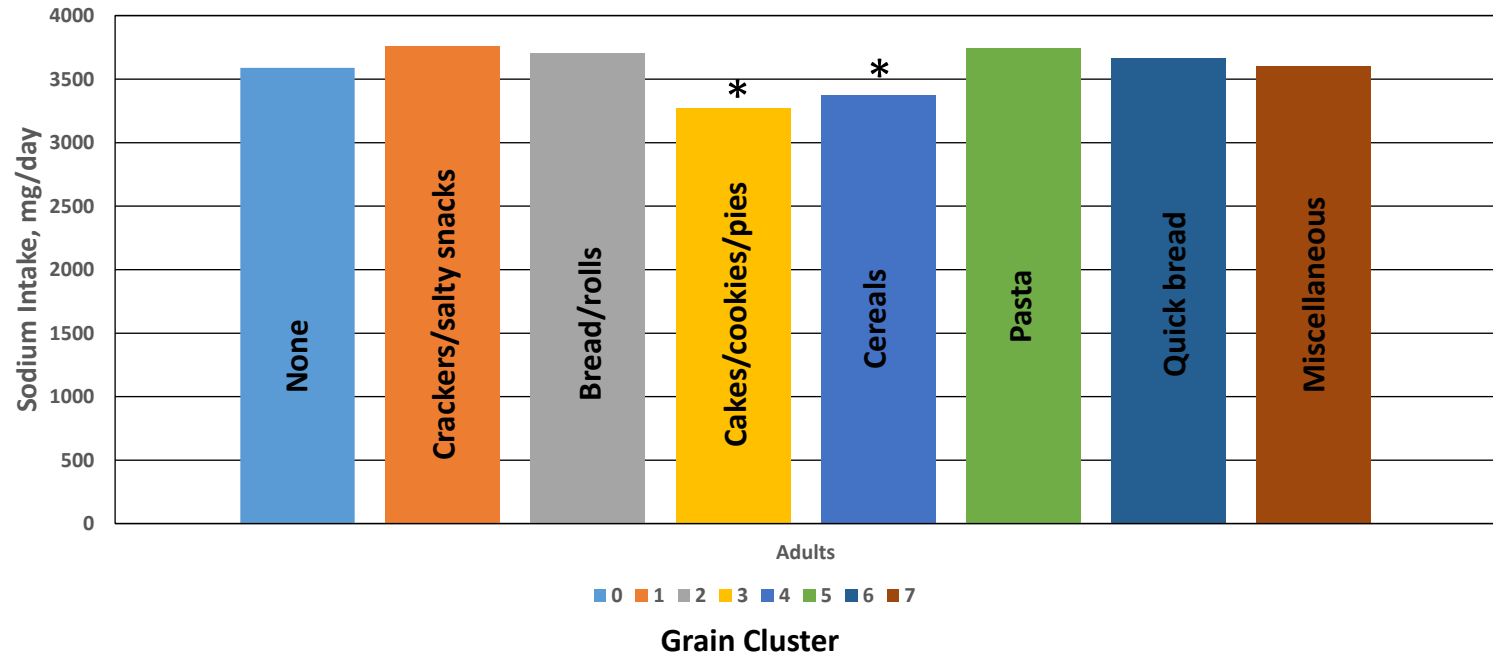
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2016 Food and Nutrition Sciences

Comparison of Folate Intake Based on Grain Clusters
In Those 19+ Years
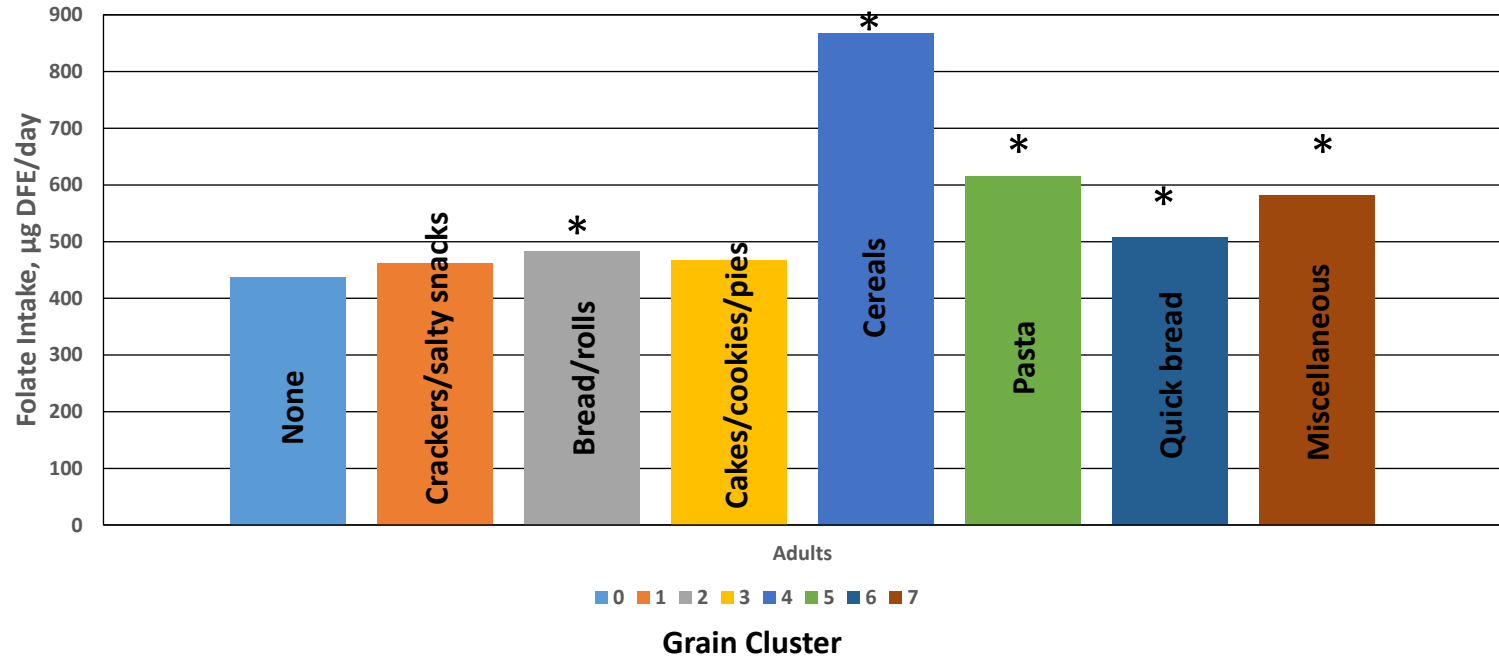
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2016 Food and Nutrition Sciences

Unintended consequences of a low carb diet…

Birth Defects Research

ORIGINAL RESEARCH ARTICLE | 🔒 Free Access |

Low carbohydrate diets may increase risk of neural tube defects

Tania A. Desrosiers ✉, Anna Maria Siega-Riz, Bridget S. Mosley, … See all authors ›

women with restricted carbohydrate intake were 30% more likely to have an infant with NTB

Comparison of Whole Grain Intake Based on Grain Clusters In Those 19+ Years
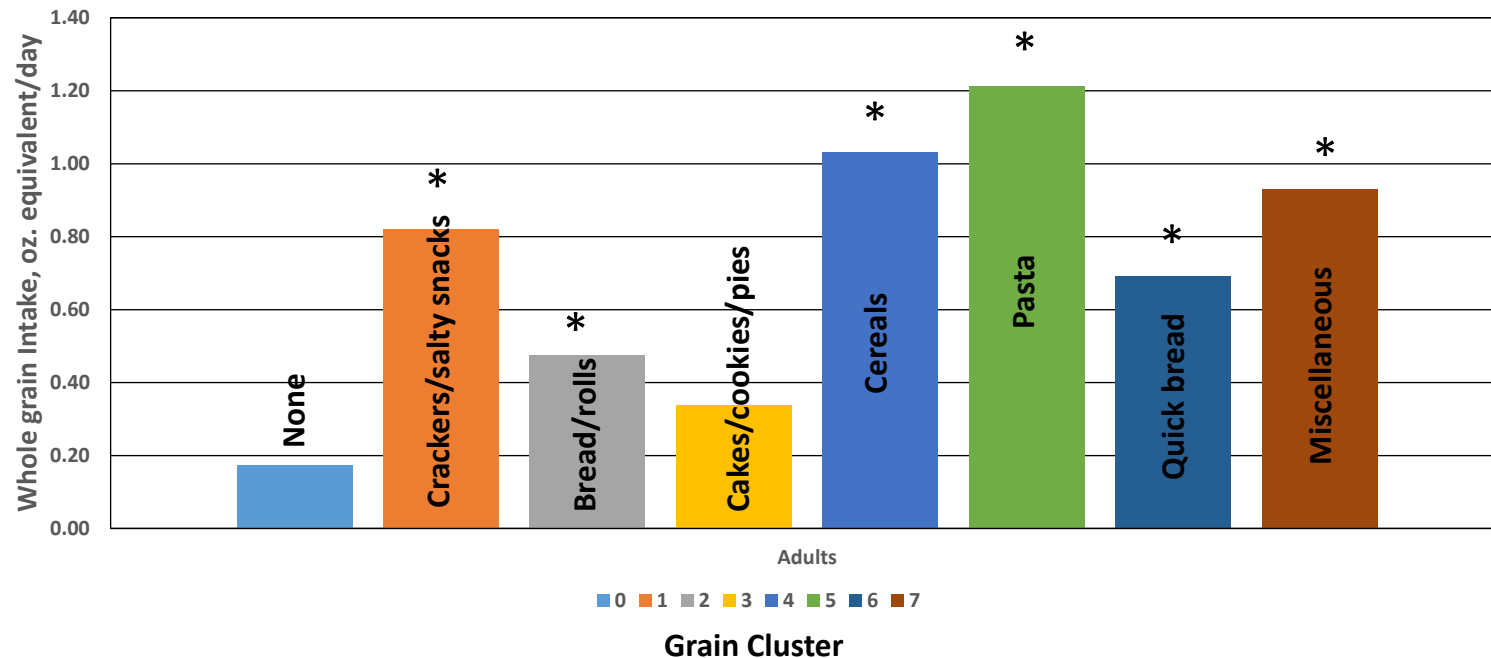
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2016 Food and Nutrition Sciences

Nutrition Journal

RESEARCH

Open Access

CrossMark

Several grain dietary patterns are associated with better diet quality and improved shortfall nutrient intakes in US children and adolescents: a study focusing on the 2015–2020 Dietary Guidelines for Americans

Yanni Papanikolaou[1*], Julie Miller Jones[2] and Victor L. Fulgoni III[3]

Abstract

Background: The present study identified the most commonly consumed grain food patterns in US child[ren and] adolescents (2–18 years-old; $N = 8,367$) relative to those not consuming grains and compared diet quality [and] nutrient intakes, with focus on 2015–2020 Dietary Guidelines for Americans (2015–2020 DGA) shortfall n[utrients.]

Methods: Cluster analysis using data from the National Health and Nutrition Examination Survey 200[9–] identified 8 unique grain food patterns: a) no consumption of main grain groups, b) cakes, cookies [and] yeast bread and rolls, d) cereals, e) pasta, cooked cereals and rice, f) crackers and salty snacks, g) p[ancakes, waffles] and French toast and other grains, and h) quick breads.

Results: Energy intake was higher for all grain cluster patterns examined, except 'cereals', com[pared to no grains.] Children and adolescents in the 'yeast bread and rolls', 'cereals', 'pasta, cooked cereals and ri[ce', and 'crackers and] salty snacks' patterns had a higher diet quality relative to no grains (all $p < 0.01$). Energy a[djusted fiber] intake was greater in five of the seven grain patterns, ranging from 1.8 – 2.8 g more pe[r day] compared to those consuming no grains. All grain patterns, except cakes, cookies an[d had higher EA] folate relative to children in the no grains pattern (all $p < 0.0001$). EA total fat was [higher in 'pasta, cooked] cereals and rice', and 'pancakes, waffles, French toast and other grains' in comp[arison to no grains] (all $p < 0.01$). EA magnesium intakes were greater in children and adolescents c[onsuming 'pasta,] cooked cereals and rice', and 'quick breads', while EA iron was higher in all g[rain patterns (all $p <$] 01). EA vitamin D intake was higher only in children consuming 'cereals' [patterns. There were no] significant differences in total or added sugar intake across all grain c[lusters.]

Conclusions: Consumption of several, but not all, grain food pa[tterns were associated] with improved 2015–2020 DGA shortfall nutrient intakes an[d diet quality.]

Keywords: NHANES, Grains, Children, Adolescents, N[utrients]

Children & Adolescent Study

8 Unique Grain Food Patterns Identified in US Children, 2-18 Years of Age

No Grains

Grain Patterns (whole/enriched)

Bread/ Rolls

Quick Breads

Cakes, Cookies, Pies

Cereals

Pasta/ Cooked Cereals/ Rice

Crackers & Salty Grains

Pancakes, Waffles, etc.
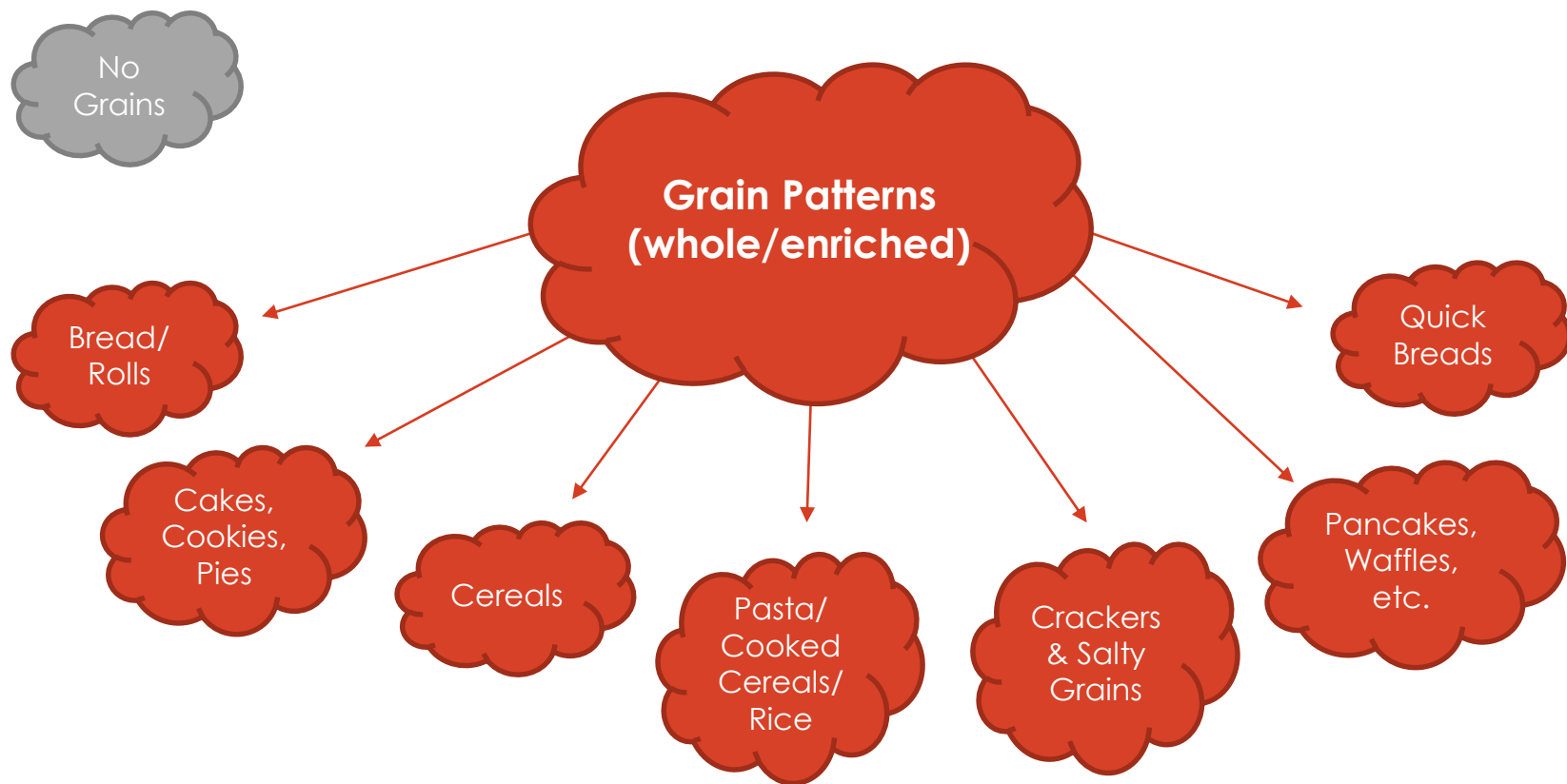
What are Children in the *No Grains* Group Consuming?

Most Grain Patterns are Associated with Greater Calories
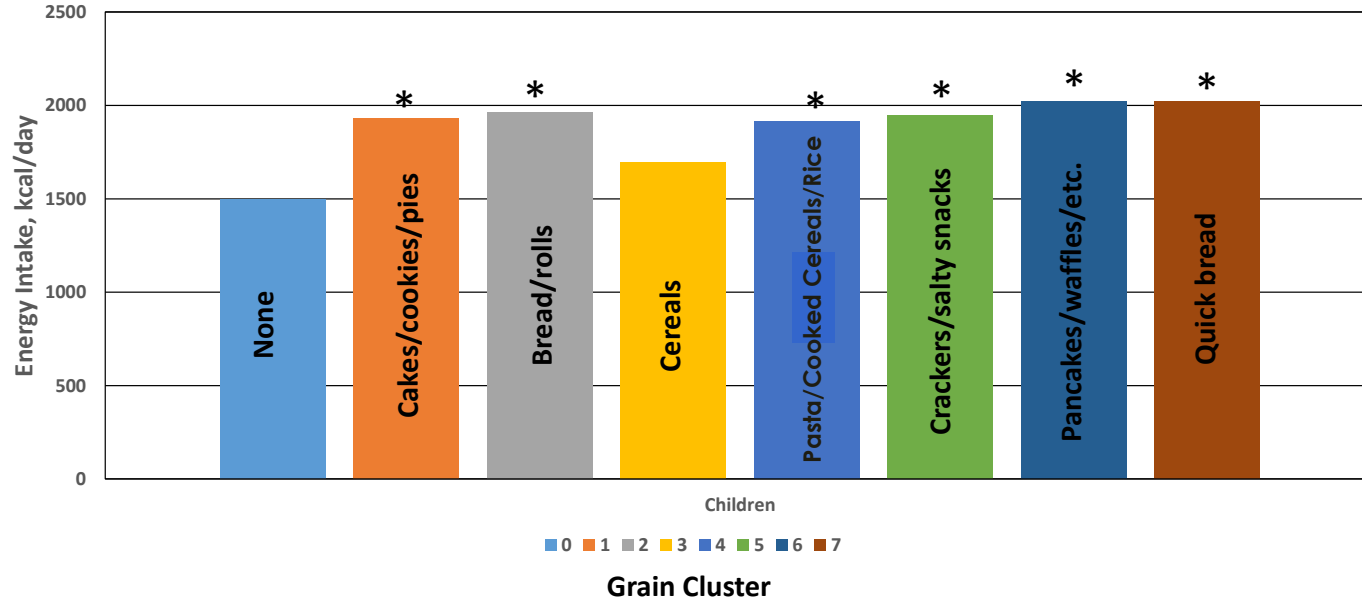
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2017, *Nutrition Journal*

Body Mass Index (BMI) Scores in Children and Adolescents

▶ Children and adolescents consuming yeast breads and rolls *had lower BMI z-scores* compared to children and adolescents not consuming grains

▶ No increases in BMI z-scores were seen with any grain pattern of consumption vs. no grains

Children Consuming Grain Patterns Tend to Have Higher Dietary Fiber Intake

Chart: Dietary fiber Intake, g/day (y-axis, 0–16) by Grain Cluster (x-axis), labeled "Children"

- None: ~11.2
- Cakes/cookies/pies: ~11.6
- Bread/rolls: ~13.0 *
- Cereals: ~13.2 *
- Pasta/Cooked Cereals/Rice: ~13.5 *
- Crackers/salty snacks: ~13.1 *
- Pancakes/waffles/etc.: ~12.3
- Quick bread: ~13.8 *

Legend: 0 1 2 3 4 5 6 7
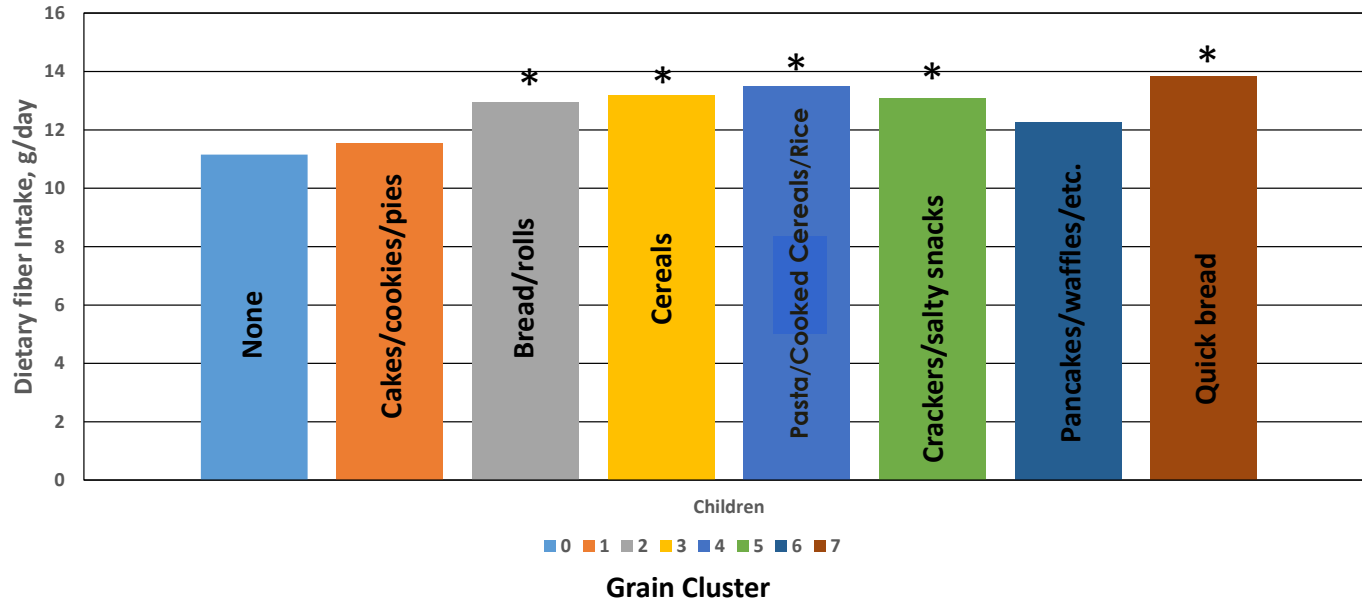
* Significantly different from None, p<0.01; Papanikolaou & Fulgoni, *2017 Nutrition Journal*

Comparison of Sodium Intake Based on Grain Clusters In Those 2-18 Years
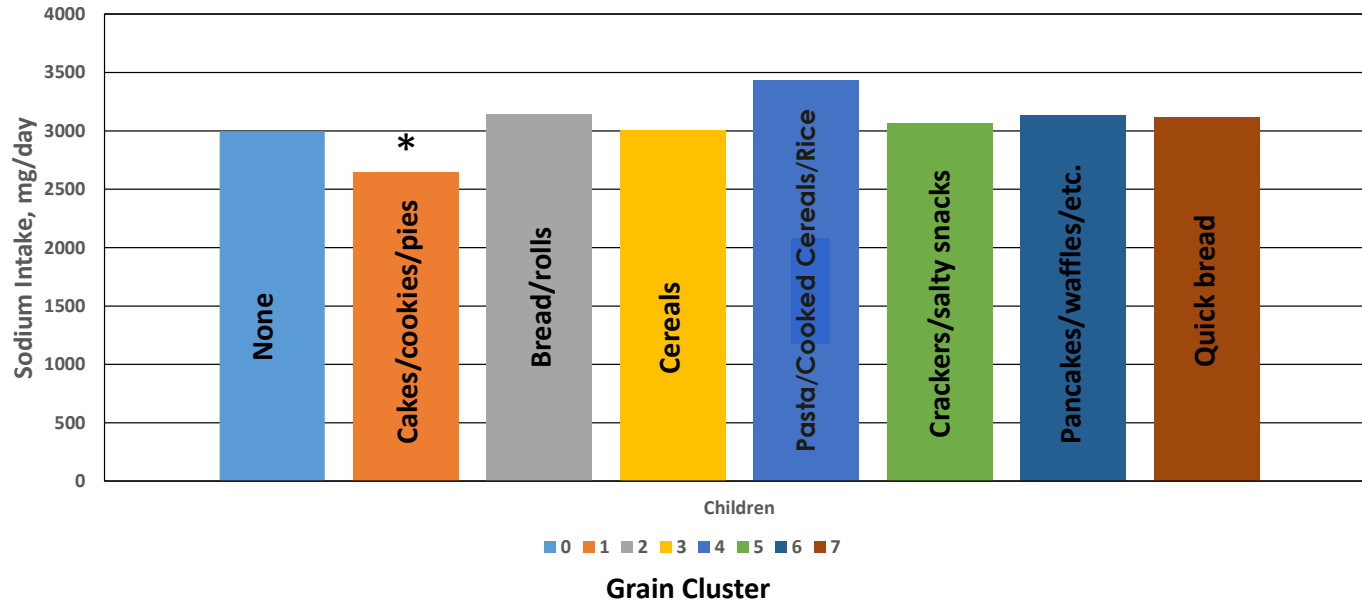
∗ Significantly different from None, p<0.01; Papanikolaou & Fulgoni, 2017, *Nutrition Journal*

BREAKING NEWS

Current study in progress…

Kids Who Include Grains in Morning Eating Patterns Get More Fiber

Morning Food Patterns
NHANES 2011-2014; Children 2-18 Years-Old; n=5,876
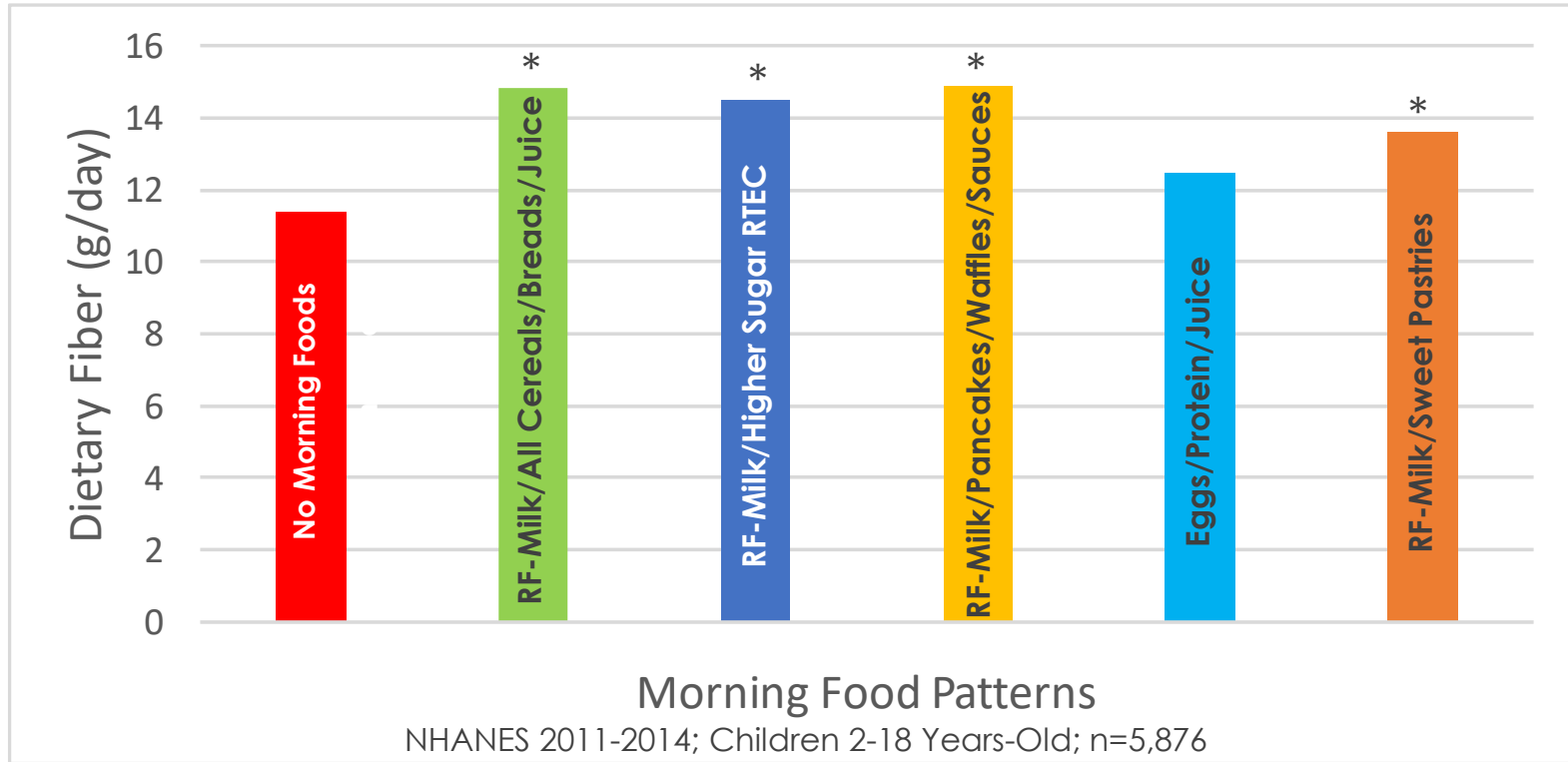
* Significantly different from No Morning Foods, p<0.0025; (unpublished data)

Kids Who Include Grains in Morning Eating Patterns Get More Fiber

Bar chart: Dietary Fiber (g/day) vs Morning Food Patterns

- No Morning Foods: ~11.4
- RF-Milk/All Cereals/Breads/Juice: ~14.8 *
- RF-Milk/Higher Sugar RTEC: ~14.5 *
- RF-Milk/Pancakes/Waffles/Sauces: ~14.9 *
- Eggs/Protein/Juice: ~12.5
- RF-Milk/Sweet Pastries: ~13.6 *

-4.1lbs

Morning Food Patterns
NHANES 2011-2014; Children 2-18 Years-Old; n=5,876
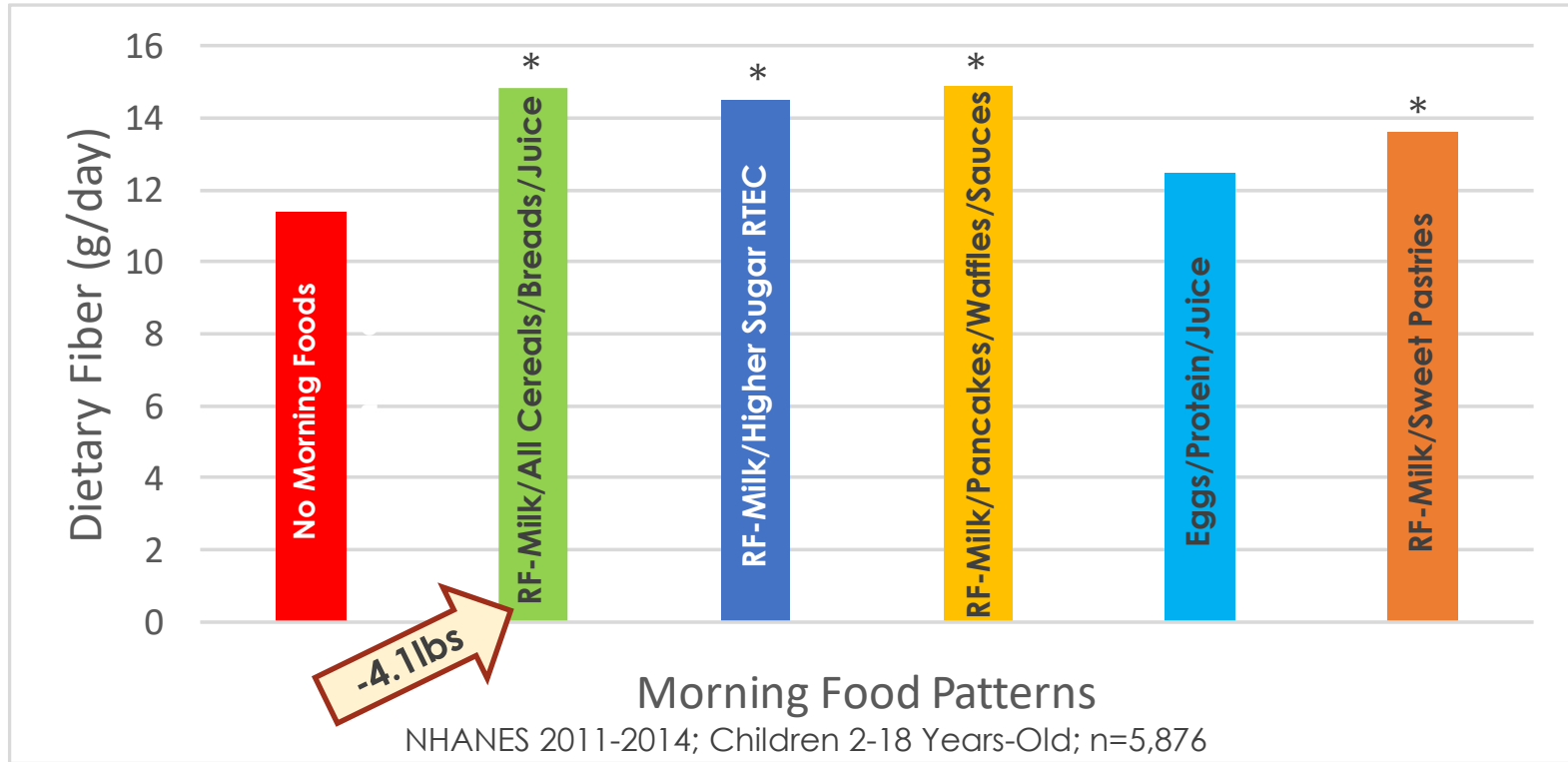
* Significantly different from No Morning Foods, p<0.0025; (unpublished data)

Conclusions

- Encouraging certain grain food patterns in the diet of US children and adults, **including selecting a mix of enriched and fortified grains is linked to increased nutrient intakes**, including several shortfall nutrients

- Several grain food patterns are linked to a **better diet quality in kids and adults**

- As we have shown that grain foods can be nutrient-dense foods, **eliminating grains from the US diet may lead to nutrient intake and health conseq**uences.
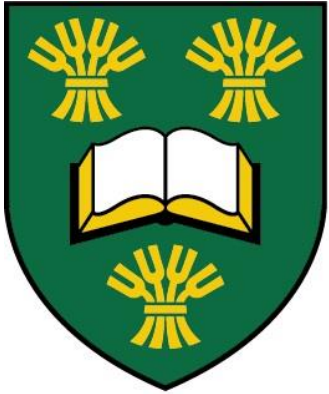
Objectives of the Canadian Study

- To determine daily energy and nutrient contribution from all grain products and sub-categories of grains (i.e., breads, ready-to-eat cereals, etc.) in the Canadian diet of children and adults.

- To identify patterns of grain consumption and compare nutrient intakes and weight-related variables relative to no main gain foods intake, among Canadian children and adults.

All Grain Foods Provide Nutrient Density in the Canadian Adult Diet

For 25% of daily calories, grains (whole and enriched) provide 45% of folate, 41% of iron and 35% of fiber in the total diet
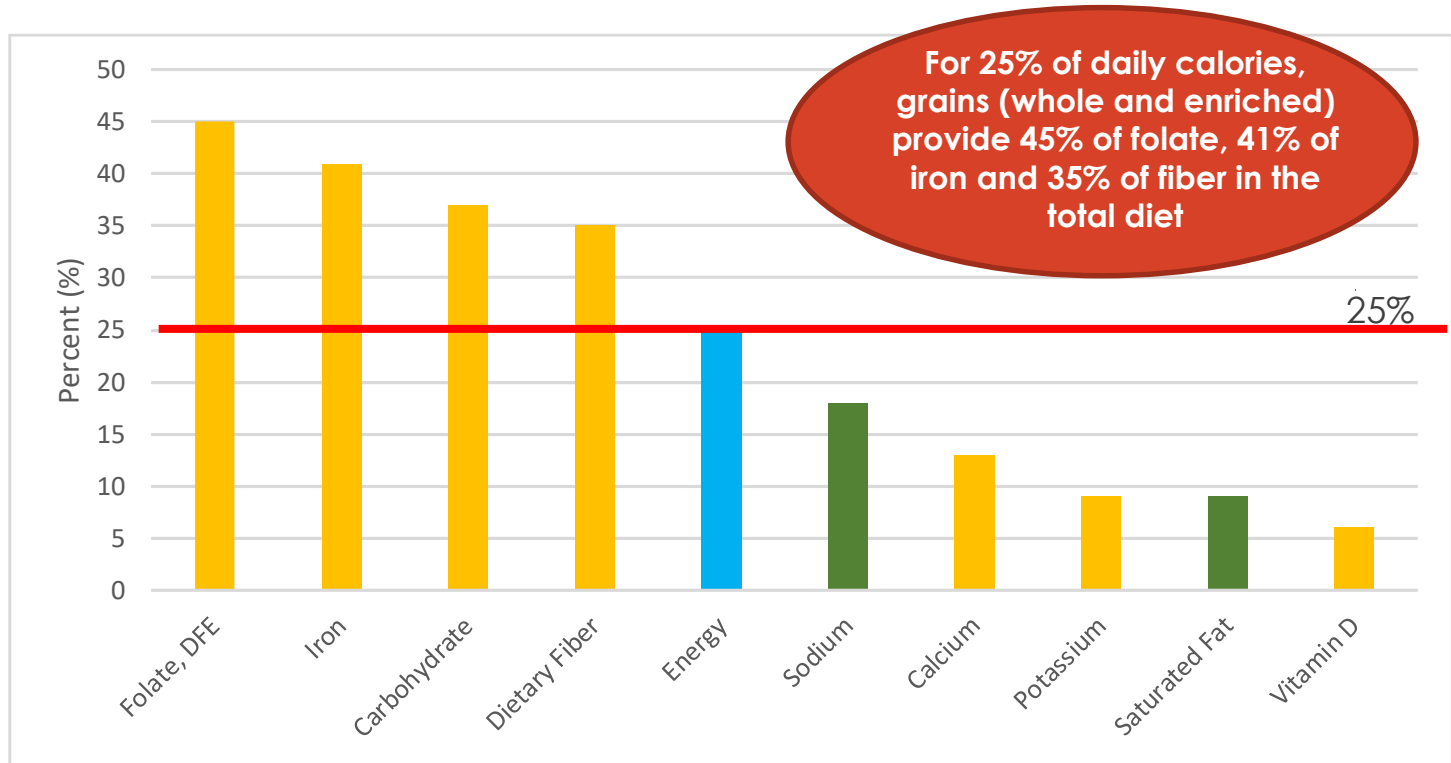
Eliminating grains may have nutrient intake consequences in adults and children…

When compared to the no grain group, those consuming several grain food patterns had:

Significantly higher daily intake of *folate, dietary fiber, folic acid, niacin, thiamin, calcium & magnesium*

Grain Product consumption was *not Associated* with BMI

Adults and Children:

No significant association observed between grain food patterns and BMI, relative to the no grain group

Take Home Messages

1. Grains are **nutrient dense foods** contributing key nutrients at higher levels than their caloric contribution.

2. **Adults consuming grain foods have higher intakes of dietary fibre, folate, and calcium in comparison to adults with no grain foods in their diet.**

3. **Children consuming grain foods have higher intakes of fibre, folate, calcium, magnesium, niacin and thiamin compared to children not consuming grain foods.**

4. A balance of **whole grains and enriched non-whole grains** is required to meet key nutrients iron, folate, and fibre.

5. The **BMI of grain eaters is no different from the BMI of non-grain eaters.**

Grain Products: Contribution to Energy & Nutrient Intakes

MDPI

Article

Certain Grain Foods Can Be Meaningful Contributors to Nutrient Density in the Diets of U.S. Children and Adolescents: Data from the National Health and Nutrition Examination Survey, 2009–2012

Yanni Papanikolaou [1,*] and Victor L. Fulgoni III [2]

1   Nutritional Strategies, 59 Marriott Place, Paris, ON N3L 0A3, Canada
2   Nutrition Impact, 9725 D Drive North, Battle Creek, MI 49014, USA; vic3rd@aol.com
*   Correspondence: papanikolaou.yanni@gmail.com; Tel.: +1-519-504-9252

Abstract: Grain foods may play an important role in delivering nutrients to the diet of children and adolescents. The present study determined grain food sources of energy/nutrients in U.S. children and adolescents using data from the National Health and Nutrition Examination Survey, 2009–2012. Analyses of grain food sources were conducted using a 24-h recall in participants 2–18 years old (N = 6109). Sources of nutrients contained in grain foods were determined using U.S. Department of Agriculture nutrient composition databases and excluded mixed dishes. Mean energy and nutrient intakes from the total diet and from various grain foods were adjusted for the sample design using appropriate weights. All grains provided 14% ± 0.2% kcal/day (263 ± 5 kcal/day), 22.5% ± 0.3% (3 ± 0.1 g/day) dietary fiber, 39.3% ± 0.5% (238 ± 7 dietary folate equivalents (DFE)/day) folate and 34.9% ± 0.5% (5.6 ± 0.1 mg/day) iron in the total diet in children and adolescents. The current analyses showed that certain grain foods, in particular breads, rolls and tortillas, ready-to-eat cereals and quick breads and bread products, are meaningful contributors of folate, iron, thiamin, niacin and dietary fiber, a nutrient of public health concern as outlined by the 2015–2020 Dietary Guidelines for Americans. Thus, specific grain foods contribute to nutrient density and have the potential to increase the consumption of several under-consumed nutrients in children and adolescents.

Keywords: NHANES; energy; nutrients; children; grains

MDPI

Article

Grain Foods Are Contributors of Nutrient Density for American Adults and Help Close Nutrient Recommendation Gaps: Data from the National Health and Nutrition Examination Survey, 2009–2012

Yanni Papanikolaou [1,*] and Victor L. Fulgoni III [2]

1   Nutritional Strategies, Inc., 59 Marriott Place, Paris, ON N3L 0A3, Canada
2   Nutrition Impact, LLC, 9725 D Drive North, Battle Creek, MI 49014, USA; vic3rd@aol.com
*   Correspondence: papanikolaou.yanni@gmail.com; Tel.: +1-519-504-9252

Abstract: The 2015–2020 Dietary Guidelines for Americans (2015-2020 DGA) maintains recommendations for increased consumption of whole grains while limiting intake of enriched/refined grains. A variety of enriched grains are sources of several shortfall nutrients identified by 2015-2020 DGA, including dietary fiber, folate, iron, and magnesium. The purpose of this study was to determine food sources of energy and nutrients for free-living U.S. adults using data from the National Health and Nutrition Examination Survey, 2009–2012. Analyses of grain food sources were conducted using a single 24-h recall collected in adults ≥19 years of age (n = 10,697). Sources of nutrients contained in all grain foods were determined using United States Department of Agriculture nutrient composition databases and the food grouping scheme for grains (excluding mixed dishes). Mean energy and nutrient intakes from the total diet and from various grain food groups were adjusted for the sample design using appropriate weights. All grains provided 285 ± 5 kcal/day or 14 ± 0.2% kcal/day in the total diet in adult ≥19 years of age. In the total daily diet, the grain category provided 7.2 ± 0.2% (4.9 ± 0.1 g/day) total fat, 5.4 ± 0.2% (1.1 ± 0.03 g/day) saturated fat, 14.6 ± 0.3% (486 ± 9 mg/day) sodium, 7.9 ± 0.2% (7.6 ± 0.2 g/day) total sugar, 22.8 ± 0.4% (3.9 ± 0.1 g/day) dietary fiber, 13.2 ± 0.3% (122 ± 3 mg/day) calcium, 33.6 ± 0.5% (219 ± 4 mcg dietary folate equivalents (DFE)/day) folate, 29.7 ± 0.4% (5.3 ± 0.1 mg/day) iron, and 13.9 ± 0.3% (43.7 ± 1.1 mg/day) magnesium. Individual grain category analyses showed that breads, rolls and tortillas and ready-to-eat cereals provided minimal kcal/day in the total diet in men and women ≥19 years of age. Similarly, breads, rolls and tortillas, and ready-to-eat cereals supplied meaningful contributions of shortfall nutrients, including dietary fiber, folate and iron, while concurrently providing minimal amounts of nutrients to limit. Cumulatively, a variety of grain food groups consumed by American adults contribute to nutrient density in the total diet and have the potential to increase consumption of shortfall nutrients as identified by 2015-2020 DGA, particularly dietary fiber, folate, and iron.

Keywords: NHANES; energy; Dietary Guidelines; adults; grains; shortfall nutrients

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MDPI

Article

Grains Contribute Shortfall Nutrients and Nutrient Density to Older US Adults: Data from the National Health and Nutrition Examination Survey, 2011–2014

Yanni Papanikolaou [1,*] and Victor L. Fulgoni III [2]

1   Nutritional Strategies, 59 Marriott Place, Paris, ON N3L 0A3, Canada
2   Nutrition Impact, 9725 D Drive North, Battle Creek, MI 49014, USA; vic3rd@aol.com
*   Correspondence: papanikolaou.yanni@gmail.com; Tel.: +1-519-504-9252

Abstract: Previous data demonstrate grain foods contribute shortfall nutrients to the diet of U.S. adults. The 2015–2020 Dietary Guidelines for Americans have identified several shortfall nutrients in the U.S. population, including fiber, folate, and iron (women only). Intake of some shortfall nutrients can be even lower in older adults. The present analyses determined the contribution of grain foods for energy and nutrients in older U.S. adults and ranked to all other food sources in the American diet. Analyses of grain food sources were conducted using a 24-h recall in adults (≥51 years old; n = 4522) using data from the National Health and Nutrition Examination Survey, 2011–2014. All grains provided 278 kcal/day or 14% of all energy in the total diet, ranking as the 4th largest contributor of energy compared to 15 main food groups. All grain foods ranked 1st for thiamin (33%) and niacin (23%) intake relative to 15 main food groups. The grain foods category ranked 2nd highest of 15 main food groups for daily dietary fiber (23%), iron (38%), folate (40%), and magnesium (15%) and was the 3rd largest food group contributor for daily calcium intake (13%). When considering nutrients to limit as outlined by dietary guidance, main group of grains contributed 6% total fat, 5% saturated fat, 14% sodium and 9% added sugar. Breads, rolls and tortillas provided 150 kcal/day or 8% of all energy in the total diet, ranking as the 2nd largest contributor of energy compared to 46 food subcategories. Breads, rolls and tortillas ranked 1st of 46 foods for daily thiamin (16%) and niacin (10%) intake and 2nd for dietary fiber (12%), iron (12%), folate (13%), and magnesium (7%). Breads, rolls and tortillas ranked 3rd largest food group contributor for daily calcium (5%) intake. Ready-to-eat cereals provided 47 kcal/day or 2% of all energy in the total diet, ranking as the 20th largest contributor of energy compared to 46 food subcategories. All ready-to-eat cereals ranked 1st for daily iron (19%), 1st for folate (21%), 5th for dietary fiber (7%), 3rd for niacin (9%), 8th for magnesium (4%), and 13th for calcium (2%) intake. Given all grain foods and specific subcategories of grain foods provided a greater percentage of several underconsumed nutrients than calories (including dietary fiber, iron, and folate), grain foods provide nutrient density in the American diet of the older adult.

Keywords: NHANES; nutrients; aging; grains; fiber

All Grain Foods in Adults Help Close Nutrient Shortfall Gaps
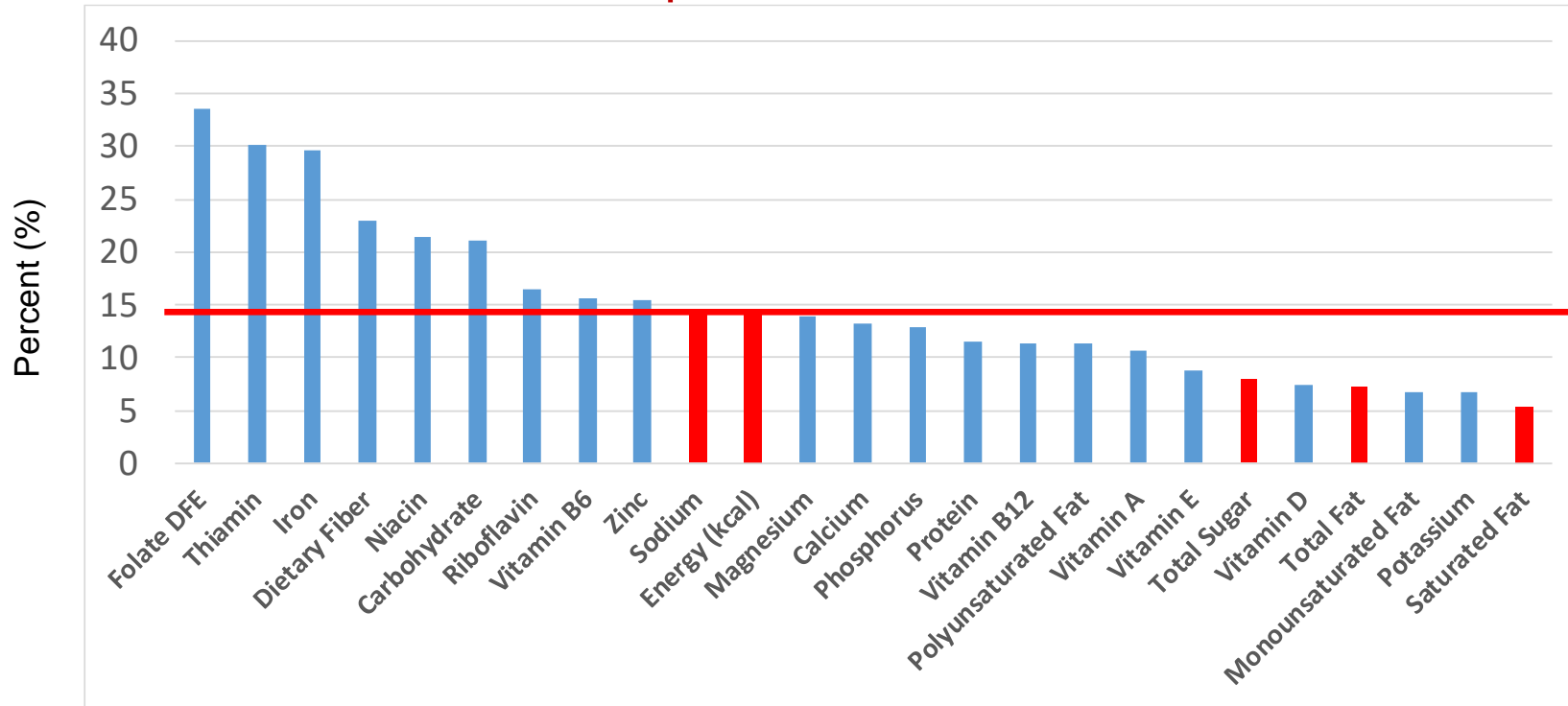
NHANES 2009-2012; Data are for adults aged ≥19 years of age (N = 10,697)
Papanikolaou & Fulgoni, 2017. *Nutrients*

All Grain Foods in Kids Help Close Nutrient Shortfall Gaps
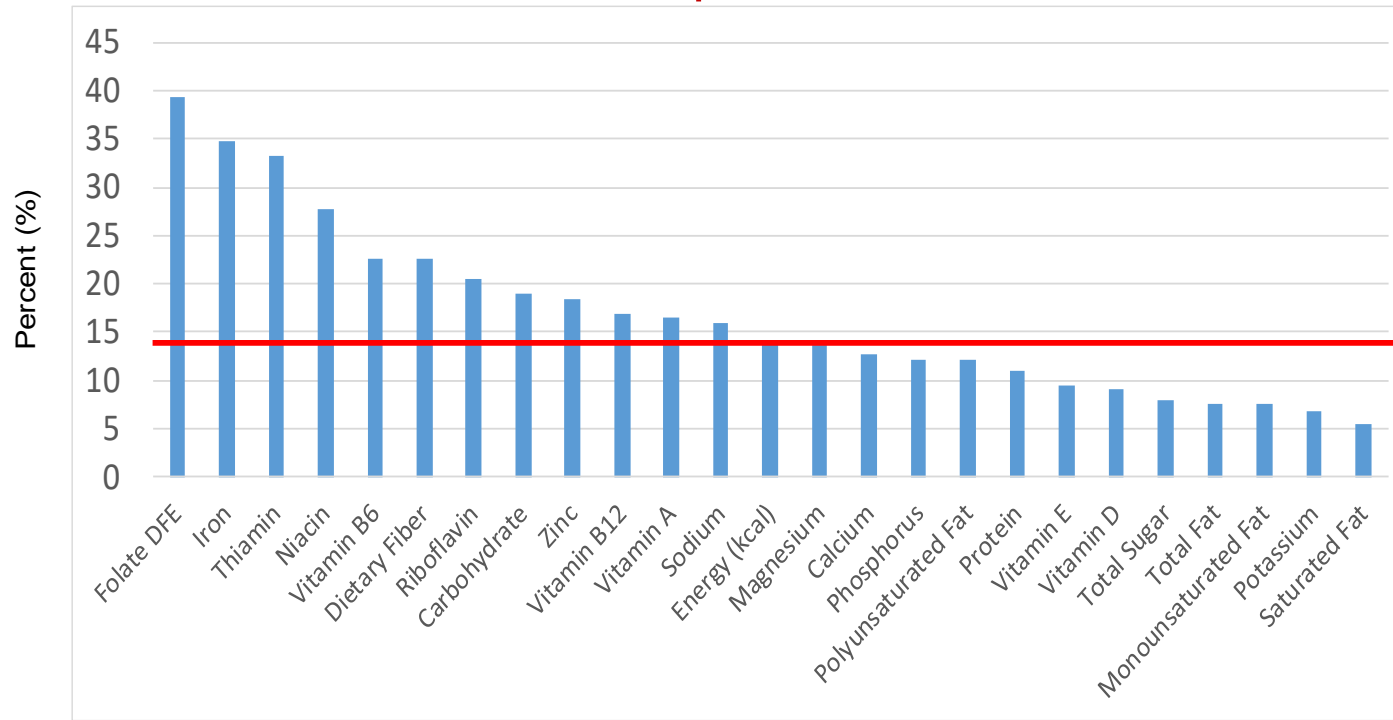
NHANES 2009-2012; All Children & Adolescents 2-18 Years of Age
Papanikolaou & Fulgoni, 2017. *Nutrients*

Breads, Rolls and Tortillas in Kids Help Close the Nutrient Shortfall Gap

Ready-to-Eat Cereals in Adults Help Close the Nutrient Shortfall Gap-Females
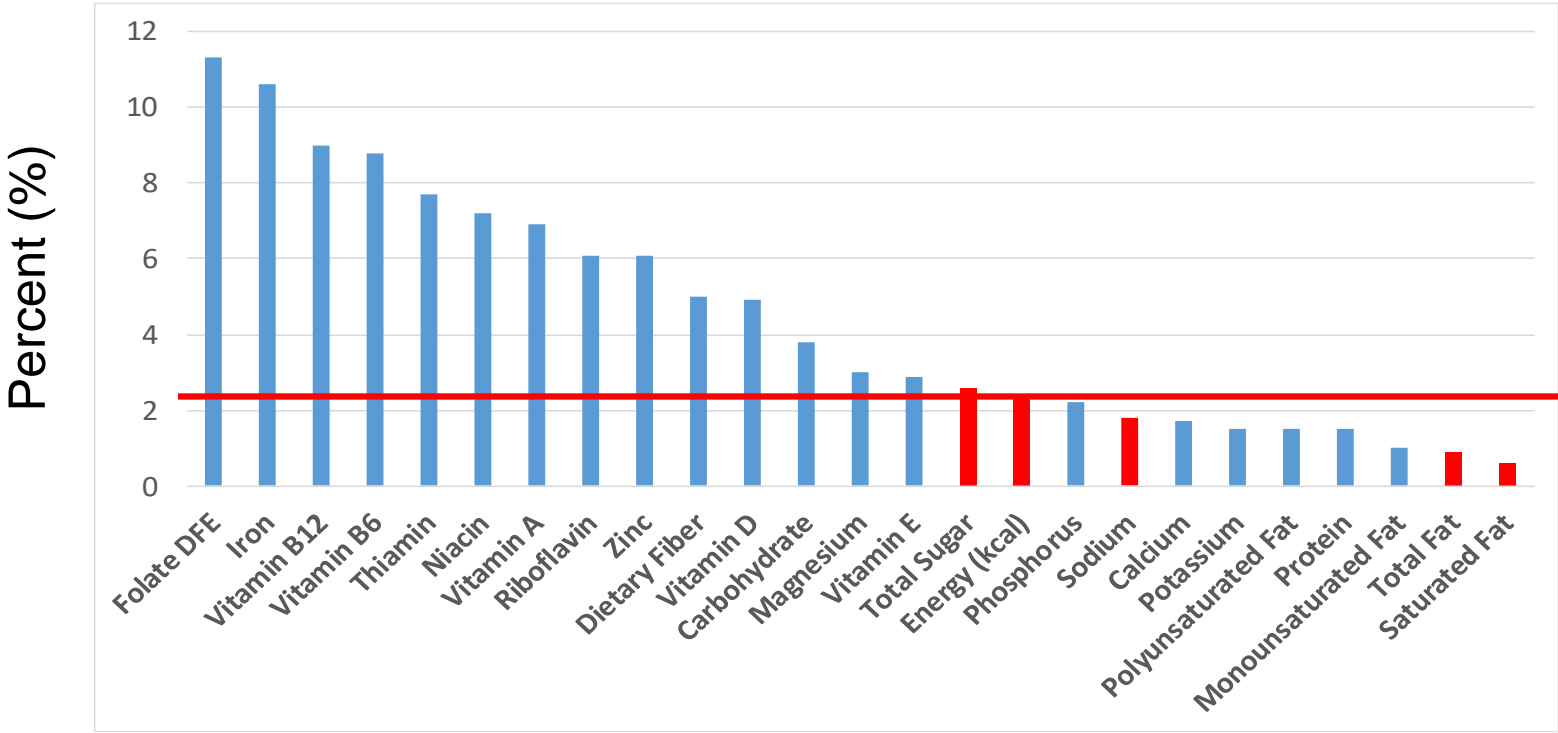
NHANES 2009-2012; Data are for female adults 19+ years-old (N=5,349)
Papanikolaou & Fulgoni, 2017. *Nutrients*

Ready-to-Eat Cereals in Adults Help Close the Nutrient Shortfall Gap-Males

2015-2020 Dietary Guidelines for Americans recognizes 'shortfall nutrients' and 'nutrients of public health concern'

"…several nutrients are under-consumed relative to requirement levels set by the Institute of Medicine (IOM) and the Committee characterized these as shortfall nutrients: **vitamin A, vitamin D, vitamin E, vitamin C, folate, calcium, magnesium, fiber, and potassium**. For adolescent and premenopausal females, **iron** also is a shortfall nutrient. Of the shortfall nutrients, **calcium, vitamin D, fiber, and potassium** also are classified as nutrients of public health concern because their under-consumption has been linked in the scientific literature to adverse health outcomes."
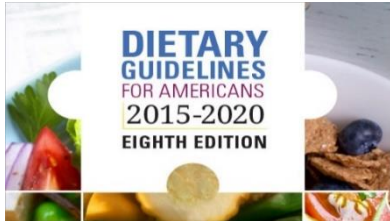
Breads, Rolls & Tortillas Help Close Nutrient Shortfall Gaps

% of Nutrients from Breads, Rolls and Tortillas
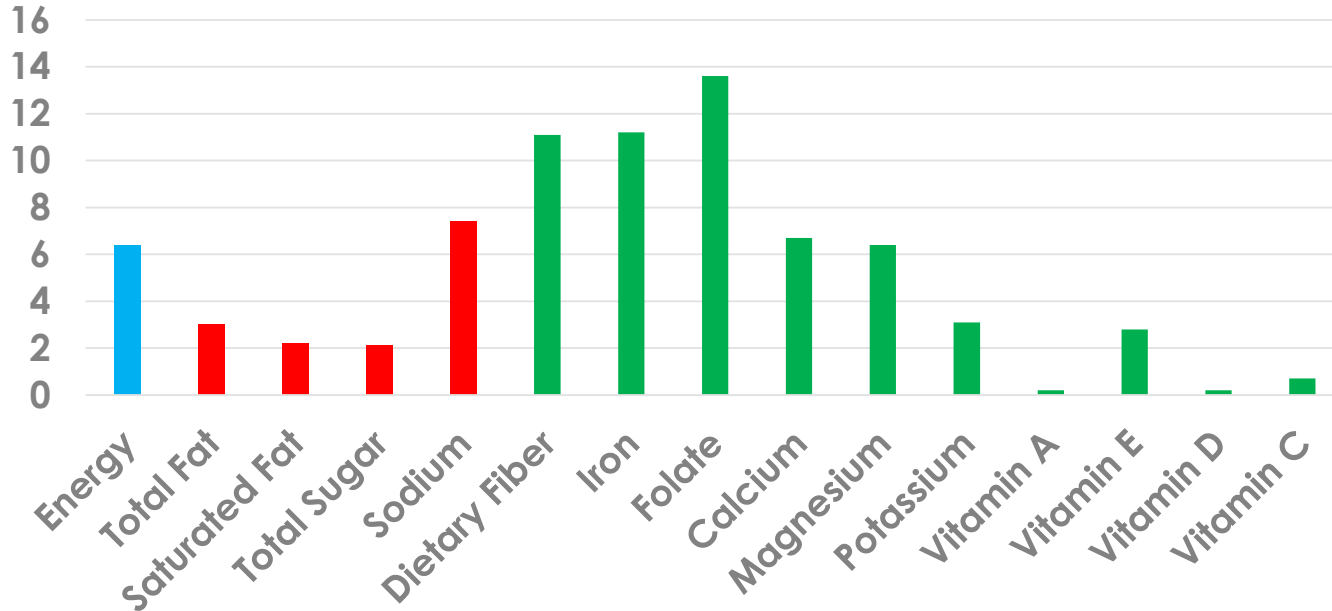
Healthy Aging: Grains Are Top Contributors of Key Nutrients

Main Food Group	Rank	% Fiber Contribution
Grains	1	23.12
Mixed Dishes	2	18.95
Vegetables	3	18.25
Fruit	4	11.70
Snacks and Sweets	5	11.69
Protein Foods	6	10.61
Beverages, Nonalcoholic	7	2.38
Condiments and Sauces	8	1.97

Main Food Group	Rank	% Vitamin D Contribution
Milk and Dairy	1	40.06
Protein Foods	2	30.95
Grains	3	9.33
Mixed Dishes	4	8.19
Beverages, Nonalcoholic	5	5.71
Snacks and Sweets	6	2.14
Vegetables	7	1.56
Fats and Oils	8	1.25

Main Food Group	Rank	% Calcium Contribution
Milk and Dairy	1	32.77
Mixed Dishes	2	16.86
Grains	3	13.24
Snacks and Sweets	4	8.00
Beverages, Nonalcoholic	5	7.69
Water	6	6.33
Protein Foods	7	5.90
Vegetables	8	4.95
Fruit	9	1.22

Main Food Group	Rank	% Potassium Contribution
Protein Foods	1	16.75
Mixed Dishes	2	16.32
Beverages, Nonalcoholic	3	16.17
Vegetables	4	14.73
Milk and Dairy	5	9.05
Snacks and Sweets	6	8.01
Fruit	7	7.18
Grains	8	6.66
Alcoholic Beverages	9	2.18
Condiments and Sauces	10	1.60

NHANES 2009-2012; Data are for adults 51-99 years-old (N=4,522)
Papanikolaou & Fulgoni, 2018. *Nutrients*

Healthy Aging: Grain Foods (Breads/Cereals) Are Top Contributors of Key Nutrients

Food Group	Rank	% Iron Contribution
Ready-to-Eat Cereals	1	18.85
Breads, Rolls, Tortillas	2	11.95
Sweet Bakery Products	3	6.55
Vegetables, excluding Potatoes	4	4.48
Mixed Dishes - Meat, Poultry, Fish	5	4.21
Plant-based Protein Foods	6	4.12
Mixed Dishes - Grain-based	7	4.08
Meats	8	3.56
Mixed Dishes - Sandwiches	9	3.31
Cooked Cereals	10	3.28

Food Group	Rank	% Dietary Fiber Contribution
Vegetables, excluding Potatoes	1	13.64
Breads, Rolls, Tortillas	2	12.02
Fruits	3	11.70
Plant-based Protein Foods	4	9.72
Ready-to-Eat Cereals	5	6.70
Mixed Dishes - Grain-based	6	4.84
White Potatoes	7	4.60
Sweet Bakery Products	8	4.00
Savory Snacks	9	3.59
Mixed Dishes - Meat, Poultry, Fish	10	3.39

Food Group	Rank	% Folate, DFE Contribution
Ready-to-Eat Cereals	1	21.01
Breads, Rolls, Tortillas	2	13.37
Vegetables, excluding Potatoes	3	8.30
Mixed Dishes - Grain-based	4	6.16
Sweet Bakery Products	5	5.37
Plant-based Protein Foods	6	3.88
Mixed Dishes - Pizza	7	3.23
Cooked Grains	8	3.16
Mixed Dishes - Sandwiches	9	3.16
Mixed Dishes - Meat, Poultry, Fish	10	2.77

Modeling Whole & Enriched Grains Study

Dietary Guidelines recommends making half of your grains whole grains, while limiting intake of enriched grains...

What if you didn't?

6 Servings of Grains Daily = 2 Whole Grains + 4 Enriched Grain Foods

Sandwich Study
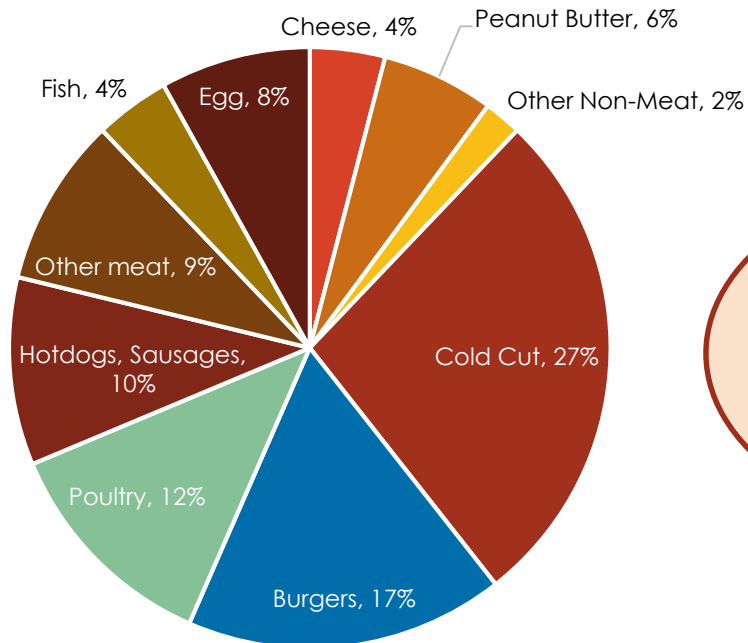
Bread Has Been Made the Villain….why?

But what about the sodium and solid fats in bacon and sauces/condiments?

2 slices (50g) of bacon = ~20g fat, 7 g saturated fat, 320 mg sodium, 200 kcal

1 hamburger bun (47g) = 1.5 g fat, 0 g saturated fat, 240 mg sodium, 130 kcal

USDA Distribution of Sandwich Type*, Adults 20+ years, 2009-2012

Pie chart:
- Cold Cut, 27%
- Burgers, 17%
- Poultry, 12%
- Hotdogs, Sausages, 10%
- Other meat, 9%
- Egg, 8%
- Peanut Butter, 6%
- Fish, 4%
- Cheese, 4%
- Other Non-Meat, 2%

54% of the sandwiches eaten are burgers, cold cuts, hotdogs/sausages— sandwiches with ingredients that are rich in saturated fat, sodium, and calories

*Sebastian RS et al. Sandwich consumption by adults in the US. What We Eat in America, NHANES, 2009-2012, Food Surveys Research Group, Dietary Data Brief No. 14; Dec 2015

delish

New Study Says Sandwiches Are Ruining Your Diet

Might be time for soup and salad at lunch ...

JUDY KIM

BY RHEANNA O'NEIL BELLOMO

◉ CBS NEWS LIVE

Is your sandwich hurting your diet?

JUL 25, 2016 5:29 PM EDT   SCITECH

BY RACHAEL RETTNER / LIVESCIENCE.COM

We hypothesized that not all sandwiches are created equal, and building a better sandwich will result in lower calories and less of nutrients to limit…

NHANES 2013-2014: Typical Sandwich, Adults ≥ 19 Years Old

Energy/Nutrient	
Energy (kcal)	561
Total fat (g)	28
Saturated fat (g)	10
Sodium (mg)	1393
Protein (g)	34
Carbohydrate (g)	35

This is what one change can do…

	Whole Grain Bread	Enriched Grain Bread
Calories	-170 (7%)	-184 (8%)
Total Fat	-19 g (18%)	-19 g (18%)
Saturated Fat	-6.6 g (20%)	-6.6 (20%)
Sodium	-697 mg (20%)	-663 mg (-19%)

Building A Better Sandwich Takeaways:

- The results support the inclusion of select sandwiches within recommended dietary patterns in Americans

- Building a better sandwich with WG/enriched grain breads can lower nutrients to limit (i.e., sodium, saturated fat) and reduce calories

- The data also suggest that ingredients within a sandwich, rather than the bread component, can be an important contributor to daily calories and nutrients to limit in the diet.

What can you do with all this science?

Identify Consumer Messages

Grain foods are the foods we love that love us back – finally, we can enjoy bread again!

WHY

- Grain foods pack more of a nutrient punch than a caloric one in adult diets.
- Grain foods fill critical nutrient gaps.
- Not all grains are created equally.
- People who choose grains wisely have better diets.
- The grain news for kids is similarly good.
- Refined and enriched grains play a critical role in our diets.

Develop Supporting Materials

- Press Release
- Infographics
- Q&As
- Blog Posts
- Social Content

FNCE 2017: Top RD Media Influencer Meeting, Oct 22, 2017

Leverage
with top
media RD
influencers
who have
consumers
ear

MEET THE 2018 FoodFluencers™

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- **Lighten Up for Holiday Parties Segment**

- Messaging Highlights:
  - "Fill up on grain foods and vegetables, these keep us full for a longer period of time."
  - "You will hear people say, I'm giving up bread. Forget about them. Forget about those fad diets."
  - "Grain foods are very important in the diet."
  - "Grains keep us energized throughout the holiday season."
  - "They are an important source of B vitamins, minerals and fiber. No need to give these up."

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- **Simple Swaps for Healthy Snacking this Summer!**

- Direct Use of GFF Messaging:
  - Every healthful eating plan including Mediterranean and DASH diets include grain foods.
  - Bread has everything your body needs – B-vitamins, selenium, iron, folate, and fiber
  - Research shows an overall healthy diet with fiber lowers risk of type 2 diabetes, heart disease, and stroke
  - "For summer, I love sandwiches…easy on-the-go, portable, road trips…"

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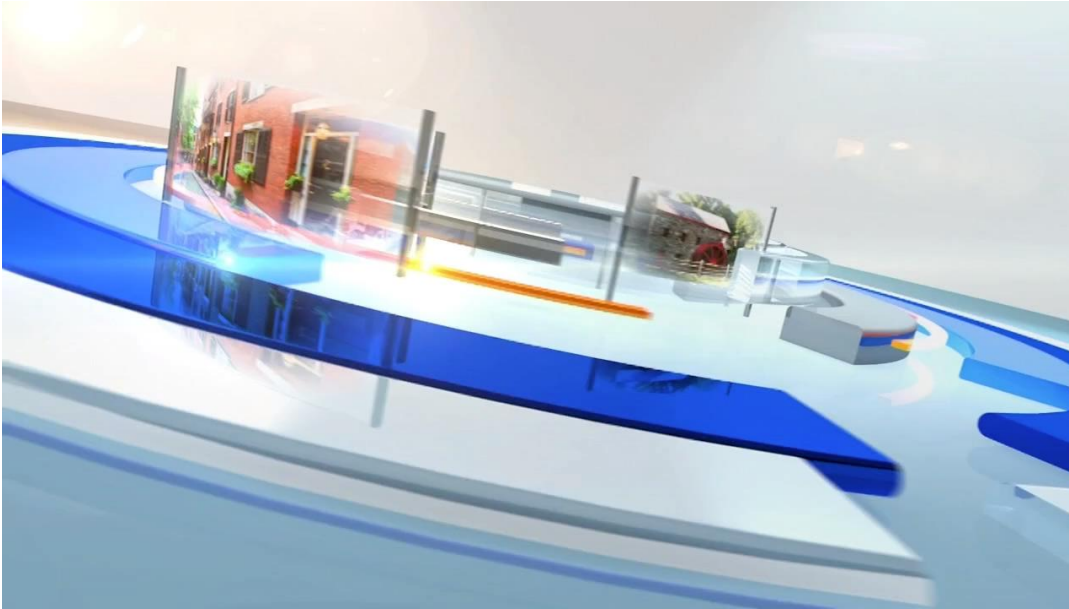
- **Smart Foods to Keep in Your Diet this Summer**

- Direct Use of GFF Messaging:
  - "Grain foods and breads are part of every healthful diet…Mediterranean and DASH diets"
  - They provide beneficial nutrients – B-vitamins, folate, fiber, iron, selenium, magnesium
  - Fiber helps keep you feeling full and most of us aren't getting enough
  - When we include grains in our diet, we can help to reduce our risk for type 2 diabetes, heart disease and stroke so "go for the bread"
  - Sandwiches are quick, portable and on-the-go options for summer

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- **Back to School Nutrition Meals for the Kids**

- Direct Use of GFF Messaging:
  - "it's not the bread, its what we put inside our sandwich that contributes to most of calories, fat, sodium in our diet"
  - Grain foods contribute less than 15% of total calories + over 20% of shortfall nutrients
  - It's where we get our fiber, folate, iron, more than 10% of magnesium, calcium and vitamin A
  - Sandwiches/grains come in a variety of forms that kids like!

Grain foods are the foods we love that love us back. Enjoy bread again!

GRAIN FOODS PACK MORE OF A
NUTRIENT PUNCH
THAN A CALORIC ONE

AVERAGE AMERICAN ADULT DIET

15%
total calories from
GRAIN FOODS

NUTRIENT PACKED!
FIBER
FOLATE
IRON
CALCIUM
MAGNESIUM
VITAMIN A

GRAIN FOODS FOUNDATION

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papanikolaou.yanni@gmail.com

@yannipnutrition