Sweet Success!

Recommendations and Culinary Solutions for Reducing Added Sugars

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PRESENTER
Marlene Koch, RDN

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"I passionately believe that no one wants to give up the foods they love – nor should they have to!"

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Disclosures

None.

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Learning Objectives

After completing this continuing education course, nutrition professionals should be better able to:

01 List and compare the daily recommendation for added sugars on an FDA approved food label, by the American Heart Association, and the World Health Organization.

02 Differentiate three categories of sweeteners based on caloric content.

03 Describe three culinary properties of sugar that are not present in non-caloric sweeteners.

04 Evaluate the pros and cons of using or recommending caloric, low caloric, and non-caloric sweeteners in your practice or business.

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Getting There…

Photo Credit: Joanna Kosinska

01 Added Sugars

02 Recommendations, Consumption, and Consumer Attitudes

03 Sweeteners

04 Culinary Applications

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Photo Credit: Evan Hein

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What are added sugars?

SUGARS ADDED TO FOODS AND BEVERAGES DURING THE PROCESSING OF FOODS ARE CONSIDERED ADDED SUGARS.

Some specific examples of FDA's definition of added sugars include:

- agave nectar
- brown rice syrup
- brown sugar
- coconut sugar
- glucose*
- sugar
- fructose*
- honey
- invert sugar
- lactose*
- maltose*
- maple sugar
- molasses
- nectars
- raw sugar
- dextrose
- malt sugar
- rice syrup
- high-fructose corn syrup
- white granulated sugar

*also naturally occurring sugars found in whole foods

The Sugar Association. Sugar vs. Sugars- Clearing up Confusion. The Sugar Association. https://www.sugar.org/sugar/sugars/. Accessed April 21 2020.

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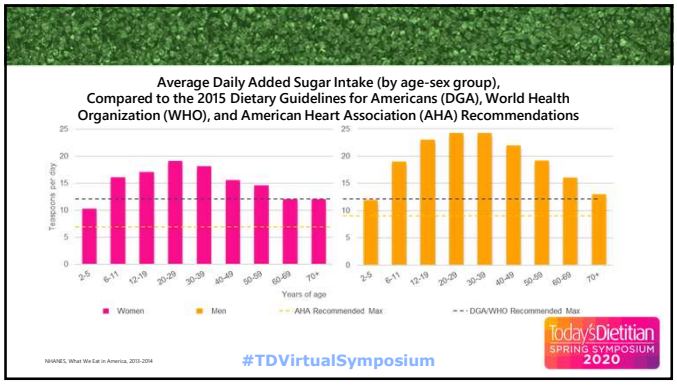
Average Daily Added Sugar Intake (by age-sex group), Compared to the 2015 Dietary Guidelines for Americans (DGA), World Health Organization (WHO), and American Heart Association (AHA) Recommendations
Teaspoons per day
Years of age
2-5
6-11
12-19
20-29
30-39
40-49
50-59
60-69
70+
Women
Men
AHA Recommended Max
DGA/WHO Recommended Max
NHANES, What We Eat in America, 2013-2014
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Daily Added Sugar Limits
World Health Organization
10% of Total Calories | 50 gms per 2,000 calories | 12 teaspoons
Dietary Guidelines for Americans
10% of Total Calories | 200 Calories | 12 teaspoons
American Heart Association
Women and Children: 100 Calories | 25 gms | 6 teaspoons
Men: 150 Calories | 36 grams | 9 teaspoons
1. WHO calls on countries to reduce sugars intake among adults and children. World Health Organization. https://www.who.int/mediacentre/news/releases/2015/sugar-guideline/en/ Accessed April 21, 2020.
2. Cut Down on Added Sugars. Dietary Guidelines for Americans, 2016. https://health.gov/sites/default/files/2019-10/DGA_Cut-Down-On-Added-Sugars.pdf Accessed April 21, 2020.
3. Added Sugars. https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/sugar/added-sugars. Accessed April 21, 2020.
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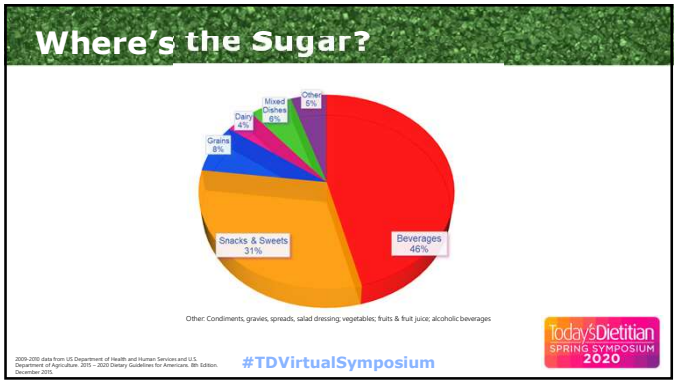
Where's the Sugar?
Other 6%
Mixed Dishes 9%
Dairy 4%
Grains 8%
Snacks & Sweets 31%
Beverages 46%
Other: Condiments, gravies, spreads, salad dressing; vegetables; fruits & fruit juice; alcoholic beverages
2009-2010 data from US Department of Health and Human Services and U.S. Department of Agriculture. 2015 – 2020 Dietary Guidelines for Americans. 8th Edition. December 2015.
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Sugar Shockers

Denny's Cinnamon Roll Pancakes

Carbs 247 | Sugar 184 grams | 46 teaspoons = 4 12-oz cans of cola

McDonald's Mocha Frappe with Blueberry Muffin

Carbs 125 | Sugar 99 grams | 25 teaspoons = ½ cup sugar

Cheesecake Factory Warm Apple Crisp

Carbs 309 | Sugar 242 grams | 60 teaspoons = 6 days' worth

1. Denny's Cinnamon Roll Pancakes. https://www.denny.com/food/pancakes/cinnamon-roll-pancake-breakfast/. Accessed April 21, 2020.
2. Blueberry Muffin. McDonald's: Burgers, Fries & More. Quality Ingredients. https://www.mcdonalds.com/us/en-us/product/blueberry-muffin-20147.html. Accessed April 21, 2020.
Mocha Frappe. McDonald's: Burgers, Fries & More. Quality Ingredients. https://www.mcdonalds.com/us/en-us/product/frappe-mocha-small.html. Accessed April 21, 2020.
3. The Cheesecake Factory. https://www.thecheesecakefactory.com/menu/desserts/specialty-desserts/warm-apple-crisp/. Accessed April 21, 2020.

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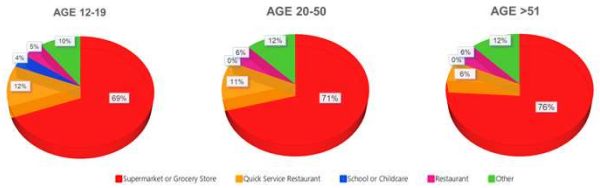
Frequent Purchase Location of Added Sugars



Other: Food as a gift from someone else, vending machines, other types of cafeterias (including in the workplace), tavern/bar, or a sporting, cultural, or entertainment event (e.g., movie theater or baseball game)

2009-2010 data from US Department of Health and Human Services and U.S. Department of Agriculture. 2015 – 2020 Dietary Guidelines for Americans. 8th Edition. December 2015.

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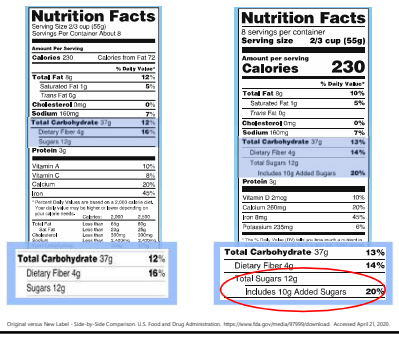
New Food Label

SIDE BY SIDE COMPARISON



Original versus New Label - Side-by-Side Comparison. U.S. Food and Drug Administration. https://www.fda.gov/media/97999/download. Accessed April 21, 2020.

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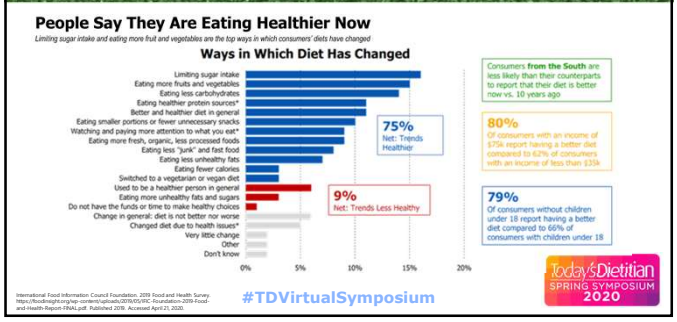
Perceptions of Health



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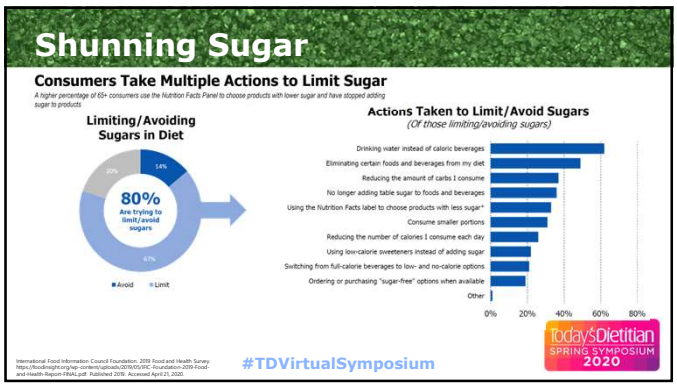
Shunning Sugar



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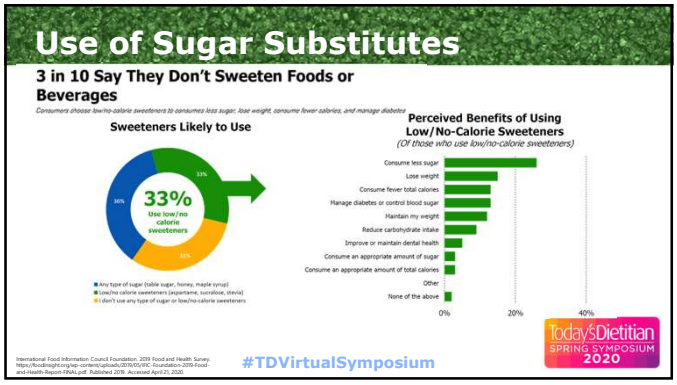
Use of Sugar Substitutes



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Caloric Sweeteners

Refined and unrefined sugars including sucrose, honey, molasses, coconut and date sugars, syrups, and fruit juice concentrates plus natural sugars inherent in fruits, vegetables, and dairy products

- Average 4 cal/gm | 15 calories per teaspoon
- Glycemic Index Variable
- Sweetness Level Varies
- Sugar is Sugar

The Sugar Association. Sweeteners You Might Find in Your Food. https://www.sugar.org/resources/healthy/. Accessed April 21, 2020.

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Low-Caloric Sweeteners

Polyols, or sugar alcohols, xylitol, sorbitol, isomalt, maltitiol, mannitol (plus blends)

- Polyols average 2 cal/gram | 2 calories per teaspoon
- Low Glycemic Index
- Low digestibility
- Sweetness level varies

The Sugar Association. Sugar Reformulation: Commonly Used Ingredients. The Sugar Association. https://www.sugar.org/sugar-resources/sugar-reformulation-commonly-used-ingredients-to-resources/. Published October 2019. Accessed April 21, 2020.

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Non-Caloric Sweeteners

Acesulfame K, aspartame, monk fruit, neotame, saccharin, stevia, sucralose, erythritol, allulose

- Caloric content can vary depending on blending/bulking ingredients
- Natural, synthetic or artificial. All GRAS
- AKA High intensity sweeteners
- Vary widely in sweetness, taste, and chemical structure

The Sugar Association. Sugar Reformulation: Commonly Used Ingredients. The Sugar Association. https://www.sugar.org/sugar-resources/sugar-reformulation-commonly-used-ingredients-to-resources/. Published October 2019. Accessed April 21, 2020.

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What is Your Why?

- ❑ General Health and Wellness
- ❑ Reduce Calories
- ❑ Decrease Carbohydrates
- ❑ Blood Sugar Management
- ❑ Heart Health
- ❑ Bariatric Diet
- ❑ FODMAP Diet
- ❑ Other (Keto, Paleo, No-Sugar, etc...)

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One Size Does Not Fit All...

"There is no one-size-fits-all sweetener. Health concerns and needs, metabolic implications, culinary applications, and purchasing drivers are all factors to consider when selecting a sweetener."

Photo Credit: Joanna Kosinska

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04 Culinary Applications

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Sugar:

- Sweetens
- Can Balance Bitter & Sour Flavors
- Adds Color
- Browns
- Adds Texture/Mouthfeel
- Adds Flavor
- Cracks
- Adds Bulk
- Creams
- Preserves
- Aerates
- Caramelizes
- Adds & Retains Moisture
- Melts
- Ferments
- Lowers Freezing Point

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3 Ways To Reduce Added Sugars

- Eliminate
- Replace
- Reduce

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For the Love of Sugar…

"Replacing sugar with a single ingredient seldom does the job. Blending sweeteners — and often adding other ingredients — increases the potential for success."

Berry D. Innovative Approaches to Reducing Added Sugars. Food Business News. https://www.foodbusinessnews.net/articles/12217-innovative-approaches-to-reducing-added-sugars. Published August 2018. Accessed April 21, 2020.

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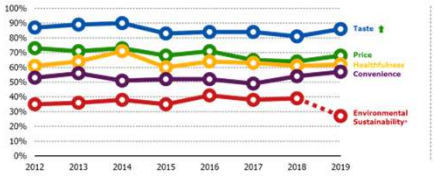
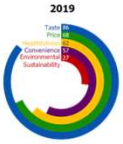
Purchasing Drivers

Taste and Price Remain Top Drivers

Taste is more important to older consumers while price is more important to younger ones; the importance of taste has increased since 2018

Purchase Drivers Over Time
(% 4-5 Impact out of 5)





International Food Information Council Foundation. 2019 Food and Health Survey. https://foodinsight.org/wp-content/uploads/2019/05/IFIC-Foundation-2019-Food-and-Health-Report-FINAL.pdf. Published 2019. Accessed April 21, 2020.

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Cost per Cup

Sweetener	Bag Size	Yield	Cost per Cup
Sugar	4.0 lbs	9.0 cups	$0.29
Granulated No-Calorie Sucralose	9.7 oz	11.5 cups	$0.45
Granulated No -Calorie Stevia	9.7 oz	11.5 cups	$0.60
Erythritol, Stevia, Sugar Baking Blend	1.5 lbs	3.50 cups*	$0.79
Coconut Palm Sugar	1.0 lbs	2.25 cups	$2.60
Erythritol with Oligosaccharides	12 oz	1.75 cups	$4.50
Granulated Allulose	14 oz	2.00 cups**	$4.50
Monk Fruit	1.0 oz	2.25 cups	$5.10

*Equivalent to 7 cups ** Equivalent to 1.55 cups

Average of retail and online pricing week of 4/6/2020.

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Tips for Successfully Reducing Sugar

- Keep sugar's functions in mind!
- Simply use less added sugar.
- Add dried fruit for sweetness; nuts, unsweetened coconut, and/or dark chocolate for interest.
- Add or increase spices such as cinnamon, nutmeg, and ginger.
- Add or increase extracts like vanilla, almond, lemon, orange, and coconut.
- Punch up flavor with citrus zests.
- Incorporate mashed bananas, applesauce, or pureed berries, prunes, and dates.
- Add lower sugar jam to muffins; create a glaze for baked goods and fruit.
- Elevate sweetness with nutrient-rich, sweet vegetables, including beets, sweet potatoes, and squash.
- Add cornstarch to sauces to increase viscosity and add mouthfeel.

Slaglle A. What Experts Know About Reducing Sugar in Baking Recipes. What Experts Know About Reducing Sugar in Baking Recipes. https://food52.com/blog/15811-what-experts-know-about-reducing-sugar-in-baking-recipes. Published November 20, 2019.

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Techniques to Use Less Sugar

Photo Credit: Steve Legato

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Extra Tips for Low- & Non-Caloric Sweeteners

- Keep sugar's functions in mind!
- Products vary greatly in taste and performance. Tasting and testing is required.
- www.whatsugar.com has a complete listing of sweetener products available.
- Unless sweetening is the ONLY function needed, some type of sugar is usually required.
- For muffins and cakes, extra leavening is needed for proper rise.
- To ensure cookies flatten, flatten them before baking with the bottom of a glass.
- Brown sugar and molasses are helpful in adding color.
- Scale down pan sizes when baking to adjust for less batter.
- Low-sugar baked goods will cook more quickly. Check cakes 7-10 minutes sooner than usual, muffins and quick breads up to 5 minutes, and cookies 3-5 minutes. Less sugar = less time.

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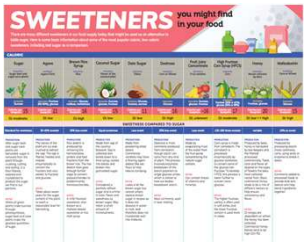
Sweet Help from the Sugar Association



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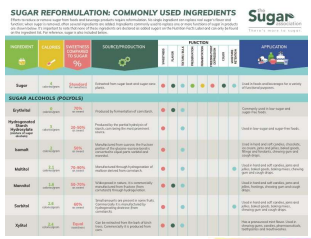

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Techniques with Sugar Alternatives

Photo Credit: Steve Legato

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The Bottom Line…

- Excess added sugar consumption has been shown to have negative health effects.
- Consumers are interested in reducing added sugars.
- Less is best, whether sugar or a sugar alternative.
- Define your why.
- There are more options than ever to reduce added sugars.
- There are pros and cons to all sweetener choices. There is no one-size-fits-all.
- Products need to be vetted with both tasting and testing across multiple uses.
- Understanding sugar's function(s) in a recipe is key for reformulations.
- Delicious sweet results can be had with less sugar!

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Questions?

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Thank You!
Marlene

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