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23 **UNITED STATES DISTRICT COURT**
24 **NORTHERN DISTRICT OF CALIFORNIA**

25 RALPH MILAN, SARAH AQUINO, and
26 ELIZABETH ARNOLD on behalf of
27 themselves, those similarly situated and the
28 general public,

Plaintiffs,

v.

CLIF BAR & COMPANY,

Defendant.

Case No:

CLASS ACTION

COMPLAINT FOR:

**VIOLATIONS OF CAL. BUS. &
PROF. CODE §§17200 et seq.; CAL.
BUS. & PROF. CODE §§17500 et seq.;**
**CAL. CIV. CODE §§ 1750 et seq.; N.Y.
GEN. BUS. L. § 349; N.Y. GEN. BUS. L.
§ 350; BREACH OF EXPRESS &
IMPLIED WARRANTIES**

DEMAND FOR JURY TRIAL

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1 Plaintiffs Ralph Milan, Sarah Aquino, and Elizabeth Arnold on behalf of themselves,
2 all others similarly situated, and the general public, by and through their undersigned
3 counsel, hereby sue Defendant Clif Bar & Company (“Clif”), and allege the following upon
4 their own knowledge, or where they lack personal knowledge, upon information and belief,
5 including the investigation of their counsel.

6 INTRODUCTION

7 1. A vast body of reliable scientific evidence establishes that excessive
8 consumption of added sugar—any amount above approximately 5% of daily caloric intake—
9 is toxic to the human body and greatly increases the risk of cardiovascular disease, diabetes,
10 liver disease, and a wide variety of other chronic diseases.

11 2. Despite the compelling evidence that sugar acts as a chronic liver toxin,
12 detrimentally affecting health, and despite that as much as 37% of the calories in Clif’s Kid
13 ZBars and “Classic” Clif Bars (the “Products”) come from added sugar, Clif markets these
14 so-called “nutrition” bars with labeling and packaging claims that convey a health and
15 wellness message with the goal of increasing the price and sales of its high-sugar “nutrition”
16 bars.

17 3. The claims, designed to appeal to health conscious consumers, however, are
18 deceptive because they are incompatible with the dangers of the excessive sugar
19 consumption to which the Products contribute.

20 4. Plaintiffs, who were deceived into purchasing the Products, bring this action
21 challenging Defendant’s deceptive claims on behalf of themselves and all others similarly
22 situated consumers alleging violations of California’s Consumer Legal Remedies Act (Cal.
23 Civ. Code § 1750, *et seq.*, “CLRA”), Unfair Competition Law (Cal. Bus. & Prof. Code §
24 17200, *et seq.*, “UCL”), and False Advertising Law (Cal. Bus. & Prof. Code § 17500, *et seq.*,
25 “FAL”), New York’s Unfair and Deceptive Business Practices Law, N.Y. Gen. Bus. L. §
26 349 (“UDBP”) and False Advertising Law, N.Y. Gen. Bus. L. § 350 (“NY FAL”). Plaintiffs
27 also allege breaches of express and implied warranties under California and New York state
28 law.

1 11. Plaintiff Sarah Aquino is a resident of Los Angeles County and citizen of
2 California.

3 12. Plaintiff Elizabeth Arnold is a resident and a citizen of New York.

4 13. Defendant Clif Bar & Company is a California Corporation with its principal
5 place of business at 1451 66th Street, Emeryville, CA 94608. Clif Bar & Company
6 manufactures, distributes, and markets the Products.

7 **FACTS**

8 **I. There Has Been a Recent Rise in Human Sugar Consumption**

9 14. Sugars are sweet, short-chain, soluble carbohydrates. Simple sugars are called
10 monosaccharides, while disaccharides are formed when two monosaccharides undergo a
11 condensation reaction. The three most common sugars in our diets are fructose, glucose, and
12 sucrose. Other sugars, like lactose, found in milk, and maltose, formed during the
13 germination of grains like barley, are not generally consumed in large amounts. Glucose is
14 a monosaccharide that occurs naturally in fruits and plant juices and is the primary product
15 of photosynthesis. Most ingested carbohydrates (like bread and pasta) are converted into
16 glucose during digestion, and glucose is the form of sugar transported around the body in
17 the bloodstream, and used by the cells for energy. Fructose is a monosaccharide that occurs
18 naturally in fruits and honey. It is the sweetest of the sugars. Sucrose is a disaccharide
19 comprised of one molecule of glucose chemically linked to one molecule of fructose. It is
20 found in sugar cane and beets. Common table sugar is sucrose. During digestion and prior
21 to blood absorption, enzymes called sucrases cleave a sucrose molecule into its constituent
22 parts, glucose and fructose.

23 15. Humans' consumption of sugar has shifted dramatically over time. Cro-
24 Magnon men during the Paleolithic age were hunters and gatherers, with a diet mainly
25 comprised of meat, high in protein, moderate in fat, and low in carbohydrates. Fruits and
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27
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1 berries were the major source of carbohydrates, and starch consumption was low.¹ In 1200
2 B.C., a process was developed in India for extracting sugar in the form of cane juice called
3 khanda, which is where the word “candy” comes from. For nearly 3,000 years, sugar was
4 rare, reserved for nobility. The invention of the pot still in 1700 A.D., however, allowed
5 mass production of refined sugar. But it was still extraordinarily expensive until the middle
6 of the 18th century, when there was a worldwide growth in sugar production, including in
7 America. Thus, humans have been consuming sugar in substantial amounts for less than 300
8 years.

9 16. For most of that time, Americans’ sugar consumption was almost exclusively
10 table sugar, with only small amounts of glucose and fructose ingested from fruit.² And sugar
11 was a condiment, added to coffee or tea, with control over the amount eaten.

12 17. In the 1960s, the food industry developed technologies to extract starch from
13 corn, then convert it to glucose, some of which could then be converted to fructose, leading
14 to the development of corn-derived sweeteners, most notably high-fructose corn syrup
15 (HFCS).³ Although HFCS is comprised of both fructose and glucose, unlike with sucrose,
16 the fructose is not chemically bound to the glucose in a new molecule. Thus the fructose in
17 HFCS is referred to as “free” fructose. HFCS can be produced with different fructose-to-
18 glucose ratios. The most common are HFCS-42 and HFCS-55, containing 42% and 55%
19 fructose. Some HFCS, however, can be as much as 90% fructose, i.e., HFCS-90. Food
20 manufacturers have recently begun referring to HFCS-90 on food label ingredients
21 statements as simply “fructose.”
22
23

24 ¹ Tappy, L., et al., “Metabolic Effects of Fructose in the Worldwide Increase in Obesity,”
25 *Physiology Review*, Vol. 90, 23-46, at 24 (2010) [hereinafter “Tappy, Metabolic Effects of
26 Fructose”].

27 ² *Id.*

28 ³ *Id.* (citation omitted).

1 18. Fructose is sweeter than either glucose or sucrose. In fruit, it serves as a marker
2 for foods that are nutritionally rich. Before the development of the worldwide sugar industry,
3 fructose in the human diet was limited to items like honey, dates, raisins, molasses, figs,
4 grapes, raw apples, apple juice, persimmons, and blueberries (which contain approximately
5 10-15% fructose). Food staples like milk, vegetables, and meat have essentially no fructose.
6 Thus, until relatively recently, human beings have had little dietary exposure to fructose.⁴

7 19. But the low cost and long shelf-life of HFCS has contributed to a rapid increase
8 in its consumption over the last 45 years, and thus the consumption of fructose. Between
9 1970 and 2000, the United States' yearly per capita HFCS consumption went from 0.292 kg
10 per person, to 33.4 kg per person, a greater than 100-fold increase.⁵

11 20. Today, the majority of sugars in typical American diets are added to foods
12 during processing, preparation, or at the table.⁶ The two primary sources of added sugar in
13 processed food are HFCS and sucrose (i.e., granulated sugar used, for example, in baked
14 goods). Added sugar is in more than 74% of processed foods,⁷ under more than 60 different
15 names.⁸ Although the tendency is to associate sugar with sweets, added sugar is found in
16 many savory processed foods, like bread, soup, and pasta sauce.

17 _____
18 ⁴ Bray, G., "How bad is fructose?," *American Journal of Clinical Nutrition*, Vol. 86, 895-96
19 (2007) [hereinafter, "Bray, How Bad is Fructose?"].

20 ⁵ Bray, G.A., et al., "Consumption of high-fructose corn syrup in beverages may play a role
21 in the epidemic of obesity," *American Journal of Clinical Nutrition*, Vol. 79, 537, 537, 540
(2004) [hereinafter "Bray, HFCS Role in Obesity Epidemic"].

22 ⁶ U.S. Dep't of Agric. & U.S. Dep't of Health & Human Servs., "Dietary Guidelines for
23 Americans, 2010," at 27 (2010) *available at*
24 <http://www.health.gov/dietaryguidelines/dga2010/DietaryGuidelines2010.pdf>.

25 ⁷ Ng, S.W., et al., "Use of caloric and non-caloric sweeteners in US consumer packaged foods,
26 2005-9," *Journal of the Academy of Nutrition and Dietetics*, Vol. 112, No. 11, 1828-34 (2012).

27 ⁸ Some examples: Agave nectar, Barbados sugar, Barley malt, Barley malt syrup, Beet sugar,
28 Brown sugar, Buttered syrup, Cane juice, Cane juice crystals, Cane sugar, Caramel, Carob
syrup, Castor sugar, Coconut palm sugar, Coconut sugar, concentrated fruit juices,

1 21. There has been a rise over the past 45 years in Americans' consumption of
 2 added sugars. From 1970 to 2000, there was a 25% increase in available added sugars in the
 3 U.S.⁹ The American Heart Association found that between 1970 and 2005, added sugars
 4 available for consumption increased by an average of 76 calories per day, from 25 teaspoons
 5 (400 calories) to 29.8 teaspoons (476 calories), a 19% increase.¹⁰ The Continuing Survey of
 6 Food Intake by Individuals from 1994 to 1996 showed that the average person had a daily
 7 added sugars intake of 79 grams, equal to 316 calories and about 15% of energy intake.
 8 Those in the top one-third of fructose consumption ingested 137 grams of added sugars per
 9 day (548 calories, about 26% of energy per day), and those in the top 10% of fructose
 10 consumption ingested 178 grams of fructose per day (712 calories, about 34% of energy).¹¹

11 22. In 2014, researchers analyzing data obtained from National Health and
 12 Nutrition Examination Survey (NHANES) showed that during the most recent period of
 13 2005-2010, the mean percent of calories from added sugar in the American diet was 14.9%.

14
 15
 16 _____
 17 Confectioner's sugar, Corn sweetener, Corn syrup, Corn syrup solids, Date sugar, Dehydrated
 18 case juice, Demerara sugar, Dextrin, Dextrose, Evaporated cane juice, Free-flowing brown
 19 sugars, Fructose, Fruit juice, Fruit juice concentrate, Glucose, Glucose solids, Golden sugar,
 20 Golden syrup, Grape sugar, High-Fructose Corn Syrup (HFCS), Honey, Icing sugar, Invert
 21 sugar, Malt syrup, Maltodextrin, Maltol, Maltose, Mannose, Maple syrup, Molasses,
 22 Muscovado, Palm sugar, Panocha, Powdered sugar, Raw sugar, Refiner's syrup, Rice syrup,
 23 Saccharose, Sorghum Syrup, Sucrose, Sugar (granulated), Sweet Sorghum, Syrup, Treacle,
 24 Turbinado sugar, and Yellow sugar.

25
 26
 27
 28 ⁹ Bray, How Bad is Fructose?, *supra* n.4, at 895 (citing Havel, P.J., "Dietary fructose:
 implications for dysregulation of energy homeostasis and lipid/carbohydrate metabolism,
Nutrition Reviews, Vol. 63, 133-57 (2005) [hereinafter, "*Havel, Dietary Fructose*"]).

¹⁰ Johnson, R.K., et al., on behalf of the American Heart Association Nutrition Committee of
 the Council on Nutrition, Physical Activity, and Metabolism and Council on Epidemiology
 and Prevention, "Dietary Sugars Intake and Cardiovascular Health: A Scientific Statement
 From the American Heart Association," *Circulation*, Vol. 120, 1011-20, at 1016-17 (2009)
 [hereinafter "*AHA Scientific Statement*"].

¹¹ Bray, How Bad is Fructose?, *supra* n.4, at 895.

1 Most adults, 71.4%, consumed 10% or more of their calories from added sugar, while about
2 10% of adults consumed 25% or more of their calories from added sugar.¹²

3 23. While the availability and consumption of added sugars was increasing over the
4 past several decades, documents published in September 2016 demonstrated that “[t]he sugar
5 industry paid scientists in the 1960s to play down the link between sugar and heart disease
6 and promote saturated fat as the culprit instead”¹³ The documents show, for example,
7 that “the Sugar Research Foundation, known today as the Sugar Association, paid three
8 Harvard scientists the equivalent of about \$50,000 in today’s dollars to publish a 1967 review
9 of research on sugar, fat and heart disease.”¹⁴ Due to the effort of the sugar industry and its
10 supporters, U.S. food policy, including FDA rulemaking, for many decades inappropriately
11 focused on fats, largely ignoring the detrimental health consequences of consuming
12 excessive added sugar, leading to the obesity and type 2 diabetes epidemics present in the
13 U.S. today.

14 24. Today, “the vast majority of the U.S. population exceeds recommended intakes
15 of . . . added sugars.”¹⁵ Despite some reduction in added sugar intake recently, “intakes of
16
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19

20 ¹² Yang, Quanhe, et al., “Added Sugar Intake and Cardiovascular Diseases Mortality Among
21 US Adults,” *Journal of the American Medical Association*, at E4-5 (published online Feb. 3,
2014) [hereinafter, “Yang, NHANES Analysis”].

22 ¹³ Anahad O’Connor, “How the Sugar Industry Shifted Blame to Fat,” *New York Times* (Sept.
23 12, 2016).

24 ¹⁴ *Id.*

25 ¹⁵ U.S. Dep’t of Agric. & U.S. Dep’t of Health & Human Servs., “Scientific Report of the
26 2015 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health
27 and Human Services and the Secretary of Agriculture,” at 26 (February 2015), *available at*
28 [http://www.health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-](http://www.health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf)
[the-2015-Dietary-Guidelines-Advisory-Committee.pdf](http://www.health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf).

1 added sugars are still very high . . . and are well above recommended limits”¹⁶
2 Approximately 90% of the population exceeds recommended daily limits.¹⁷

3 **II. The Body’s Physiological Response to Excess Sugar Consumption**

4 **A. The Body’s Response to Glucose**

5 25. The body needs some glucose, largely to meet the brain’s metabolic demands,
6 but also because all living cells use glucose for energy. Blood glucose levels below 25mg/dL
7 may result in coma, seizure, or death, while levels consistently exceeding 180 mg/dL can
8 cause long-term damage, including renal failure and atherosclerosis.

9 26. For these reasons, blood glucose concentration is tightly-regulated by
10 homeostatic regulatory systems. When blood glucose rises after a meal, beta cells in the
11 pancreas secrete insulin into the blood, which helps muscle, fat, and liver cells absorb the
12 glucose for energy, lowering the blood sugar. Too little blood sugar stimulates the secretion
13 of hormones that counteract the insulin and thus restore normal blood sugar.¹⁸

14 27. During certain steps in processing glucose, the body forms fructose. However,
15 unlike with glucose, there is no biological need for dietary fructose, i.e., fructose consumed
16 from food, whether fruit, honey, HFCS, or some other form. Moreover, unlike glucose,
17 fructose does not directly stimulate insulin secretion.

18 28. The body processes glucose and fructose differently. With little processing,
19 fructose passes through the small intestine, into blood bound for the liver, so that it is taken
20 up nearly 100% for processing in the liver (a characteristic shared by substances commonly
21 referred to as poisons). By contrast, glucose is both “burned up” by cells directly, and
22 processed elsewhere outside the liver, so that the liver must process only 20% of glucose
23 consumed.

24
25 ¹⁶ *Id.* at 38.

26 ¹⁷ *Id.* at 35.

27 ¹⁸ Ludwig, David S., “The Glycemic Index: Physiological Mechanisms Relating to Obesity,
28 Diabetes, and Cardiovascular Disease,” *Journal American Medical Association*, Vol. 287,
No. 18, 2414-23, at 2415 (May 8, 2002) (citation omitted).

1 29. So much glucose is burned up prior to liver processing, because all the body's
2 cells contain a transporter that, when stimulated by insulin, takes in glucose from the blood.
3 By contrast, fructose can only be absorbed by cells that contain a different transporter, which
4 most cells lack.

5 30. The liver is capable of processing relatively small amounts of sugar, meted out
6 slowly. This is one of the reasons that eating the fructose in fruit is not problematic: the sugar
7 in fruit is encased in the fruit's fiber, which slows the sugar's uptake, and some sugar encased
8 in fruit fiber may not even be released. Thus fruit consumption does not overwhelm the liver.
9 Notably, adding fiber to foods that are high in sugar does not replicate this effect, because
10 the sugar and fiber remain separate, and the sugar is not encased in the fiber like it is in fruit.
11 Fruit also comes packaged with nutrients, like vitamins, that are beneficial for health, and
12 sends satiation signals to the brain, telling it that the body is full.

13 31. Because the liver has some capacity to process sugar, there does appear to be a
14 "safe" threshold of daily added sugar consumption, small enough not to overload the liver:
15 approximately 5% of calories, or about 38 grams (9 teaspoons, 150 calories) per day for men,
16 25 grams (6 teaspoons, 100 calories) per day for women, up to 25 grams (6 teaspoons, 100
17 calories) for children between 8 and 18 years old, and 12 grams (3 teaspoons, 48 calories)
18 for children 4 to 8 years old, which is the basis of the American Heart Association's
19 foregoing recommendations for maximum daily added sugar intake.¹⁹

20 32. But the long-term consumption of excess sugar can have dire physiological
21 consequences, acting as a chronic, dose-dependent liver toxin, overloading the liver and
22 causing chronic metabolic disease, also sometimes called metabolic syndrome, a cluster of
23 symptoms that, when present together, increase a person's risk of chronic disease like
24 cardiovascular disease and type 2 diabetes.

27 ¹⁹ AHA Scientific Statement, *supra* n.10; *see also* "How Much Is Too Much?," at
28 <http://www.sugarscience.org/the-growing-concern-of-overconsumption>.

1 33. When excess sugar consumption overloads the liver, the glucose increases
2 insulin secretion, while the fructose gets turned into liver fat, causing insulin resistance. The
3 combination over time results in rapid and dramatic increases in blood glucose and insulin
4 concentrations.²⁰ Over time, individuals with frequent insulin secretion may develop insulin
5 resistance, where the body produces insulin but does not use it effectively, so that glucose
6 builds up in the blood instead of being absorbed by the cells. Because the muscle, fat, and
7 liver cells do not respond properly to insulin and thus cannot easily absorb glucose from the
8 bloodstream, the body needs higher levels of insulin. Eventually the pancreas' beta cells
9 cannot keep up with this increasing demand, and over time can no longer produce enough
10 insulin to overcome insulin resistance, so blood glucose levels remain high.

11 34. Currently, about two-thirds of the American population is overweight, about
12 one-quarter to one-third is diabetic or pre-diabetic, and another one-quarter is hypertensive.
13 Many Americans also have high serum triglycerides. Insulin resistance is a component of all
14 of these health issues.

15 35. Energy deposition into fat cells by insulin stimulate them to secrete a hormone
16 called leptin, which is a natural appetite suppressant that tells the brain the body is full and
17 can stop eating. Generally, glucose suppresses the hunger hormone, ghrelin, and stimulates
18 leptin. But high insulin levels brought on by excess sugar consumption have been linked to
19 leptin resistance, where the brain is desensitized to the hormone and so no longer "hears" the
20 message to stop eating.²¹ Because increased insulin makes the body feel hungry, excess sugar
21
22

23 ²⁰ Janssens, J.P., et al., "Effects of soft drink and table beer consumption on insulin response
24 in normal teenagers and carbohydrate drink in youngsters," *European Journal of Cancer*
25 *Prevention*, Vol. 8, 289-95 (1999) ("In contrast to table beer, consumption of regular soft
26 drinks induced a fast and dramatic increase in both glucose and insulin concentration within
a maximum 1 hour after consumption.").

27 ²¹ Shapiro, A., et al., "Fructose-induced leptin resistance exacerbates weight gain in response
28 to subsequent high-fat feeding," *American Journal of Physiology, Regulatory, Integrative*
and Comparative Physiology, Vol. 295, No. 5, R1370-75 (2008).

1 consumption can create a vicious cycle in which the more sugar one eats, the hungrier one
2 feels.

3 **B. The Body's Response to Fructose**

4 36. But it is the fructose, found in most processed foods, that appears to cause the
5 greatest harm in the shortest amount of time. Nearly all added sugars contain significant
6 amounts of fructose. For example, HFCS typically contains approximately 42% or 55%
7 fructose, while table sugar and other sweeteners, like cane sugar, contain 50% fructose.

8 37. Fructose is the most lipophilic carbohydrate, meaning it easily converts to a
9 form, glycerol, that supports conversion to fats, including free fatty acids, a damaging form
10 of cholesterol called very low-density lipoprotein (VLDL), and triglycerides, which get
11 stored as fat. Studies in humans and animals have shown that fructose is preferentially
12 metabolized to lipid (fat) in the liver, leading to increased triglyceride levels, which are
13 associated with insulin resistance and cardiovascular disease.²² Fatty acids created during
14 fructose metabolism accumulate as fat droplets in the liver, also causing insulin resistance,
15 as well as non-alcoholic fatty liver disease. In addition, when the liver turns excess sugar
16 into liver fat and becomes insulin resistant, that generates hyperinsulinemia, which drives
17 energy storage into body fat.

18 38. Glucose does not do this. Following consumption of 120 calories of glucose,
19 less than 1 calorie should be stored as fat, while 120 calories of fructose should result in 40
20 calories being stored as fat.

21 39. The metabolism of fructose also creates several waste products and toxins,
22 including uric acid, which drives up blood pressure, causes gout, and is a risk factor for
23 cardiovascular disease because the production of uric acid utilizes nitric oxide, a key
24

25
26
27 ²² Elliot, S.S., et al., "Fructose, weight gain, and the insulin resistance syndrome," *American*
28 *Journal of Clinical Nutrition*, Vol. 76, 911-22 (2002) [hereinafter, "Elliot, Fructose & Insulin
Resistance"]; Bray, How Bad is Fructose?, *supra* n.4; Havel, Dietary Fructose, *supra* n.9.

1 modulator of vascular function, and causes inflammation. Experimental human studies
2 confirm that fructose feeding raises serum uric acid levels.²³

3 40. Moreover, fructose interferes with the brain's communication with leptin,
4 which may result in overeating. And while glucose suppresses ghrelin, thus reducing hunger,
5 fructose has no effect on ghrelin.

6 **C. The Addiction Response**

7 41. Research shows that, for some people, eating sugar produces characteristics of
8 craving and withdrawal, along with chemical changes in the brain's reward center, the limbic
9 region, which can be similar to those of people addicted to drugs like cocaine and alcohol.²⁴
10 These changes are linked to a heightened craving for more sugar.²⁵ This can create a vicious
11 cycle leading to chronic illness.

12 **III. There Has Been a Dramatic Rise in Obesity & Chronic Disease That Parallels** 13 **the Rise in Human Sugar Consumption**

14 42. As noted above, there was a dramatic rise in Americans' use of sugar, first in
15 the mid-18th century, then again starting in the United States in about 1970, with the
16 introduction into the market of HFCS. Concurrently with these changes in the diet have been
17 alarming rises in obesity and chronic disease.

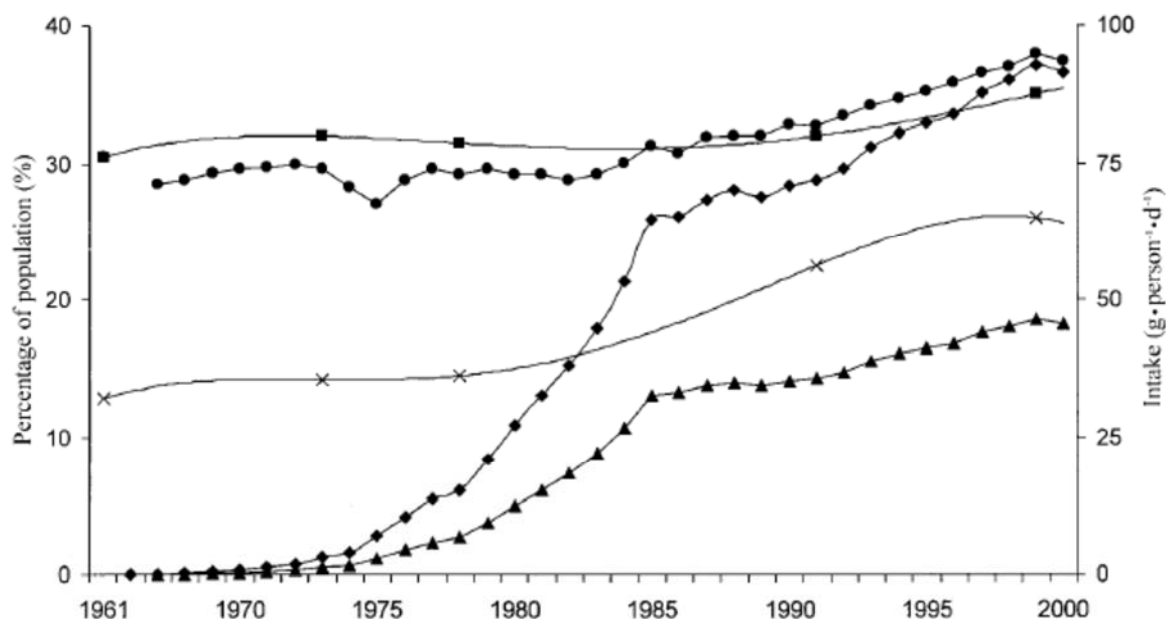
18
19 ²³ Nguyen, S., et al., "Sugar Sweetened Beverages, Serum Uric Acid, and Blood Pressure in
20 Adolescents," *Journal of Pediatrics*, Vol. 154, No. 6, 807-13 (June 2009) (citations omitted)
21 [hereinafter, "Nguyen, Serum Uric Acid"]; Johnson, R.J., "Potential role of sugar (fructose)
22 in the epidemic of hypertension, obesity and the metabolic syndrome, diabetes, kidney
23 disease, and cardiovascular disease," *American Journal of Clinical Nutrition*, Vol. 86, 899-
906 (2007); Nakagawa, T., et al., "A causal role for uric acid in fructose-induced metabolic
syndrome," *American Journal of Physiology*, Vol. 290, F625-31 (2006).

24 ²⁴ Volkow, N.D., et al., "Drug addiction: the neurobiology of behavior gone awry," *Nature*
25 *Reviews Neuroscience*, Vol. 5, No. 12, 963-70 (2004); Brownell, K.D., et al., "Food and
26 addiction: A comprehensive handbook," *Oxford University Press* (2012).

27 ²⁵ Avena, N., "Evidence for sugar addiction: behavioral and neurochemical effects of
28 intermittent, excessive sugar intake," *Neuroscience Behavior Review*, Vol. 52, No. 1, 20-39
(2008).

1 43. In 1924, New York City health commissioner Haven Emerson noted a seven-
 2 fold increase in diabetes rates in the city. In 1931, Dr. Paul Dudley White, a cardiologist at
 3 Massachusetts General Hospital, warned of an epidemic of heart disease. And in 1988,
 4 scientists learned about the advent of adolescent type 2 diabetes.

5 44. In 2004, researchers reported their analysis of food consumption patterns from
 6 1967 to 2000. Noting that HFCS consumption increased more than 1,000% from 1970 to
 7 1990, “far exceeding the changes in intake of any other food or food group,” researchers
 8 found this “mirrors the rapid increase in obesity” seen during the same period, as
 9 demonstrated in the below graphic.²⁶



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FIGURE 1. Estimated intakes of total fructose (●), free fructose (▲), and high-fructose corn syrup (HFCS, ◆) in relation to trends in the prevalence of overweight (■) and obesity (x) in the United States. Data from references 7 and 35.

21 45. Besides the compelling circumstantial evidence that increased sugar
 22 consumption has led to chronic disease, there is substantial research showing the causal
 23 mechanisms of disease and demonstrating substantial increased risk of chronic disease with
 24 excess sugar consumption.

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 26 ²⁶ Bray, HFCS Role in Obesity Epidemic, *supra* n.5, at 537, 540-41 & Table 2; see also
 27 Flegal, K.M., et al., “Prevalence and trends in obesity among US adults, 1999-2000,” *Journal*
 28 *of the American Medical Association*, Vol. 288, 1723-27 (2002); Putnam, J.J., et al., “Food
 consumption, prices and expenditures, 1970-97,” *U.S. Department of Agriculture Economic*
Research Service statistical bulletin no. 695 (April 1999).

1 **IV. There is Substantial Scientific Evidence That Excess Sugar Consumption Causes**
 2 **Metabolic Syndrome, Cardiovascular Disease, Type 2 Diabetes, and Other**
 3 **Morbidity**

4 46. Research shows that overloading the mitochondria—the energy-burning
 5 factories within the cells—in any given organ will manifest various forms of chronic
 6 metabolic disease. Whatever organ becomes insulin resistant manifests its own chronic
 7 metabolic disease. For example, insulin resistance of the liver leads to type 2 diabetes. Insulin
 8 resistance of the brain causes Alzheimer’s disease. Insulin resistance of the kidney leads to
 9 chronic renal disease.

10 47. After artificial trans fat, the chemical that best overloads mitochondria is sugar.

11 **A. Excess Sugar Consumption Causes Metabolic Syndrome**

12 48. Excess consumption of added sugar leads to metabolic syndrome by stressing
 13 and damaging crucial organs, including the pancreas and liver. When the pancreas, which
 14 produces insulin, becomes overworked, it can fail to regulate blood sugar properly. Large
 15 doses of fructose can overwhelm the liver, which metabolizes fructose. In the process, the
 16 liver will convert excess fructose to fat, which is stored in the liver and released into the
 17 bloodstream. This process contributes to key elements of metabolic syndrome, including
 18 high blood fats and triglycerides, high cholesterol, high blood pressure, and extra body fat,
 19 especially in the belly.²⁷

20 49. Metabolic disease has been linked to type 2 diabetes, cardiovascular disease,
 21 obesity, polycystic ovary syndrome, nonalcoholic fatty liver disease, and chronic kidney
 22 disease, and is defined as the presence of any three of the following:

- 23 a. Large Waist Size (35” or more for women, 40” or more for men);
 24 b. High triglycerides (150mg/dL or higher, or use of cholesterol
 25 medication);

26
 27 ²⁷ Te Morenga, L., et al., “Dietary sugars and body weight: systematic review and meta-
 28 analyses of randomized controlled trials and cohort studies,” *BJM* (January 2013)
 [hereinafter, “Te Morenga, Dietary Sugars & Body Weight”].

1 c. High total cholesterol, or HDL levels under 50mg/dL for women, and 40
2 mg for men;

3 d. High blood pressure (135/85 mm or higher); or

4 e. High blood sugar (100mg/dL or higher).

5 50. More generally, “metabolic abnormalities that are typical of the so-called
6 metabolic syndrome . . . includ[e] insulin resistance, impaired glucose tolerance, high
7 concentrations of circulating triacylglycerols, low concentrations of HDLs, and high
8 concentrations of small, dense LDLs.”²⁸

9 51. 56 million Americans have metabolic syndrome, or about 22.9% over the age
10 of 20, placing them at higher risk for chronic disease.

11 52. In 2010, Harvard researchers published a meta-analysis of three studies,
12 involving 19,431 participants, concerning the effect of consuming sugar-sweetened
13 beverages on risk for metabolic syndrome. They found participants in the highest quantile
14 of 1-2 servings per day²⁹ had an average 20% greater risk of developing metabolic syndrome
15 than did those in the lowest quantile of less than 1 serving per day, showing “a clear link
16 between SSB consumption and risk of metabolic syndrome”³⁰

17 53. Researchers who studied the incidence of metabolic syndrome and its
18 components in relation to soft drink consumption in more than 6,000 participants in the
19 Framingham Heart Study found that individuals who consumed 1 or more soft drinks per
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22 ²⁸ Fried, S.K., “Sugars, hypertriglyceridemia, and cardiovascular disease,” *American Journal*
23 *of Clinical Nutrition*, Vol. 78 (suppl.), 873S-80S, at 873S (2003) [hereinafter, “Fried,
24 Hypertriglyceridemia”].

25 ²⁹ Because 1 sugar-sweetened beverage typically has 140-150 calories and 35-37.5 grams of
26 sugar per 12-ounce serving, this is equivalent to between 140 and 300 calories per day, and
27 35 to 75 grams of sugar per day.

28 ³⁰ Malik, Vasanti S., et al., “Sugar-Sweetened Beverages and Risk of Metabolic Syndrome
and Type 2 Diabetes,” *Diabetes Care*, Vol. 33, No. 11, 2477-83, at 2477, 2480-81 (November
2010) [hereinafter “Malik, 2010 Meta-Analysis”].

1 day (i.e., 140-150 calories and 35-37.5 grams of sugar or more) had a 48% higher prevalence
2 of metabolic syndrome than infrequent consumers, those who drank less than 1 soft drink
3 per day. In addition, the frequent-consumer group had a 44% higher risk of developing
4 metabolic syndrome.³¹

5 54. Recently, researchers concluded a study to determine whether the detrimental
6 effects of dietary sugar were due to extremely high dosing, excess calories, or because of its
7 effects on weight gain, rather than caused by sugar consumption directly.³² In other words,
8 the researchers dissociated the metabolic effects of dietary sugar from its calories and effects
9 on weight gain.

10 55. Because the researchers did not want to give subjects sugar to see if they got
11 sick, they instead took sugar away from people who were already sick to see if they got well.
12 But if subjects lost weight, critics would argue that the drop in calories or weight loss was
13 the reason for the clinical improvement. Therefore, the researchers designed the study to be
14 isocaloric, by giving back to subjects the same number of calories in starch that were taken
15 away in sugar. The study involved 43 children, ages 8 to 19, each obese with at least one
16 other co-morbidity demonstrating metabolic problems. All were high consumers of added
17 sugar in their diets.³³

18 56. To perform the study, researchers assessed subjects' home diets by two
19 questionnaires to determine how many calories, and how much fat, protein, and carbohydrate
20 they were eating. Subjects were then tested at a hospital based on their home diets. Then, for
21 the next 9 days, researchers catered the subjects' meals. The macronutrient percentages of
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24 ³¹ Dhingra, R., et al., "Soft Drink Consumption and Risk of Developing Cardiometabolic Risk
25 Factors and the Metabolic Syndrome in Middle-Aged Adults in the Community,"
Circulation, Vol. 116, 480-88 (2007) [hereinafter "Dhingra, Cardiometabolic Risk"].

26 ³² Robert H. Lustig, et al., "Isocaloric Fructose Restriction and Metabolic Improvement in
27 Children with Obesity and Metabolic Syndrome," *Pediatric Obesity*, Vol. 24, No. 2, 453-60
28 (Feb. 2016).

³³ *See id.* at 453-54.

1 fat, protein, and carbohydrate were not changed. Subjects were fed the same calories and
2 percent of each macronutrient as their home diet; but within the carbohydrate fraction,
3 researchers took the added sugar out, and substituted starch. For example, researchers took
4 pastries out, and put bagels in; took yogurt out, and put baked potato chips in; took chicken
5 teriyaki out, and put turkey hot dogs in (although subjects were still given whole fruit).
6 Researchers reduced subjects' dietary sugar consumption from 28% to 10% of calories.
7 Researchers also gave subjects a scale to take home, and each day they would weigh
8 themselves. If they were losing weight, they were instructed to eat more. The goal was for
9 subjects to remain weight-stable over the 10 days of study. On the final day, subjects came
10 back to the hospital for testing on their experimental low-added sugar diet. The study team
11 analyzed the pre- and post-data in a blinded fashion so as not to introduce bias.³⁴

12 57. Researchers analyzed three types of data. First, diastolic blood pressure
13 decreased by 5 points. Second, baseline blood levels of analytes associated with metabolic
14 disease, such as lipids, liver function tests, and lactate (a measure of metabolic performance)
15 all improved significantly. Third, fasting glucose decreased by 5 points. Glucose tolerance
16 improved markedly, and fasting insulin levels fell by 50%. Each of these results was highly-
17 statistically-significant.³⁵

18 58. In sum, the study indicated that subjects improved their metabolic status in just
19 10 days, even while eating processed food, by just removing added sugar and substituting
20 starch. The metabolic improvement, moreover, was unrelated to changes in weight or body
21 fat.

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27 ³⁴ See *id.* at 454-55.

28 ³⁵ See *id.* at 455-56.

1 **B. Excess Sugar Consumption Causes Type 2 Diabetes**

2 59. Diabetes affects 25.8 million Americans, and can cause kidney failure, lower-
3 limb amputation, and blindness. In addition, diabetes doubles the risk of colon and pancreatic
4 cancers and is strongly associated with coronary artery disease and Alzheimer’s disease.³⁶

5 60. In 2010, Harvard researchers also performed a meta-analysis of 8 studies
6 concerning sugar-sweetened beverage consumption and risk of type 2 diabetes, involving a
7 total of 310,819 participants. They concluded that individuals in the highest quantile of SSB
8 intake had an average 26% greater risk of developing type 2 diabetes than those in the lowest
9 quantile.³⁷ Moreover, “larger studies with longer durations of follow-up tended to show
10 stronger associations.”³⁸ Thus, the meta-analysis showed “a clear link between SSB
11 consumption and risk of . . . type 2 diabetes.”³⁹

12 61. An analysis of data for more than 50,000 women from the Nurses’ Health
13 Study,⁴⁰ during two 4-year periods (1991-1995, and 1995-1999), showed, after adjusting for
14 confounding factors, that women who consumed 1 or more sugar-sweetened soft drink per
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16 ³⁶ Aranceta Bartrina, J. et al., “Association between sucrose intake and cancer: a review of
17 the evidence,” *Nutrición Hospitalaria*, Vol. 28 (Suppl. 4), 95-105 (2013); Garcia-Jimenez,
18 C., “A new link between diabetes and cancer: enhanced WNT/beta-catenin signaling by high
19 glucose,” *Journal of Molecular Endocrinology*, Vol. 52, No. 1 (2014); Linden, G.J., “All-
20 cause mortality and periodontitis in 60-70-year-old men: a prospective cohort study,” *Journal*
21 *of Clinical Periodontal*, Vol. 39, No. 1, 940-46 (October 2012).

22 ³⁷ Malik, 2010 Meta-Analysis, *supra* n.30 at 2477, 2480.

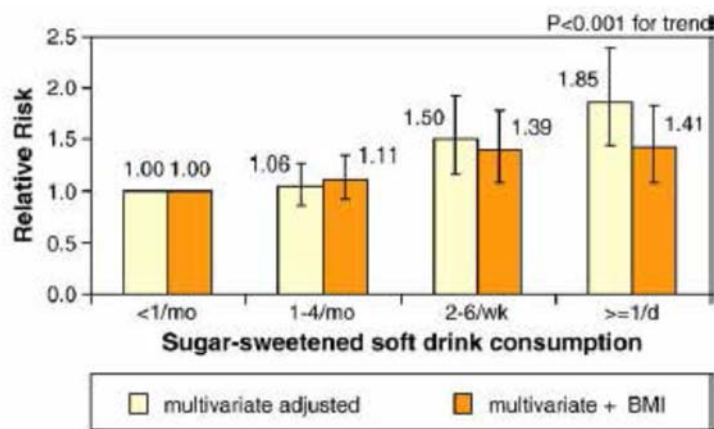
23 ³⁸ *Id.* at 2481.

24 ³⁹ *Id.*

25 ⁴⁰ The Nurses’ Health Study was established at Harvard in 1976, and the Nurses’ Health Study
26 II, in 1989. Both are long-term epidemiological studies conducted on women’s health. The
27 study followed 121,700 women registered nurses since 1976, and 116,000 female nurses
28 since 1989, to assess risk factors for cancer, diabetes, and cardiovascular disease. The Nurses’
Health Studies are among the largest investigations into risk factors for major chronic disease
in women ever conducted. *See generally* “The Nurses’ Health Study,” at
<http://www.channing.harvard.edu/nhs>.

1 day (*i.e.*, 140-150 calories and 35-37.5 grams of sugar), had an 83% greater relative risk of
 2 type 2 diabetes compared with those who consumed less than 1 such beverage per month,
 3 and women who consumed 1 or more fruit punch drinks per day had a 100% greater relative
 4 risk of type 2 diabetes.⁴¹

5 62. The result of this analysis shows a statistically significant linear trend with
 6 increasing sugar consumption.⁴²



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Fig. 4. Multivariate relative risks (RRs) of type 2 diabetes according to sugar-sweetened soft drink consumption in the Nurses' Health Study II 1991-1999 (Multivariate RRs were adjusted for age, alcohol (0, 0.1-4.9, 5.0-9.9, 10+ g/d), physical activity (quintiles), family history of diabetes, smoking (never, past, current), postmenopausal hormone use (never, ever), oral contraceptive use (never, past, current), intake (quintiles) of cereal fiber, magnesium, trans fat, polyunsaturated:saturated fat, and consumption of sugar-sweetened soft drinks, diet soft drinks, fruit juice, and fruit punch (other than the main exposure, depending on model). The data were based on Ref. [50]).

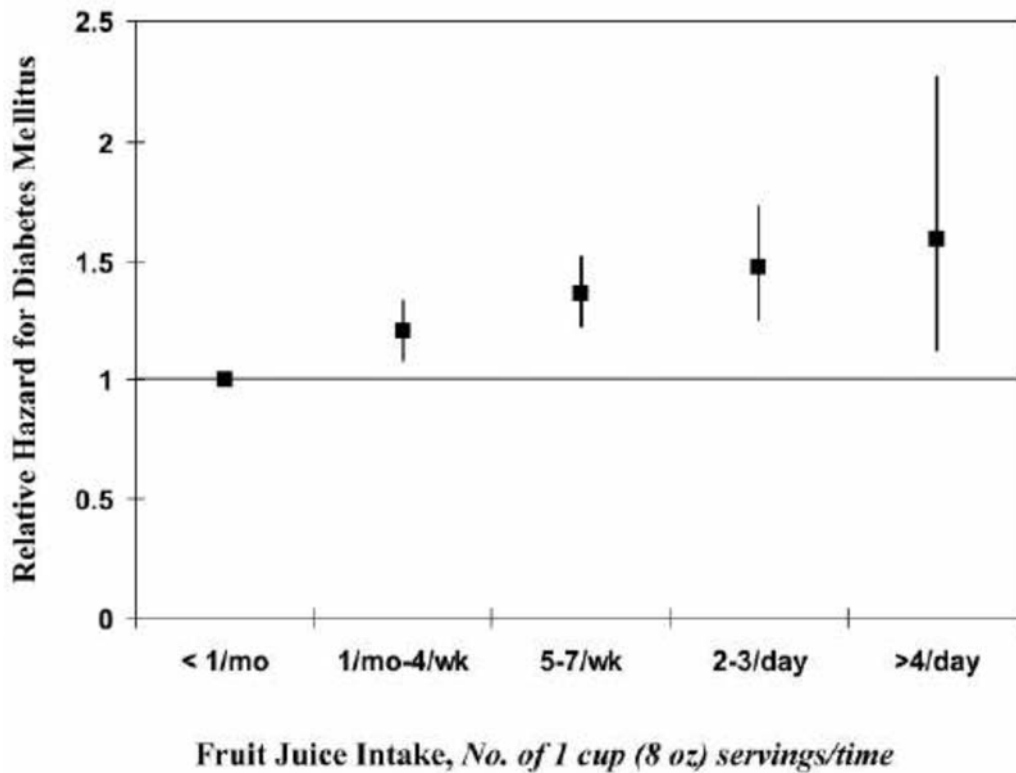
63. A prospective cohort study of more than 43,000 African American women
 between 1995 and 2001 showed that the incidence of type 2 diabetes was higher with higher
 intake of both sugar-sweetened soft drinks and fruit drinks. After adjusting for confounding
 variables, those who drank 2 or more soft drinks per day (*i.e.*, 140-300 calories and 35-75
 grams of sugar) showed a 24% greater risk of type 2 diabetes, and those who drank 2 or more

⁴¹ Schulze, M.B., et al., "Sugar-Sweetened Beverages, Weight Gain, and Incidence of Type 2 Diabetes in Young and Middle-Aged Women," *Journal of the American Medical Association*, Vol. 292, No. 8, 927-34 (Aug. 25, 2004) [hereinafter "Schulze, Diabetes in Young & Middle-Aged Women"].

⁴² Hu, F.B., et al., "Sugar-sweetened beverages and risk of obesity and type 2 diabetes: Epidemiologic evidence," *Physiology & Behavior*, Vol. 100, 47-54 (2010).

1 fruit drinks per day showed a 31% greater risk of type 2 diabetes, than those who drank 1 or
2 less such drinks per month.⁴³

3 64. A large cohort study of more than 70,000 women from the Nurses' Health Study
4 followed for 18 years showed that those who consumed 2 to 3 apple, grapefruit, and orange
5 juices per day (280-450 calories and 75-112.5 grams of sugar) had an 18% greater risk of
6 type 2 diabetes than women who consumed less than 1 sugar-sweetened beverage per month.
7 The data also showed a linear trend with increased consumption, as demonstrated below.⁴⁴



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Figure 1—Multivariate-adjusted relative hazard of diabetes by category of cumulatively updated fruit juice intake. Values were adjusted for cumulatively updated BMI, physical activity, family history of diabetes, postmenopausal hormone use, alcohol use, smoking, and total energy intake. For an increase of 1 serving/day of fruit juice, the multivariate-adjusted relative risk was 1.18 (95% CI 1.10–1.26; $P < 0.0001$).

⁴³ Palmer, J.R., et al., “Sugar-Sweetened Beverages and Incidence of Type 2 Diabetes Mellitus in African American Women,” *Archive of internal Medicine*, Vol. 168, No. 14, 1487-82 (July 28, 2008) [hereinafter “Palmer, Diabetes in African American Women”].

⁴⁴ Bazzano, L.A., et al., “Intake of fruit, vegetables, and fruit juices and risk of diabetes in women,” *Diabetes Care*, Vol. 31, 1311-17 (2008).

1 65. An analysis of more than 40,000 men from the Health Professionals Follow-Up
2 Study, a prospective cohort study conducted over a 20-year period, found that, after adjusting
3 for age and a wide variety of other confounders, those in the top quartile of sugar-sweetened
4 beverage intake had a 24% greater risk of type 2 diabetes than those in the bottom quartile,
5 while consumption of artificially-sweetened beverages, after adjustment, showed no
6 association.⁴⁵

7 66. Most convincingly, an econometric analysis of repeated cross-sectional data
8 published in 2013 established a causal relationship between sugar availability and type 2
9 diabetes. After adjusting for a wide range of confounding factors, researchers found that an
10 increase of 150 calories per day related to an insignificant 0.1% rise in diabetes prevalence
11 by country, while an increase of 150 calories per day in sugar related to a 1.1% rise in
12 diabetes prevalence by country, a statically-significant 11-fold difference.⁴⁶

13 **C. Excess Sugar Consumption Causes Cardiovascular Disease**

14 67. Sixteen million Americans have heart disease, which is the number one killer
15 in the United States.⁴⁷

16 68. Data obtained from NHANES surveys during the periods of 1988-1994, 1999-
17 2004, and 2005-2010, after adjusting for a wide variety of other factors, demonstrate that
18 those who consumed between 10% - 24.9% of their calories from added sugars had a 30%
19 greater risk of cardiovascular disease (CVD) mortality than those who consumed 5% or less
20 of their calories from added sugar. In addition, those who consumed 25% or more of their
21

22 ⁴⁵ de Konig, L., et al., “Sugar-sweetened and artificially sweetened beverage consumption
23 and risk of type 2 diabetes in men,” *American Journal of Clinical Nutrition*, Vol. 93, 1321-
24 27 (2011).

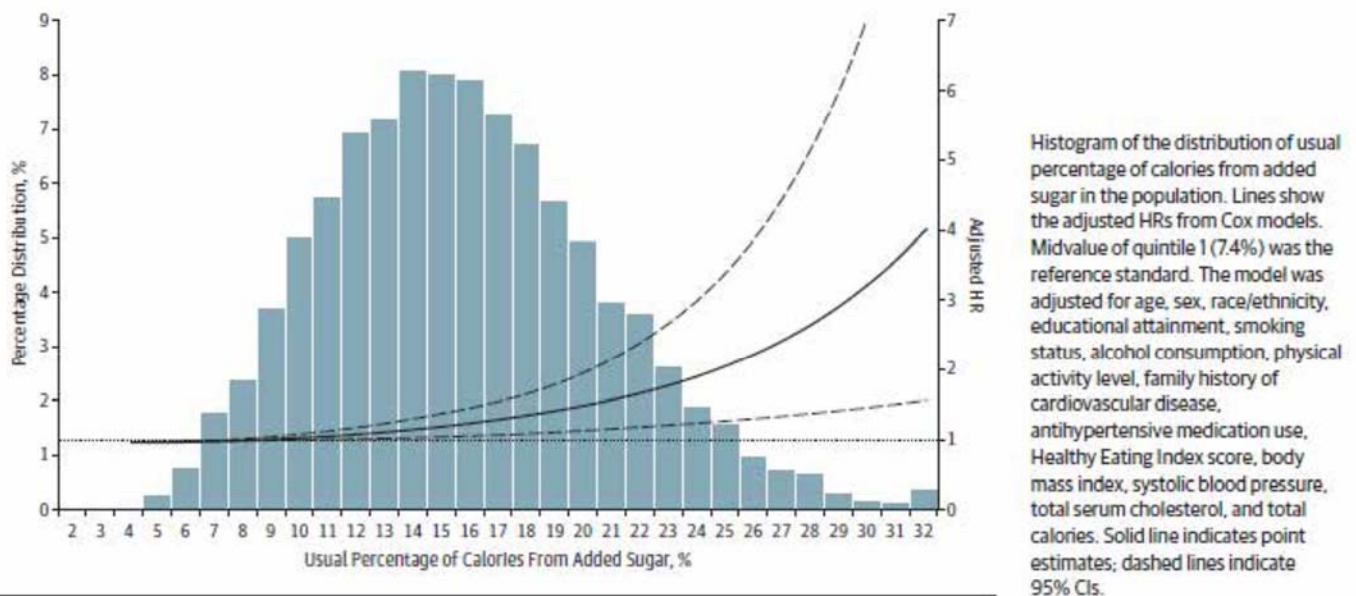
25 ⁴⁶ Basu, S., et al., “The Relationship of Sugar to Population-Level Diabetes Prevalence: An
26 Econometric Analysis of Repeated Cross-Sectional Data,” *PLOS Online*, Vol. 8, Issue 2
(February 27, 2013).

27 ⁴⁷ Gaddam, K.K., et al., “Metabolic syndrome and heart failure—the risk, paradox, and
28 treatment,” *Current Hypertension Reports*, Vol. 13, No. 2, 142-48 (2011).

1 calories from added sugars had an average 275% greater risk of CVD mortality than those
 2 who consumed less than 5% of calories from added sugar.⁴⁸

3 69. Similarly, when compared to those who consumed approximately 8% of
 4 calories from added sugar, participants who consumed approximately 17% - 21% (the 4th
 5 quintile) of calories from added sugar had a 38% higher risk of CVD mortality, while the
 6 relative risk was more than double for those who consumed 21% or more of calories from
 7 added sugar (the 5th quintile). Thus, “[t]he risk of CVD mortality increased exponentially
 8 with increasing usual percentage of calories from added sugar,”⁴⁹ as demonstrated in the
 9 chart below.

10 **Figure 1. Adjusted Hazard Ratio (HR) of the Usual Percentage of Calories From Added Sugar**
 11 **for Cardiovascular Disease Mortality Among US Adults 20 Years or Older: National Health and Nutrition**
Examination Survey Linked Mortality Files, 1988-2006



22 70. The NHANES analysis also found “a significant association between sugar-
 23 sweetened beverage consumption and risk of CVD mortality,” with an average 29% greater
 24 risk of CVD mortality “when comparing participants who consumed 7 or more servings/wk
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27 ⁴⁸ Yang, NHANES Analysis, *supra* n.12 at E4-5.

28 ⁴⁹ *Id.*

1 (360 mL per serving) with those who consumed 1 serving/wk or less”⁵⁰ The study
 2 concluded that “most US adults consume more added sugar than is recommended for a
 3 healthy diet. A higher percentage of calories from added sugar is associated with
 4 significantly increased risk of CVD mortality. In addition, regular consumption of sugar-
 5 sweetened beverages is associated with elevated CVD mortality.”⁵¹

6 71. The Nurses’ Health Study found that, after adjusting for other unhealthy
 7 lifestyle factors, those who consumed two or more sugar-sweetened beverages per day (280
 8 calories and 70 grams of sugar or more) had a 35% greater risk of coronary heart disease
 9 compared with infrequent consumers.⁵²

10 **D. Excess Sugar Consumption Causes Liver Disease**

11 72. Fructose consumption causes serious liver disease, including non-alcoholic
 12 fatty liver disease (NAFLD), characterized by excess fat build-up in the liver. Five percent
 13 of these cases develop into non-alcoholic steatohepatitis (NASH), scarring as the liver tries
 14 to heal its injuries, which gradually cuts off vital blood flow to the liver. About 25% of
 15 NASH patients progress to non-alcoholic liver cirrhosis, which requires a liver transplant or
 16 can lead to death.⁵³

17 73. Since 1980, the incidence of NAFLD and NASH has doubled, along with the
 18 rise of fructose consumption, with approximately 6 million Americans estimated to have
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 22 ⁵⁰ *Id.* at E6.

23 ⁵¹ *Id.* at E8.

24 ⁵² Fung T.T., et al., “Sweetened beverage consumption and risk of coronary heart disease in
 25 women,” *American Journal of Clinical Nutrition*, Vol. 89 at 1037-42 (February 2009).

26 ⁵³ Farrell, G.C., et al., “Nonalcoholic fatty liver disease: from steatosis to cirrhosis,”
 27 *Hepatology*, Vol. 433, No. 2 (Suppl. 1), S99-S112 (February 2006); Powell, E.E., et al., “The
 28 Natural History of Nonalcoholic Steatohepatitis: A Follow-up Study of Forty-two Patients
 for Up to 21 Years,” *Hepatology*, Vol. 11, No. 1 (1990).

1 progressed to NASH and 600,000 to Nash-related cirrhosis. Most people with NASH also
2 have type 2 diabetes. NASH is now the third-leading reason for liver transplant in America.⁵⁴

3 74. Moreover, because the liver metabolizes sugar virtually identically to alcohol,
4 the U.S. is now seeing for the first time alcohol-related diseases in children. Conservative
5 estimates are that 31% of American adults, and 13% of American children suffer from
6 NAFLD.⁵⁵

7 **E. Excess Sugar Consumption Causes Obesity**

8 75. Excess sugar consumption also leads to weight gain and obesity because insulin
9 secreted in response to sugar intake instructs the cells to store excess energy as fat. This
10 excess weight can then exacerbate the problems of excess sugar consumption, because
11 excess fat, particularly around the waist, is in itself a primary cause of insulin resistance,
12 another vicious cycle. Studies have shown that belly fat produces hormones and other
13 substances that can cause insulin resistance, high blood pressure, abnormal cholesterol
14 levels, and cardiovascular disease. And belly fat plays a part in the development of chronic
15 inflammation in the body, which can cause damage over time without any signs or
16 symptoms. Complex interactions in fat tissue draw immune cells to the area, which triggers
17 low-level chronic inflammation. This in turn contributes even more to insulin resistance,
18 type 2 diabetes, and cardiovascular disease.

21 ⁵⁴ Charlton, M.R., et al., “Frequency and outcomes of liver transplantation for nonalcoholic
22 steatohepatitis in the United States,” *Gastroenterology*, Vol. 141, No. 4, 1249-53 (October
23 2011).

24 ⁵⁵ Lindback, S.M., et al., “Pediatric Nonalcoholic Fatty Liver Disease: A Comprehensive
25 Review,” *Advances in Pediatrics*, Vol. 57, No. 1, 85-140 (2010); Lazo, M. et al., “The
26 Epidemiology of Nonalcoholic Fatty Liver Disease: A Global Perspective,” *Seminars in Liver
27 Disease*, Vol. 28, No. 4, 339-50 (2008); Schwimmer, J.B., et al., “Prevalence of Fatty Liver
28 in Children and Adolescents,” *Pediatrics*, Vol. 118, No. 4, 1388-93 (2006); Browning, J.D.,
et al., “Prevalence of hepatic steatosis in an urban population in the United States: Impact of
ethnicity,” *Hepatology*, Vol. 40, No. 6, 1387-95 (2004).

1 76. Based on a meta-analysis of 30 studies between 1966 and 2005, Harvard
2 researchers found “strong evidence for the independent role of the intake of sugar-sweetened
3 beverages, particularly soda, in the promotion of weight gain and obesity in children and
4 adolescents. Findings from prospective cohort studies conducted in adults, taken in
5 conjunction with results from short-term feeding trials, also support a positive association
6 between soda consumption and weight gain, obesity, or both.”⁵⁶

7 77. A recent meta-analysis by Harvard researchers evaluating change in Body Mass
8 Index per increase in 1 serving of sugar-sweetened beverages per day found a significant
9 positive association between beverage intake and weight gain.⁵⁷

10 78. One study of more than 2,000 2.5-year-old children followed for 3 years found
11 that those who regularly consumed sugar-sweetened beverages between meals had a 240%
12 better chance of being overweight than non-consumers.⁵⁸

13 79. An analysis of data for more than 50,000 women from the Nurses’ Health Study
14 during two 4-year periods showed that weight gain over a 4-year period was highest among
15 women who increased their sugar-sweetened beverage consumption from 1 or fewer drinks
16 per week, to 1 or more drinks per day (8.0 kg gain during the 2 periods), and smallest among
17 women who decreased their consumption or maintained a low intake level (2.8 kg gain).⁵⁹

18 80. A study of more than 40,000 African American women over 10 years had
19 similar results. After adjusting for confounding factors, those who increased sugar-
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21 ⁵⁶ Malik, V.S., et al., “Intake of sugar-sweetened beverages and weight gain: a systematic
22 review,” *American Journal of Clinical Nutrition*, Vol. 84, 274-88 (2006).

23 ⁵⁷ Malik, V.S., et al., “Sugar-sweetened beverages and BMI in children and adolescents:
24 reanalyses of a meta-analysis,” *American Journal of Clinical Nutrition*, Vol. 29, 438-39
25 (2009).

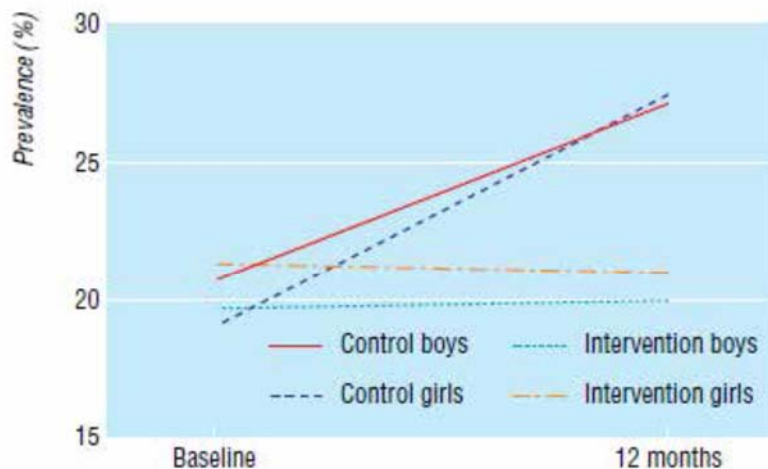
26 ⁵⁸ Dubois, L., et al., “Regular sugar-sweetened beverage consumption between meals
27 increases risk of overweight among preschool-aged children,” *Journal of the American
Dietetic Association*, Vol. 107, Issue 6, 924-34 (2007).

28 ⁵⁹ Schulze, Diabetes in Young & Middle-Aged Women, *supra* n.41.

1 sweetened beverage intake from less than 1 serving per week, to more than 1 serving per
 2 day, gained the most weight (6.8 kg), while women who decreased their intake gained the
 3 least (4.1 kg).⁶⁰

4 81. A study of more than 6,000 participants in the Framingham Heart Study found
 5 those who consumed more than 1 soft drink per day had a 31% greater risk of obesity than
 6 those who consumed less than 1 soft drink per day.⁶¹

7 82. The link between sugar intake and weight gain was also demonstrated in a
 8 randomized, controlled intervention study, where “[a] simple 12 month school based
 9 intervention focused on reducing consumption of carbonated drinks resulted in significant
 10 differences in the proportion of overweight children in the control and intervention groups,”
 11 as demonstrated in the chart below.



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 Fig 2 Mean change in prevalence of overweight and obese children from baseline to follow up at 12 months according to clusters

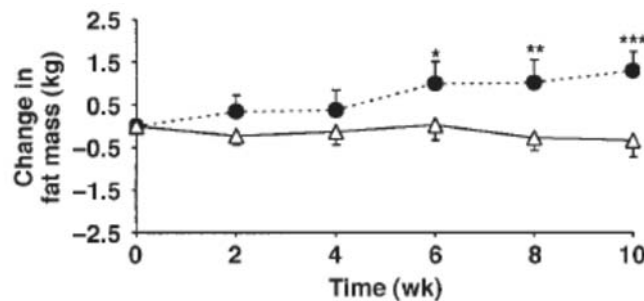
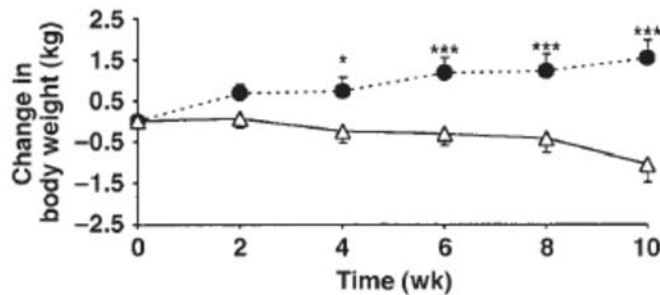
21 At a three-year follow-up, however, the significant difference seen between the groups after
 22 a year of focused education was no longer evident, with overweight children more prevalent
 23 in both groups, providing further support for the link between sugar and weight gain.⁶²

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 25 ⁶⁰ Palmer, Diabetes in African American Women, *supra* n.43.

26 ⁶¹ Dhingra, Cardiometabolic Risk, *supra* n.31.

27 ⁶² James, J. et al., “Preventing childhood obesity: two year follow-up results from the
 28 Christchurch obesity prevention programme in schools (CHOPPS),” *BJM*, Vol. 335, 762

83. Similarly, experimental short-term feeding studies comparing sugar-sweetened beverages to artificially-sweetened beverages have illustrated that consumption of the former leads to greater weight gain. As demonstrated in the chart below, one 10-week trial involving more than 40 men and women demonstrated that the group that consumed daily supplements of sucrose (for 28% of total energy) increased body weight and fat mass, by 1.6 kg for men and 1.3 kg for women, while the group that was supplemented with artificial sweeteners lost weight—1.0 kg for men and 0.3 kg for women.⁶³



(2007) (discussing James, J., et al., “Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomized controlled trial,” *BJM*, Vol. 328, 1237 (April 27, 2004)).

⁶³ Raben, A., et al., “Sucrose compared with artificial sweeteners: different effects on ad libitum food intake and body weight after 10 wk of supplementation in overweight subjects,” *American Journal of Clinical Nutrition*, Vol. 76, 721-29 (2002) [hereinafter, “Raben, Sucrose vs. Artificial Sweeteners”].

FIGURE 2. Mean (\pm SEM) changes in body weight, fat mass, and fat-free mass during an intervention in which overweight subjects consumed supplements containing either sucrose (\bullet ; $n = 21$) or artificial sweeteners (Δ ; $n = 20$) daily for 10 wk. The diet \times time interactions were significant for changes in body weight ($P < 0.0001$) and fat mass ($P < 0.05$) by analysis of variance with Tukey's post hoc tests. At specific time points for changes in body weight and fat mass, there were significant differences between the sucrose and sweetener groups: * $P < 0.05$, ** $P < 0.001$, and *** $P < 0.0001$ (general linear model with least squares means and adjustment for multiple comparisons).

84. In another, 3-week study, researchers gave normal-weight subjects 1150 grams of soda per day, sweetened with either aspartame or HFCS. The experiment found that drinking artificially-sweetened soda reduced calorie intake and body weight of men, while drinking HFCS-sweetened soda significantly increased calorie intake and body weight of both sexes, as demonstrated in the chart below.⁶⁴

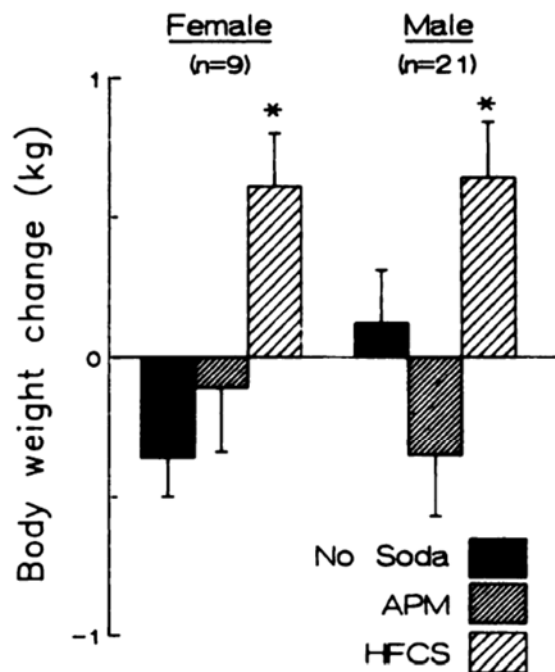


FIG 1. Changes in body weight during 3-wk periods when subjects drank 1150 g/d of soda sweetened with aspartame (APM), an equal weight of soda sweetened with high-fructose corn syrup (HFCS), or had no experimental manipulation (no soda). * $p < 0.05$ relative to weight gain in no-soda period.

⁶⁴ Tordoff, M.G., et al., "Effect of drinking soda sweetened with aspartame or high-fructose corn syrup on food intake and body weight," *American Journal of Clinical Nutrition*, Vol. 51, 963-69 (1990).

1 **F. Excess Sugar Consumption Causes Inflammation**

2 85. Inflammation has been associated with type 2 diabetes, myocardial infarction,
3 and stroke, as well as weight gain and obesity.⁶⁵

4 86. A 10-week study comparing a group whose sucrose intake was increased by
5 151% to a group whose intake was decreased by 42% showed the former's blood
6 concentration of the biological markers for inflammation, haptoglobin, transferrin, and C-
7 reactive protein, increased by 13%, 5%, and 6%, respectively, while the latter group's
8 concentrations decreased by 16%, 2%, and 26% respectively.⁶⁶

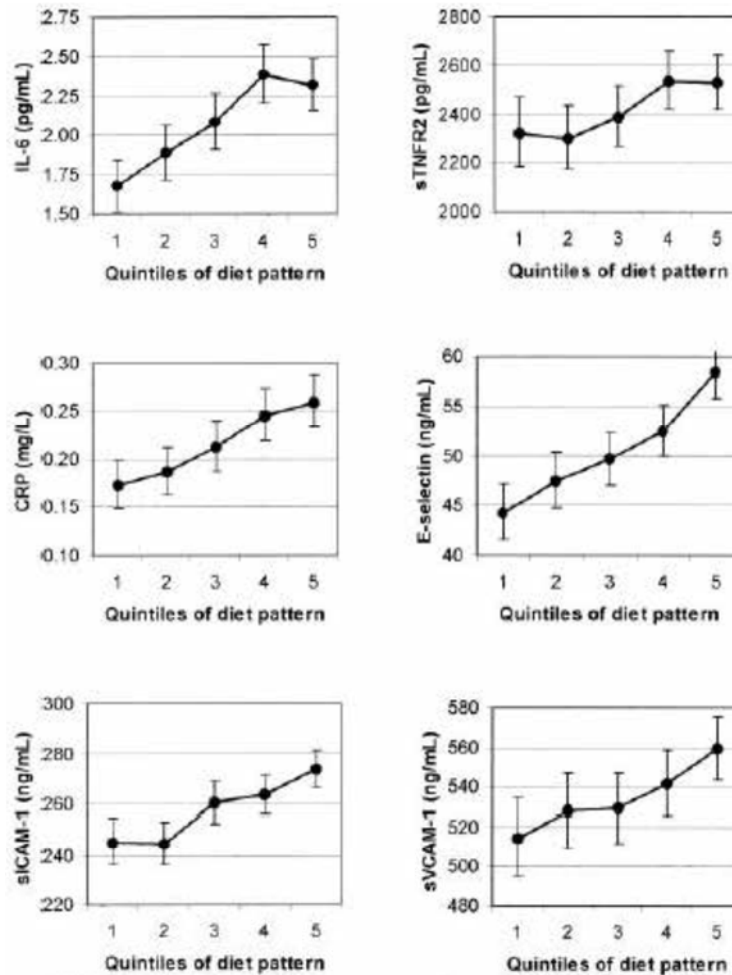
9 87. In a prospective, randomized, controlled crossover trial, 29 subjects were
10 studied over six 3-week interventions in which they either consumed various amounts of
11 fructose, glucose, or sucrose, or received dietary advice to consume low amounts of fructose.
12 The study showed LDL particle size reducing (associated with atherosclerosis) by 0.51 nm
13 after high-fructose intake (80 grams per day), and by 0.43 nm after high-sucrose intake (also
14 80 grams per day). It also found significant increases in fasting glucose and C-reactive
15 protein, leading the authors to conclude that the "data show potentially harmful effects of
16 low to moderate consumption of SSBs on markers of cardiovascular risk such as LDL
17 particles, fasting glucose, and [C-reactive protein] within just 3 wk in healthy young men,
18 which is of particular significance for young consumers."⁶⁷

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22 ⁶⁵ Sorensen, L.B., et al., "Effect of sucrose on inflammatory markers in overweight humans,"
23 *American Journal of Clinical Nutrition*, Vol. 82, 421-27 (2005) (citations omitted)
24 [hereinafter, "Sorensen, Inflammatory Markers"]; *see also* Pearson, T.A., et al., "Markers of
25 Inflammation and Cardiovascular Disease: Application to Clinical and Public Health
Practice, A Statement for Healthcare Professionals From the Centers for Disease Control and
Prevention and the American Heart Association," *Circulation*, Vol. 107, 499-511 (2003).

26 ⁶⁶ Sorensen, Inflammatory Markers, *supra* n.65.

27 ⁶⁷ Aeberli, I., et al., "Low to moderate sugar-sweetened beverage consumption impairs
28 glucose and lipid metabolism and promotes inflammation in healthy young men: a
randomized controlled trial," *American Journal of Clinical Nutrition*, Vol. 94, 479-85 (2011).

1 88. In a nested case-control study of 656 cases of type 2 diabetes and 694 controls
 2 from the Nurses Study, researchers identified a dietary pattern strongly related to
 3 inflammatory markers, which was high in sugar-sweetened soft drinks, showing linear trends
 4 across quintiles of dietary pattern for six inflammation markers.



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FIGURE 1. Geometric mean concentrations and 95% CIs of interleukin 6 (IL-6), soluble tumor necrosis factor α receptor 2 (sTNFR2), C-reactive protein (CRP), E-selectin, soluble intracellular cell adhesion molecule 1 (sICAM-1), and soluble vascular cell adhesion molecule 1 (sVCAM-1) by quintiles of diet pattern score adjusted for age, BMI (9 categories), physical activity (quintiles), family history of diabetes, smoking (never, past, current, or missing), postmenopausal hormone use (never, ever, or missing), energy intake (quintiles), and fasting status. The comparison between quintile 5 and quintile 1 was significant for all biomarkers, $P < 0.05$. Quintile cutoffs were based on distributions in controls.

1 **G. Excess Sugar Consumption Causes High Blood Triglycerides and**
2 **Abnormal Cholesterol Levels**

3 89. Fructose facilitates the biochemical formation of triacylglycerols more
4 efficiently than does glucose.⁶⁸ This is because fructose metabolism in the liver converts the
5 fructose to fructose-1-phosphate, which readily becomes a substrate for the backbone of the
6 triglyceride molecule.⁶⁹ As compared to starches, sugars—particularly sucrose and
7 fructose—tend to increase serum triacylglycerol concentrations by about 60%.⁷⁰

8 90. Cholesterol is a waxy, fat-like substance found in the body's cells, used to make
9 hormones, bile acids, vitamin D, and other substances. The human body manufactures all
10 the cholesterol it requires, which circulates in the bloodstream in packages called
11 lipoproteins. Excess cholesterol in the bloodstream can become trapped in artery walls,
12 building into plaque and narrowing blood vessels, making them less flexible, a condition
13 called atherosclerosis. When this happens in the coronary arteries, it restricts oxygen and
14 nutrients to the heart, causing chest pain or angina. When cholesterol-rich plaques in these
15 arteries burst, a clot can form, blocking blood flow and causing a heart attack.

16 91. Most blood cholesterol is low-density lipoprotein, or LDL cholesterol, which is
17 sometimes called “bad” cholesterol because it carries cholesterol to the body's tissues and
18 arteries, increasing the risk of heart disease. High-density lipoprotein, or HDL cholesterol,
19 is sometimes called “good” cholesterol because it removes excess cholesterol from the
20 cardiovascular system, bringing it to the liver for removal. Thus, a low level of HDL
21 cholesterol increases the risk of heart disease.

22 92. Diet affects blood cholesterol. For example, the body reacts to saturated fat by
23 producing LDL cholesterol.

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25 ⁶⁸ Elliot, Fructose & Insulin Resistance, *supra* n.22.

26 ⁶⁹ Bray, G.A., “Soft Drinks and Obesity: The Evidence,” *CMR e-Journal*, Vol. 2, Issue, 2,
27 10-14, at 13 (Oct. 2009).

28 ⁷⁰ Fried, Hypertriglyceridemia, *supra* n.28, at 873S.

1 93. When the liver is overwhelmed by large doses of fructose, it will convert excess
2 to fat, which is stored in the liver and then released into the bloodstream, contributing to key
3 elements of metabolic syndrome, like high blood fat and triglycerides, high total cholesterol,
4 and low HDL “good” cholesterol.⁷¹

5 94. A study of more than 6,000 participants in the Framingham Heart Study found
6 those who consumed more than 1 soft drink per day had a 25% greater risk of
7 hypertriglyceridemia, and 32% greater risk of low HDL cholesterol than those who
8 consumed less than 1 soft drink per day.⁷²

9 95. A systematic review and meta-analysis of 37 randomized controlled trials
10 concerning the link between sugar intake and blood pressure and lipids found that higher
11 sugar intakes, compared to lower sugar intakes, significantly raised triglyceride
12 concentrations, total cholesterol, and low density lipoprotein cholesterol.⁷³

13 96. A cross-sectional study among more than 6,100 U.S. adults from the NHANES
14 1999-2006 data were grouped into quintiles for sugar intake as follows: (1) less than 5% of
15 calories consumed from sugar, (2) 5% to less than 10%, (3) 10% to less than 17.5%, (4)
16 17.5% to less than 25%, and (5) 25% or more. These groups had the following adjusted mean
17 HDL levels (because HDL is the “good” cholesterol, higher levels are better): 58.7 mg/dL,
18 57.5, 53.7, 51.0, and 47.7. Mean triglyceride levels were 105 mg/dL, 102, 111, 113, and 114.
19 Mean LDL levels were 116 mg/dL, 115, 118, 121, and 123 among women, with no
20 significant trend among men. Consumers whose sugar intake accounted for more than 10%
21 of calories had a 50% - 300% higher risk of low HDL levels compared to those who
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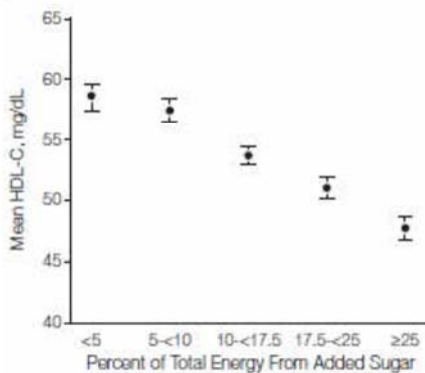
24 ⁷¹ Te Morenga, Dietary Sugars & Body Weight, *supra* n.27.

25 ⁷² Dhingra, Cardiometabolic Risk, *supra* n.31.

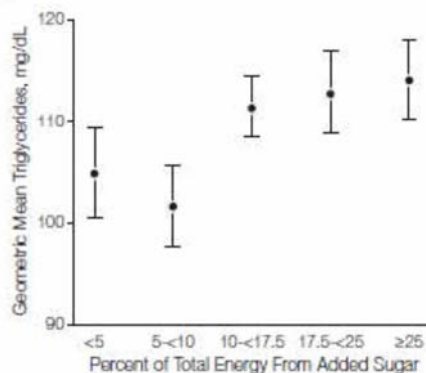
26
27 ⁷³ Te Morenga, L., et al., “Dietary sugars and cardiometabolic risk: systematic review and
28 meta-analyses of randomized controlled trials on the effects on blood pressure and lipids,”
American Journal of Clinical Nutrition, Vol. 100, No. 1, 65-79 (May 7, 2014).

1 consumed less than 5% of calories from sugar. Likewise, high-sugar consumers had greater
 2 risk of high triglycerides. All relationships were linear as demonstrated in the charts below.⁷⁴

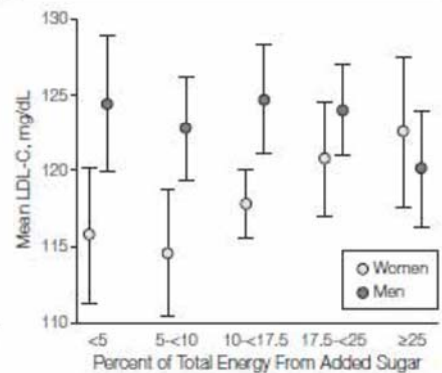
3 **Figure 1.** Multivariable-Adjusted Mean
 4 HDL-C Levels by Level of Added Sugar
 Intake Among US Adults, NHANES
 1999-2006



5 **Figure 2.** Multivariable-Adjusted Geometric
 6 Mean Triglyceride Levels by Level of Added
 Sugar Intake Among US Adults, NHANES
 1999-2006



7 **Figure 3.** Multivariable-Adjusted Mean
 8 LDL-C Levels by Level of Added Sugar Intake
 Among US Men and Women, NHANES
 1999-2006



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 11 97. One experimental study showed that, when a 17% fructose diet was provided
 12 to healthy men, they showed an increase in plasma triacylglycerol concentrations of 32%.⁷⁵

13 98. Another 10-week experimental feeding study showed that those who were fed
 14 25% of their energy requirements as fructose experienced increases in LDL cholesterol,
 15 small dense LDL cholesterol, and oxidized LDL cholesterol, as well as increased
 16 concentrations of triglycerides and total cholesterol, while those fed a 25% diet of glucose
 17 did not experience the same adverse effects.⁷⁶

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 23 ⁷⁴ Welsh, J.A., et al., "Caloric Sweetener Consumption and Dyslipidemia Among US Adults,"
 24 *Journal of the American Medical Association*, Vol. 303, No. 15, 1490-97 (April 21, 2010).

25 ⁷⁵ Bantle, J.P., et al., "Effects of dietary fructose on plasma lipids in healthy subjects,"
 26 *American Journal of Clinical Nutrition*, Vol. 72, 1128-34 (2000).

27 ⁷⁶ Stanhope, K.L., et al., "Consuming fructose-sweetened, not glucose-sweetened, beverages
 28 increases visceral adiposity and lipids and decreases insulin sensitivity in overweight/obese
 humans," *The Journal of Clinical Investigation*, Vol. 119, No. 5, 1322-34 (May 2009).

1 99. In a cross-sectional study of normal weight and overweight children aged 6-14,
2 researchers found that “the only dietary factor that was a significant predictor of LDL particle
3 size was total fructose intake.”⁷⁷

4 **H. Excess Sugar Consumption is Associated with Hypertension**

5 100. A study of more than 6,000 participants in the Framingham Heart Study found
6 those who consumed more than 1 soft drink per day had a 22% greater incidence, and an
7 18% greater risk of high blood pressure than those who consumed less than 1 soft drink per
8 day.⁷⁸

9 101. An analysis of the NHANES data for more than 4,800 adolescents also showed
10 a positive, linear association between sugar-sweetened beverages and higher systolic blood
11 pressure, as well as corresponding increases in serum uric acid levels.⁷⁹

26 ⁷⁷ Aeberli, I., et al., “Fructose intake is a predictor of LDL particle size in overweight
27 schoolchildren,” *American Journal of Clinical Nutrition*, Vol. 86, 1174-78 (2007).

28 ⁷⁸ Dhingra, *Cardiometabolic Risk*, *supra* n.31.

⁷⁹ Nguyen, *Serum Uric Acid*, *supra* n.23.

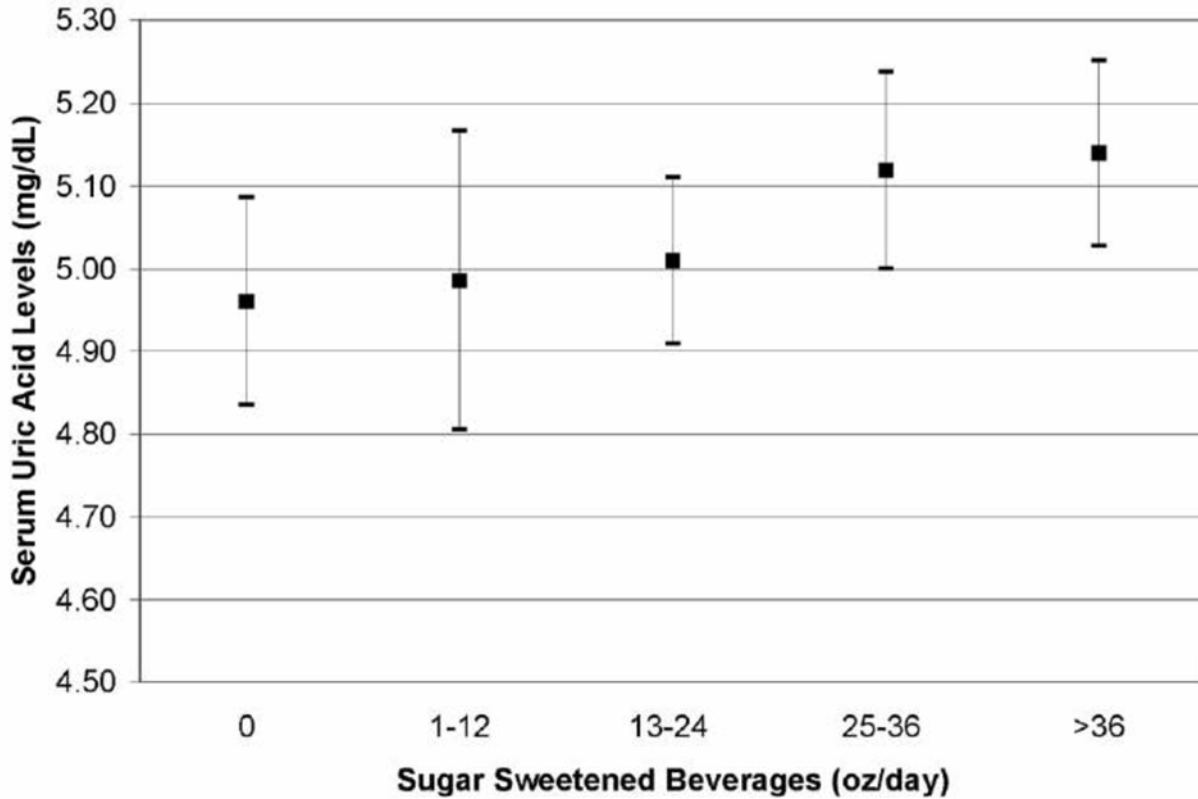


Figure 1. Sample mean of serum uric acid with 95% confidence intervals by categories of sugar sweetened beverage consumption adjusted for age, race/ethnicity, sex, total calories, BMI z-score, alcohol, smoking, dietary fiber intake, diet beverage consumption, and milk consumption. *P* for trend = 0.01

102. In one study, 15 healthy men drank 500 ml water containing either no sugar, 60 grams of fructose, or 60 grams of glucose. Blood pressure, metabolic rate, and autonomic nervous system activity were measured for 2 hours. While the administration of fructose was associated with an increase in both systolic and diastolic blood pressure, blood pressure did not rise in response to either water or glucose ingestion, as demonstrated in the chart below.⁸⁰

⁸⁰ Brown, C.M., et al., “Fructose ingestion acutely elevates blood pressure in healthy young humans,” *Am. J. Physiol. Regul. Integr. Compl. Physiol.*, Vol. 294, R730-37 (2008).

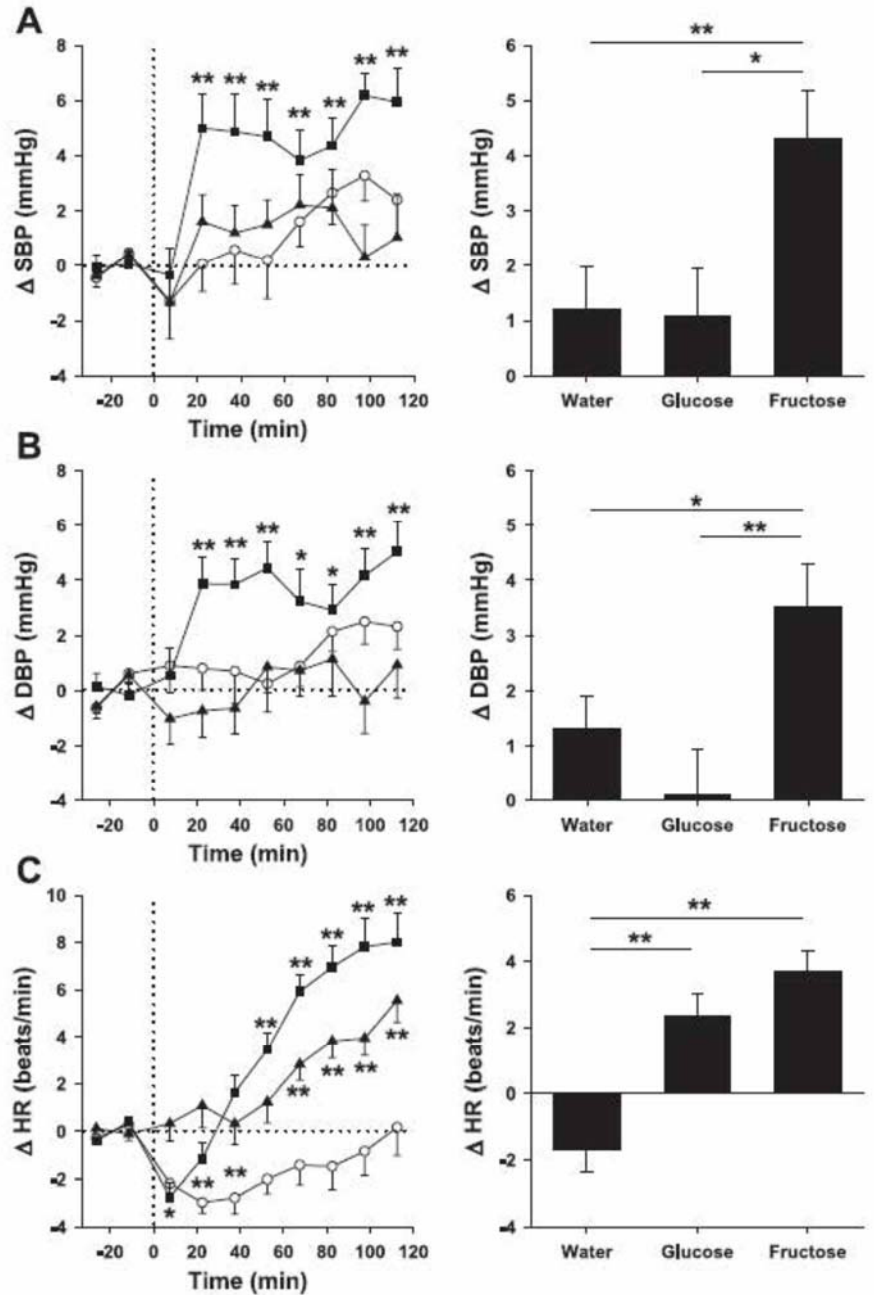


Fig. 1. Time course of the systolic blood pressure (SBP; A), diastolic blood pressure (DBP; B), and heart rate (HR; C) changes (left) and mean responses (right) to drinking water (○), glucose (▲), and fructose (■). * $P < 0.05$ and ** $P < 0.01$, statistically significant differences over time from baseline values (left) and differences between responses to the drinks (right).

103. In another study, more than 40 overweight men and women were supplemented for 10 weeks with either sucrose or artificial sweeteners. The sucrose group saw an increase in systolic and diastolic blood pressure, of 3.8 and 4.1 mm Hg, respectively, while the artificial sweetener group saw a decrease in systolic and diastolic blood pressure, of 3.1 and 1.2 mm Hg, respectively.⁸¹

⁸¹ Raben, Sucrose vs. Artificial Sweeteners, *supra* n.63.

1 104. Another study took a variety of approaches to measuring the association
2 between sugar intake and blood pressure, concluding that an increase of 1 serving of sugar-
3 sweetened beverages per day (*i.e.*, 140-150 calories, and 35-37.5 grams of sugar) was
4 associated with systolic/diastolic blood pressure differences of +1.6 and +0.8 mm Hg (and
5 +1.1/+0.4 mm Hg with adjustment for height and weight), while an increase of 2 servings
6 results in systolic/diastolic blood pressure differences of +3.4/+2.2, demonstrating that the
7 relationship is direct and linear.⁸²

8 **I. Excess Sugar Consumption is Associated with Alzheimer’s Disease,**
9 **Dementia, and Cognitive Decline**

10 105. In a study of over 2,000 participants over 6.8 years, researchers found that
11 higher average glucose levels within the preceding 5 years (115 mg/dL compared to 100
12 mg/dL) were related to an 18% increased risk of dementia among those without diabetes.
13 For those with diabetes, higher average glucose levels (190 mg/dL compared to 160 mg/dL)
14 were related to a 40% increased risk of dementia.⁸³

15 106. “To evaluate a possible association between fructose mediated metabolic
16 changes and cognitive behavior,” researchers “assessed the correlation of serum triglyceride
17 and insulin resistance levels with memory,” and “found a positive correlation between serum
18 triglyceride levels and insulin resistance index . . . , which indicates that increased serum
19 triglyceride levels may contribute to increase[d] insulin resistance” And researchers
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25 ⁸² Brown, I.J., et al., “Sugar-Sweetened Beverage, Sugar Intake of Individuals, and Their
26 Blood Pressure: International Study of Macro/Micronutrients and Blood Pressure,”
Hypertension, Vol. 57, 695-701 (2011).

27 ⁸³ Crane, P.K, et al., “Glucose Levels and Risk of Dementia,” *New England Journal of*
28 *Medicine*, Vol. 369, No. 6, 540-48 (2013).

1 “found that the latency time varied in proportion to the insulin resistance . . . , which suggests
2 that memory performance may rely on levels of insulin resistance”⁸⁴

3 **J. Excess Sugar Consumption is Linked to Some Cancers**

4 107. In a population-based case-control study involving 424 cases and 398 controls,
5 women in the highest quartile of added sugar intake had an 84% greater risk of endometrial
6 cancer.⁸⁵ Similarly, in a study of patients with stage 3 colon cancer, those in the highest
7 quintile of glycemic load experienced worsening in disease-free survival of approximately
8 80% compared to those in the lowest quintile.⁸⁶

9 108. A population based case-control study on Malaysian women found a
10 significant, two-fold increased risk of breast cancer among premenopausal and
11 postmenopausal women in the highest quartile of sugar intake.⁸⁷

12 109. A prospective epidemiological study of nearly 45,000 cancer cases among
13 436,000 participants aged 50-71, found added sugars were positively associated with risk of
14 esophageal adenocarcinoma; added fructose was associated with risk of small intestine
15 cancer; and all investigated sugars were associated with increased risk of pleural cancer.⁸⁸

18 ⁸⁴ Agrawal, R., et al., “‘Metabolic syndrome’ in the brain: deficiency in omega-3 fatty acid
19 exacerbates dysfunctions in insulin receptor signaling and cognition,” *Journal of Physiology*,
20 Vol. 590, No. 10, 2485-99, at 2489 (2012).

21 ⁸⁵ King, M.G., et al., “Consumption of Sugary Foods and Drinks and Risk of Endometrial
22 Cancer,” *Cancer Causes Control*, Vol. 24, No. 7, 1427-36 (July 2013).

23 ⁸⁶ Meyerhardt, J.A., et al. “Association of dietary patterns with cancer recurrence and survival
24 in patients with stage III colon cancer,” *Journal of the American Medical Association*, Vol.
25 298, 754-64 (2007).

26 ⁸⁷ Sulaiman, S., et al., “Dietary carbohydrate, fiber and sugar and risk of breast cancer
27 according to menopausal status in Malaysia,” *Asian Pacific Journal of Cancer Prevention*,
28 Vol. 15, 5959 (2014).

⁸⁸ Tasevska, N., et al., “Sugars in diet and risk of cancer in the NIH-AARP Diet and Health
Study,” *International Journal of Cancer*, Vol. 130, No. 1, 159-69 (Jan. 1, 2012)

K. Based on the Scientific Evidence, Authoritative Scientific and Health Organizations Recommend Restricting Added Sugar Consumption to Below 5% or 10% of Daily Calories

110. Based on the scientific research, the American Heart Association recommends restricting added sugar to 5% of calories.⁸⁹ Based on the average caloric needs, this equates to 12 grams for children 4 to 8 years old, up to 25 grams for children up to 18 years old, 25 grams for women, and 38 grams for men.

111. The United Kingdom’s dietary guidelines recommend “intake of free sugars*⁹⁰ should not exceed 5% of total dietary energy for age groups from 2 years upwards.”⁹¹

112. The World Health Organization recommends that no more than 10% of an adult’s calories—and ideally less than 5%—should come from added sugar or from natural sugars in honey, syrups, and fruit juice.⁹²

113. The Food and Drug Administration recently adopted the United States Department of Agriculture’s daily reference value of 50 grams of added sugar, or 10% of calories based on a 2,000-calorie diet. 81 Fed. Reg. 33742, 33820 (May 27, 2016). While the FDA acknowledged the AHA and WHO recommendations to keep added sugars below 5% of calories, it set the DRV at 50 grams or 10% because this was “more realistic considering current consumption of added sugars in the United States as well as added sugars

⁸⁹ See AHA Scientific Statement, *supra* n.10.

⁹⁰ Defined as sugars added to food, naturally present in honey, syrup and fruit juice.

⁹¹ England’s Department of Health, “Sugar Recommendations Department of Health, England,” (Oct. 2015), available at https://ec.europa.eu/health/sites/health/files/nutrition_physical_activity/docs/ev_20151028_co07_en.pdf.

⁹² See World Health Organization, “Sugars intake for adult and children: Guideline” (March 4, 2014), available at http://www.who.int/nutrition/publications/guidelines/sugars_intake/en (Based on scientific evidence, recommending adults and children reduce daily intake of free sugars to less than 10% of total energy intake and noting that “[a] further reduction to below 5% or roughly 25 grams (6 teaspoons) per day would provide additional health benefits.”).

1 in the food supply.” *Id.* at 33,849. Nevertheless, the FDA’s rulemaking was based, in part,
 2 on the 2015 Dietary Guidelines Advisory Committee’s “food pattern analysis,” which—
 3 consistent with the AHA and WHO recommendations— “demonstrate[d] that when added
 4 sugars in foods and beverages exceeds 3% to 9% of total calories . . . a healthful food pattern
 5 may be difficult to achieve”⁹³

6 **V. Clif’s Marketing and Sale of the High-Sugar “Nutrition” Bars**

7 114. Clif is well aware that consumers prefer healthful foods and are willing to pay
 8 more for, and purchase more often, products marketed and labeled as being healthy. For
 9 instance, Nielsen’s 2015 Global Health & Wellness Survey found that “88% of those polled
 10 are willing to pay more for healthier foods.”⁹⁴

11 115. Clif employs a strategic marketing campaign intended to appeal to consumers
 12 interested in healthful foods in order to increase sales and profits, despite that the high-sugar
 13 bars are detrimental to health.

14 116. On its website, Clif claims to “believe in creating a healthier . . . food system”⁹⁵
 15 and states that “[o]ffering nutritious food is what we do, and like you, we care about what
 16 we put in our bodies.”⁹⁶

21 ⁹³ U.S. Department of Agriculture, “Scientific Report of the 2015 Dietary Guidelines
 22 Advisory Committee” (February 2015), Ch. 6 p.26.

23 ⁹⁴ Nancy Gagliardi, Forbes, Consumers Want Healthy Foods--And Will Pay More For
 24 Them (Feb. 18, 2015) (citing Neilson, 2015 Global Health & Wellness Survey, at 11 (Jan.
 2015)).

25 ⁹⁵ Clif, *Organic For Good*, available at <http://www.clifbar.com/article/organic-for-good>
 26 (last visited Nov. 26, 2017).

27 ⁹⁶ Clif, Frequently Asked Questions, *What Procedures Do You Have In Place In Regards*
 28 *To Food Safety?*, available at <http://www.clifbar.com/faq> (last visited Nov. 26, 2017).

1 117. Clif also boasts about having a “dedicated food safety” staff that makes sure
2 “our products are nutritious.”⁹⁷

3 118. It attempts to distinguish its bars from competitors by claiming that “Clif Bars
4 are different from other bars” because they are “crafted in a way that is good for people.”⁹⁸

5 119. To promote its Kids Bars, Clif claims, “We know it’s hard to get kids to eat the
6 right snacks. But you can feel good knowing that all our CLIF Kid recipes come in kid-
7 friendly flavors-made from nutritious and organic ingredients-to keep them going, growing
8 and exploring.”⁹⁹

9 120. In its attempts to portray its Products as healthful, Clif even created a “CLIF
10 KID NUTRITION PACT,” which states: “We believe that nutrition isn’t just about what you
11 put in your kids’ bodies, but also what you keep out. The CLIF Kid Nutrition Pact is our
12 promise to provide delicious snacks made of all the good stuff (and none of the bad stuff)
13 active kids need to grow, develop, and thrive.”¹⁰⁰

14 121. Clif has had great success using its health and wellness marketing strategy.
15 According to its CEO, “Clif Bar holds 33 percent of the market share in the health and
16 lifestyle bar category, which is expected to grow to \$6.2 billion by 2018.”¹⁰¹

17 122. As described in more detail below, Clif employs claims on the labeling and
18 packaging of the high-sugar bars (identified specifically in paragraphs 128, 135, 142, 149,
19 157) meant to appeal to consumers interested in healthful foods, but that are deceptive
20

21 ⁹⁷ *Id.*

22 ⁹⁸ Clif, Frequently Asked Questions, *How Are Clif Bars Different From Other Bars?*,
23 available at <http://www.clifbar.com/faq> (last visited Nov. 26, 2017).

24 ⁹⁹ Clif, Clif Kid, available at <http://www.clifbar.com/faq> (last visited Nov. 26, 2017).

25 ¹⁰⁰ *Id.*

26 ¹⁰¹ Renee Frojo, San Francisco Business Times, *Clif Bar CEO has company revenue and*
27 *employee count growing*, available at
28 <https://www.bizjournals.com/sanfrancisco/news/2016/11/10/most-admired-kevin-cleary-clif-bar-revenue-growth.html> (last visited Nov. 26, 2017).

1 because they are incompatible with the dangers of the excessive sugar consumption to which
2 the Products contribute.

3 **A. The high-sugar Clif Kid ZBars**

4 123. Clif sells four varieties of Kid ZBars: Clif Kid ZBars “Original”, Clif Kid ZBars
5 “Filled”, and Clif Kid ZBars “Protein”, and Clif Kid ZBars “Fruit and Veggie”.

6 **1. Clif Kid ZBars “Original”**

7 124. Clif Kid Original ZBars are sold, or have been sold, in at least six flavors:
8 Chocolate Brownie, Chocolate Chip, Iced Lemon Cookie, Iced Oatmeal Cookie, S’mores,
9 and Pirate Chocolate Chip.

10 125. Each Original ZBar is 36 grams regardless of flavor, with either 130 or 140 total
11 calories depending on flavor.

12 126. As shown in Appendix 1, Each Original ZBar contains between 11 and 12
13 grams of added sugar, with between 34 and 37 percent of calories coming from added sugar.
14 This means a single Original ZBar contains up to 100 percent of the AHA’s Maximum
15 Recommended Daily Intake (DI) of Added Sugars for children 4-8 years old and 48 percent
16 for kids up to 18.

17 127. The amount of total calories, total sugar, added sugar, and percent of calories
18 from added sugar for a serving of each flavor of the high-sugar Clif Kid Original ZBars is
19 set forth in the table below.

	Total Calories	Total Sugar	Added Sugar	% Calories From Added Sugar
Chocolate Brownie	130	11g	11g	34%
Chocolate Chip	130	12g	12g	37%
Pirate Chocolate Chip	130	12g	12g	37%
Iced Lemon Cookie	140	12g	12g	34%
Iced Oatmeal Cookie	140	12g	12g	34%
S’Mores	130	12g	12g	37%

1 128. Despite that the Original ZBars are loaded with added sugar, Clif prominently
2 labels the bars with the following claims suggesting they are healthy or conducive to good
3 health and physical well-being:

- 4 a. “Nourishing Kids in Motion,”
- 5 b. “No High-Fructose Corn Syrup”
- 6 c. “In raising our family, finding nutritious on-the-go snacks for our kids
7 wasn’t easy. That’s why we created Clif Kid – wholesome, delicious snacks made
8 with organic ingredients to keep kids going, growing, and exploring.”
- 9 d. “CLIF Kid Zbar[’s] blend of carbs, fiber, protein, and fat gives kids
10 energy so they can keep Zipping and Zooming along.”

11 129. These claims convey that the Clif Kid ZBars Original are healthy or are
12 conducive to good health and physical well-being, which is misleading because that message
13 is incompatible with the dangers of excessive sugar consumption to which Original Zbars
14 contribute.

15 130. The boxes and labels of the each flavor of the high-sugar Clif Kid ZBars
16 Original are substantially similar and representative exemplars illustrating the challenged
17 claims are pictured below.





2. Clif Kid ZBars “Filled”

131. Clif Kid ZBars Filled are currently sold in at least three flavors: Double Peanut Butter, Chocolate Peanut Butter, and Apple Almond Butter.

132. Each Clif Kid ZBar Filled is 30 grams, regardless of flavor, with either 130 or 140 total calories depending on flavor.

133. As shown in Appendix 1, each Filled Bar contains between 6 and 7 grams of added sugar with between 17 and 22 percent of calories coming from added sugar. This means a single Clif Kid ZBar Filled contains up to 58 percent of the AHA’s Maximum Recommended Daily Intake (DI) of Added Sugars for children 4-8 years old and 28 percent for kids up to 18.

1 134. The amount of total calories, total sugar, added sugar, and percent of calories
 2 from added sugar for a serving of each flavor of the high-sugar Clif Kid ZBars Filled is set
 3 forth in the table below.

	Total Calories	Total Sugar	Added Sugar	% Calories From Added Sugar
Chocolate Peanut Butter	130	7g	7g	22%
Double Peanut Butter	140	6g	6g	17%
Apple Almond Butter	140	7g	7g	20%

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9 135. Despite that the Clif Kid ZBars Filled are loaded with added sugar, Clif
 10 prominently labels the bars with the following claims suggesting the products are healthy or
 11 conducive to good health and physical well-being:

- 12 a. “Nourishing Kids in Motion,”
 13 b. “No High-Fructose Corn Syrup”
 14 c. “In raising our family, finding nutritious on-the-go snacks for our kids
 15 wasn’t easy. That’s why we created Clif Kid – delicious snacks made with organic
 16 ingredients to keep kids going, growing, and exploring”
 17 d. “[A] blend of nutrients for energy to help your kid Zipping and Zooming
 18 along.”

19 136. These claims convey that the Clif Kid ZBars Filled are healthy or are
 20 conducive to good health and physical well-being, which is misleading because that message
 21 is incompatible with the dangers of excessive sugar consumption to which they contribute.

22 137. The boxes and labels of the each flavor of the high-sugar Clif Kid ZBars
 23 Filled are substantially similar and representative exemplars illustrating the challenged
 24 claims are pictured below.
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NO ARTIFICIAL FLAVORS NO HIGH-FRUCTOSE CORN SYRUP NON-GMO

CLIF Kid **CLIF Kid**

ORGANIC ZBAR FILLED

DOUBLE PEANUT BUTTER
BAKED ENERGY SNACK

USDA ORGANIC

CLIF Kid Zbar® Filled is crafted with creamy, delicious nut butter filling and a blend of nutrients for energy to help keep your kids Zipping and Zooming along.

5 Bars

NET WT 5.30 OZ (150g) 1.06 OZ (30g) per bar

Nutrition Facts
Srv. Size 1 bar (30g)
Srvs. Per Container 5

Amount/Serving	% Daily Value*
Calories	140
Calories from Fat	60
Total Fat 7g	11%
Sat. Fat 1.5g	8%
Trans Fat 0g	
Polyunsat. Fat 1.5g	
Monounsat. Fat 3.5g	
Cholesterol 0mg	0%
Sodium 165mg	7%
Potassium 70mg	2%
Total Carb. 16g	5%
Dietary Fiber 2g	8%
Insoluble Fiber 1g	
Sugars 6g	
Other Carb. 6g	
Protein 4g	

*Percent Daily Values are based on a diet of other people's secrets.

INGREDIENTS: Organic Peanut Butter, Organic Tapioca Syrup, Organic Rolled Oats, Organic Oat Flour, Organic Fig Paste, Organic Cane Syrup, Organic Dried Cane Syrup, Organic Rice Starch, Organic Peanuts, Organic Peanut Flour, Organic High Oleic Sunflower Oil, Organic Palm Oil, Natural Flavors, Sea Salt, Organic Cocoa Butter†, Baking Soda, Sunflower Lecithin, Organic Soy Lecithin, Organic Vanilla Extract, Mixed Tocopherols (Antioxidant).

ALLERGEN STATEMENT: CONTAINS SOY AND PEANUTS. MAY CONTAIN WHEAT, TREE NUTS, AND TRACES OF MILK. WE DO NOT SOURCE GENETICALLY MODIFIED INGREDIENTS.

†Rainforest Alliance Certified®

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CLIF Kid

IN RAISING OUR FAMILY, FINDING NUTRITIOUS ON-THE-GO SNACKS FOR OUR KIDS WASN'T EASY. THAT'S WHY WE CREATED CLIF KID® - DELICIOUS SNACKS MADE WITH ORGANIC INGREDIENTS TO KEEP KIDS GOING, GROWING, AND EXPLORING.

-KIT & GARY, PARENTS AND CO-OWNERS OF CLIF BAR & COMPANY

NOURISHING KIDS in MOTION®

- ★ MADE WITH ORGANIC INGREDIENTS
- ★ NON-GMO
- ★ NO HIGH-FRUCTOSE CORN SYRUP
- ★ NO ARTIFICIAL FLAVORS

USDA ORGANIC

Connect with us at clifkid.com



3. Clif Kid ZBars “Protein”

138. Clif Kid ZBars Protein are currently sold in at least three flavors: Chocolate Chip, Peanut Butter Chocolate, and Chocolate Mint.

139. Each Clif Kid ZBar Protein is 36g with 130 total calories, regardless of flavor.

140. As shown in Appendix 1, each Clif Kid ZBar Protein contains between 8 and 9 grams of added sugar with between 25 and 28 percent of calories coming from added sugar. This means a single Clif Kid ZBar Protein contains up to 75 percent of the AHA’s Maximum Recommended Daily Intake (DI) of Added Sugars for children 4-8 years old and 36 percent for kids up to 18.

141. The amount of total calories, total sugar, added sugar, and percent of calories from added sugar for a serving of each flavor of the high-sugar Clif Kid ZBars Protein is set forth in the table below.

	Total Calories	Total Sugar	Added Sugar	% Calories Added Sugar
Chocolate Chip	130	9g	9g	28%
Chocolate Mint	130	8g	8g	25%
Peanut Butter Chocolate	130	8g	8g	25%

142. Despite that the ZBars Protein are loaded with added sugar, Clif prominently labels the bars with the following claims suggesting the products are healthy:

- a. “Nourishing Kids in Motion,”
- b. “No High-Fructose Corn Syrup”
- c. “In raising our family, finding nutritious on-the-go snacks for our kids wasn’t easy. That’s why we created Clif Kid –delicious snacks made with organic ingredients to keep kids going, growing, and exploring.”
- d. “CLIF Kid Zbar Protein[’s] balanced blend of protein, whole grains, vitamins, and minerals helps provide nutritional building blocks for kids’ growing bodies”

143. These claims convey that the Clif Kid ZBars Protein are healthy or are conducive to good health and physical well-being, which is misleading because that message is incompatible with the dangers of excessive sugar consumption to which they contribute.

144. The boxes and labels of the each flavor of the high-sugar Clif Kid ZBars Protein are substantially similar and representative exemplars illustrating the challenged claims are pictured below.

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CLIF Kid **CLIF Kid**

5g PROTEIN | **NON-GMO** | **MADE WITH ORGANIC OATS**

NOW GLUTEN FREE!

ZBAR PROTEIN

PEANUT BUTTER CHOCOLATE
NATURAL FLAVOR
WHOLE GRAIN PROTEIN SNACK

5 Bars

CLIF Kid Zbar® Protein Peanut Butter Chocolate's balanced blend of protein, whole grains, vitamins, and minerals helps provide nutritional building blocks for kids' growing bodies so they can keep Zipping and Zooming along.

Ⓢ NET WT 6.35 OZ (180g) 1.27 OZ (36g) per bar

Nutrition Facts	
Serv. Size 1 bar (36g)	
Serv. Per Container 5	
Amount/Serving	
Calories	140
Calories from Fat	75
% Daily Value*	
Total Fat 4g	8%
Sat. Fat 1.5g	7%
Trans Fat 0g	
Polyunsat. Fat 1g	
Monounsat. Fat 1.5g	
Cholesterol <5mg	2%
Sodium 85mg	3%
Potassium 95mg	3%
Total Carb. 22g	7%
Dietary Fiber 2g	8%
Insoluble Fiber <1g	
Sugars 8g	
Other Carb. 12g	
Protein 5g	10%
Vitamin A 0%	Vitamin C 0%
Calcium 20%	Iron 15%
Vitamin D 10%	Magnesium 15%
Zinc 10%	

*Percent Daily Values are based on a diet of other people's secrets.

INGREDIENTS: Organic Tapioca Syrup, Organic Brown Rice Flour, Organic Roasted Oats, Organic Peanut Butter, Organic Cane Syrup, Organic Dried Cane Syrup, Whey Protein Concentrate, Chicory Fiber Syrup, Organic Oat Flour, Vegetable Glycerin, Natural Flavors, Organic Peanut Flour, Whey Protein Isolate, Organic Pea Protein, Rice Flour, Organic Tapioca Syrup Solids, Organic Cocoa, Palm Kernel Oil, Organic Palm Kernel Solids, Sea Salt, Organic Soy Lecithin, Salt, Organic Vanilla Extract.

VITAMINS & MINERALS: Calcium Carbonate, Magnesium Oxide, Ferric Orthophosphate (Iron), Zinc Oxide, Ergocalciferol (Vit. D2).

ALLERGEN STATEMENT: CONTAINS SOY, MILK, AND PEANUTS. WE DO NOT SOURCE GENETICALLY MODIFIED INGREDIENTS.

100% Rainforest Alliance Certified™

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CLIF Kid

IN RAISING OUR FAMILY, FINDING NUTRITIOUS ON-THE-GO SNACKS FOR OUR KIDS WASN'T EASY. THAT'S WHY WE CREATED CLIF KID® - DELICIOUS SNACKS MADE WITH ORGANIC INGREDIENTS TO KEEP KIDS GOING, GROWING, AND EXPLORING.

-KIT & GARY, PARENTS AND CO-OWNERS OF CLIF BAR & COMPANY

NOURISHING KIDS in MOTION®

- ★ MADE WITH ORGANIC INGREDIENTS
- ★ NON-GMO
- ★ NO HIGH-FRUCTOSE CORN SYRUP
- ★ NO ARTIFICIAL FLAVORS

USDA ORGANIC

Connect with us at clifkid.com



4. Clif Kid ZBar “Fruit and Veggie”

145. Clif Kid ZBar Fruit and Veggie have been sold in at least three flavors: Purple Power, Awesome Orange, and Keen Green.

146. Each Clif Kid ZBar Fruit and Veggie is 33g with 130 total calories, regardless of flavor.

147. As shown in Appendix 1, each Clif Kid ZBar Fruit and Veggie contains 8 grams of added sugar with 25 percent of calories coming from added sugar. This means a single Clif Kid ZBar Fruit and Veggie contains up to 67 percent of the AHA’s Maximum Recommended Daily Intake of Added Sugars for children 4-8 years old and 32 percent for kids up to 18.

1 148. The amount of total calories, total sugar, added sugar, and percent of calories
 2 from added sugar for a serving of each flavor of the high-sugar Clif Kid ZBars Protein is set
 3 forth in the table below.

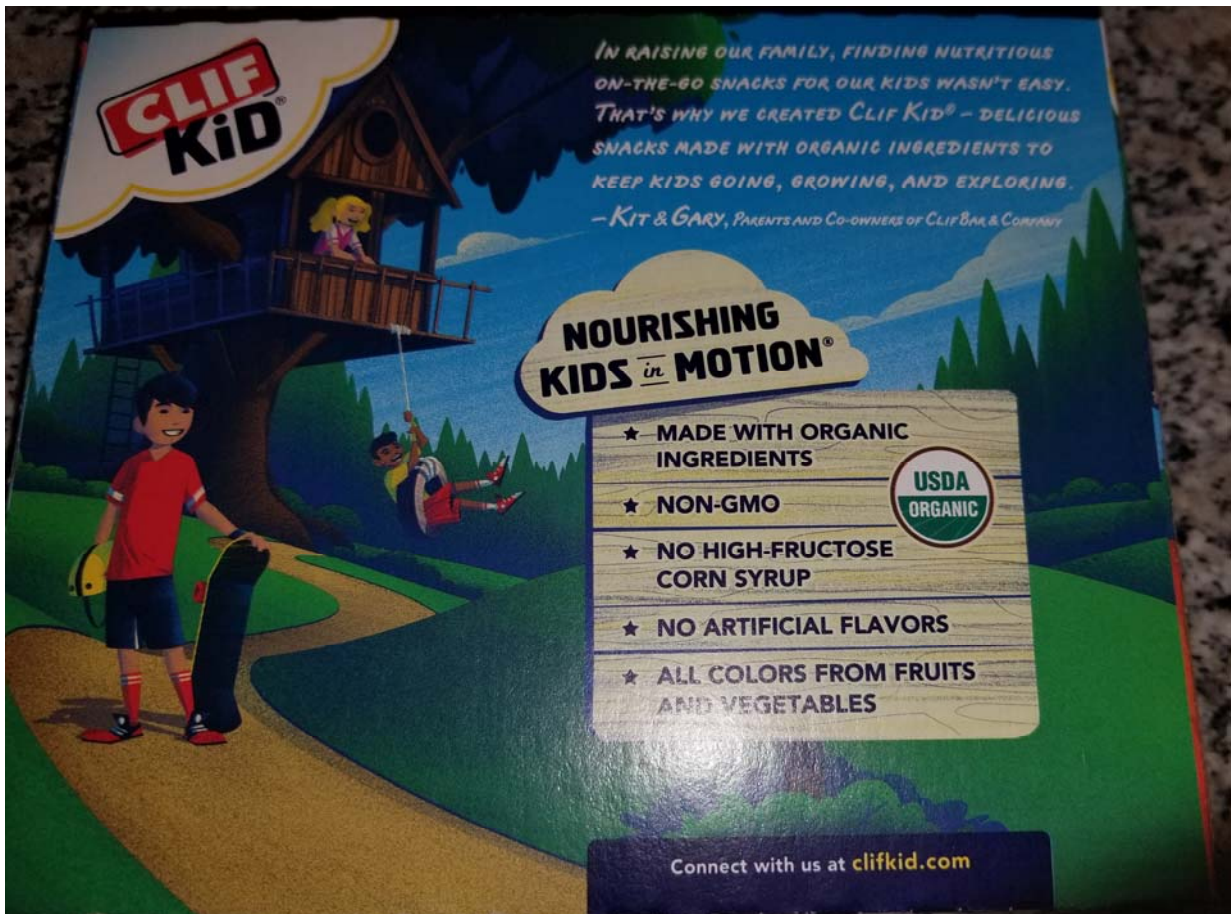
	Total Calories	Total Sugar	Added Sugar	% Calories Added Sugar
Purple Power	130	9g	8g	25%
Awesome Orange	130	9g	8g	25%
Keen Green	130	9g	8g	25%

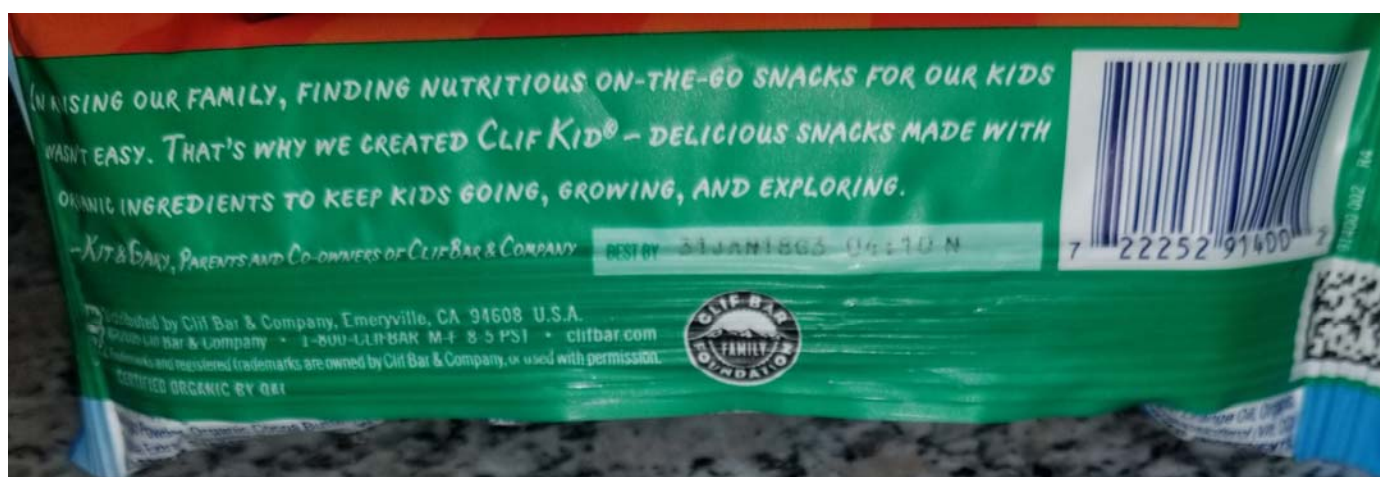
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9 149. Despite that the ZBars Fruit and Veggie are loaded with added sugar, Clif
 10 prominently labels the bars the following claims suggesting the products are healthy:

- 11 a. “Nourishing Kids in Motion,”
 12 b. “No High-Fructose Corn Syrup”
 13 c. “In raising our family, finding nutritious on-the-go snacks for our kids
 14 wasn’t easy. That’s why we created Clif Kid – delicious snacks made with organic
 15 ingredients to keep kids going, growing, and exploring.”
 16 d. “CLIF Kid Zbar Fruit + Veggie . . . is crafted with a blend of whole
 17 grains, vitamins & minerals, fruit juice concentrates, and vegetable powders to give
 18 kids energy so they can keep Zipping and Zooming along.”

19 150. These claims convey that the Clif Kid Fruit and Veggie ZBars are healthy or
 20 are conducive to good health and physical well-being, which is misleading because that
 21 message is incompatible with the dangers of excessive sugar consumption to which they
 22 contribute.

23 151. The boxes and labels of each flavor of the high-sugar Clif Kid Fruit and Veggie
 24 ZBars are substantially similar and representative exemplars illustrating the challenged
 25 claims are pictured below.
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B. The high-sugar “Classic” Clif Bars

152. The “Classic” Clif Bars have been sold in at least 21 flavors: Apple Pear Strudel, Apricot, Berry Pom, Blueberry Crisp, Carrot Cake, Chocolate Almond Fudge, Chocolate Brownie, Chocolate Chip Peanut Crunch, Chocolate Chip, Coconut Chocolate Chip, Cool Mint, Crunchy Peanut Butter, Hot Chocolate, Iced Gingerbread, Nuts & Seeds, Oatmeal Raisin Walnut, Peanut Butter Banana with Dark Chocolate, Peanut Toffee Buzz, Sierra Trail Mix, Spiced Pumpkin Pie, and White Chocolate Macadamia Nut.

153. Each Classic Bar, regardless of flavor, is 68 grams, with total calories varying by flavor between 240 and 270.

154. The primary ingredient in every Classic Bar is added sugar from Brown Rice Syrup, but Clif uses as many as 13 types if added sugar in its Classic Bars.

155. As shown in Appendix 1, Classic Bars contain between 17 and 22 grams of added sugar, depending on flavor. This means a single Classic Clif Bar contains as much as

1 88 percent of the AHA's Maximum Recommended Daily Intake (DI) of Added Sugars for
 2 women, 58 percent for men, 183 percent for children 4-8 years old, and 88 percent for kids
 3 up to 18 years old.

4 156. The amount of total calories, total sugar, added sugar, and percent of calories
 5 from added sugar for a serving of each flavor of the high-sugar Classic Clif Bars is set forth
 6 in the table below.

	Total Calories	Total Sugar	Added Sugar	% Calories From Added Sugar
Apple Pear Strudel	240	22g	19g	31%
Apricot	240	23g	19g	32%
Berry Pom	250	22g	19g	30%
Blueberry Crisp	250	22g	19g	30%
Carrot Cake	250	25g	22g	34%
Chocolate Almond Fudge	260	20g	18g	28%
Chocolate Brownie	250	21g	19g	30%
Chocolate Chip Peanut Crunch	260	20g	17g	26%
Chocolate Chip	250	21g	19g	30%
Coconut Chocolate Chip	260	20g	17g	26%
Cool Mint	250	20g	18g	29%
Crunchy Peanut Butter	260	19g	17g	26%
Hot Chocolate	250	22g	19g	30%
Iced Gingerbread	250	23g	20g	32%
Nuts & Seeds	270	18g	17g	25%
Oatmeal Raisin Walnut	250	21g	17g	27%
Peanut Butter Banana with Dark Chocolate	260	21g	19g	29%
Peanut Toffee Buzz	250	21g	18g	29%
Sierra Trail Mix	250	22g	19g	30%
Spiced Pumpkin Pie	250	23g	19g	30%
White Chocolate Macadamia Nut	260	21g	17g	26%

157. Despite that the Classic Bars are loaded with added sugar, Clif prominently
 labels the bars with the claim:

1 a. “Nutrition for Sustained Energy”

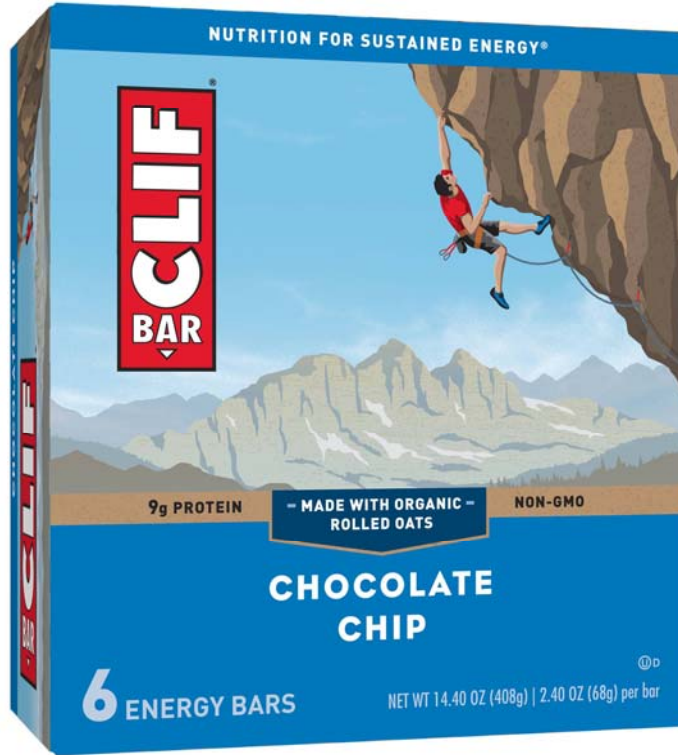
2 158. This claim conveys that the Classic Bars are healthy or are conducive to good
3 health and physical well-being, which is misleading because that message is incompatible
4 with the dangers of excessive sugar consumption to which the Classic Bars contribute.

5 159. This claim is particularly likely to mislead consumers when read in context of
6 other labeling statements. For example, despite that the primary ingredient in each Classic
7 Bar is brown rice syrup—an added sugar—Clif uses additional front of the label statements
8 to emphasize that the Classic Bars are made with other ingredients consumers associate with
9 being healthy. For example, Clif’s chocolate chip flavored Classic Bar emphasizes that it is
10 “Made with Organic Rolled Oats.”¹⁰² By singling out rolled oats as the only ingredient to
11 highlight on the front of the packaging or labeling, an ingredient consumers associate with
12 being healthy, Clif reinforces the health message created by the “Nutrition for Sustained
13 Energy” claim and distracts from the Classic Bars added sugar content. This message is
14 misleading because it is incompatible with the dangers of excessive sugar consumption to
15 which the Classic Bars contribute.

16 160. The boxes and labels of the high-sugar Classic Bars are substantially similar for
17 each flavor and each bears the challenged claim. Representative exemplars illustrating the
18 challenged claims are pictured below.

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¹⁰² Most flavors of the Classic Bars call out “Rolled Oats” on the front of the label, but other
28 flavors call out other ingredients such as peanut butter or chia seeds to create the impression
the products are healthy.



Nutrition Facts

Serving Size 1 Bar (68g)
Servings per Container 6

Amount/Serving		Calories from Fat 45	
	%DV*		%DV*
Calories 250			
Total Fat 5g	8%	Potassium 210mg	6%
Saturated Fat 1.5g	7%	Total Carbohydrate 45g	15%
Trans Fat 0g		Dietary Fiber 4g	17%
Polyunsaturated Fat 1g		Insoluble Fiber 3g	
Monounsaturated Fat 2g		Sugars 21g	
Cholesterol 0mg	0%	Other Carbohydrate 20g	
Sodium 140mg	6%	Protein 9g	18%

Vitamin A 10% • Vitamin C 10% • Calcium 20% • Iron 15% • Vitamin D 15%
Vitamin E 10% • Thiamin (B1) 10% • Riboflavin (B2) 10% • Niacin (B3) 10%
Vitamin B6 10% • Vitamin B12 10% • Phosphorus 25% • Magnesium 20%

*Percent Daily Values (DV) are based on a 2,000 calorie diet.

INGREDIENTS: Organic Brown Rice Syrup, Organic Rolled Oats, Soy Protein Isolate, Organic Cane Syrup, Organic Roasted Soybeans, Rice Flour, Dried Cane Syrup, Unsweetened Chocolate¹, Organic Soy Flour, Organic Oat Fiber, Organic High Oleic Sunflower Oil, Cocoa Butter¹, Barley Malt Extract, Sea Salt, Natural Flavors, Soy Lecithin, Organic Cinnamon.

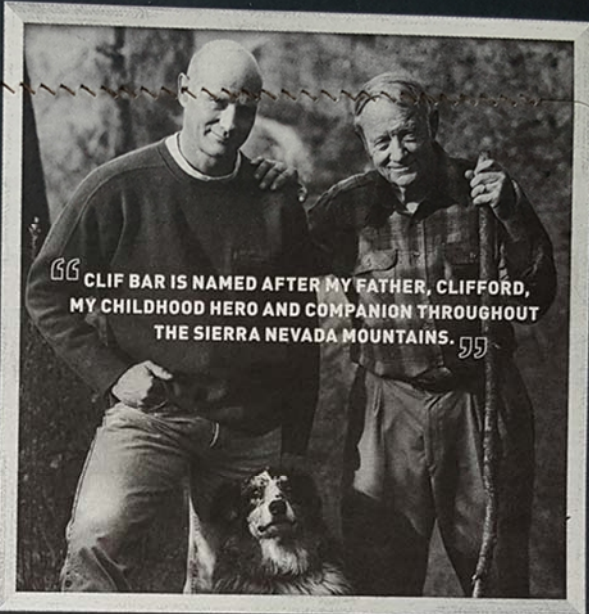
VITAMINS & MINERALS: Dicalcium Phosphate, Magnesium Oxide, Ascorbic Acid (Vit. C), DL-Alpha Tocopheryl Acetate (Vit. E), Beta Carotene (Vit. A), Niacinamide (Vit. B3), Ergocalciferol (Vit. D2), Thiamine Mononitrate (Vit. B1), Pyridoxine Hydrochloride (Vit. B6), Riboflavin (Vit. B2), Cyanocobalamin (Vit. B12).

ALLERGEN STATEMENT: CONTAINS SOY. MAY CONTAIN WHEAT AND TRACES OF MILK.

WE DO NOT SOURCE GENETICALLY MODIFIED INGREDIENTS.



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1-800-CLIFBAR M-F 8-5 PST
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CERTIFIED ORGANIC BY QAI



“CLIF BAR IS NAMED AFTER MY FATHER, CLIFFORD, MY CHILDHOOD HERO AND COMPANION THROUGHOUT THE SIERRA NEVADA MOUNTAINS.”

In 1990, I lived in a garage with my dog, skis, climbing gear, bicycle, and two trumpets. The inspiration to create an energy bar occurred during a daylong, 175-mile ride with my buddy Jay. We'd been gnawing on some "other" energy bars. Suddenly, despite my hunger, I couldn't take another bite. That's the moment I now call "the epiphany." Two years later, after countless hours in Mom's kitchen, CLIF BAR® became a reality. And the mission to create a better-tasting energy bar was accomplished.

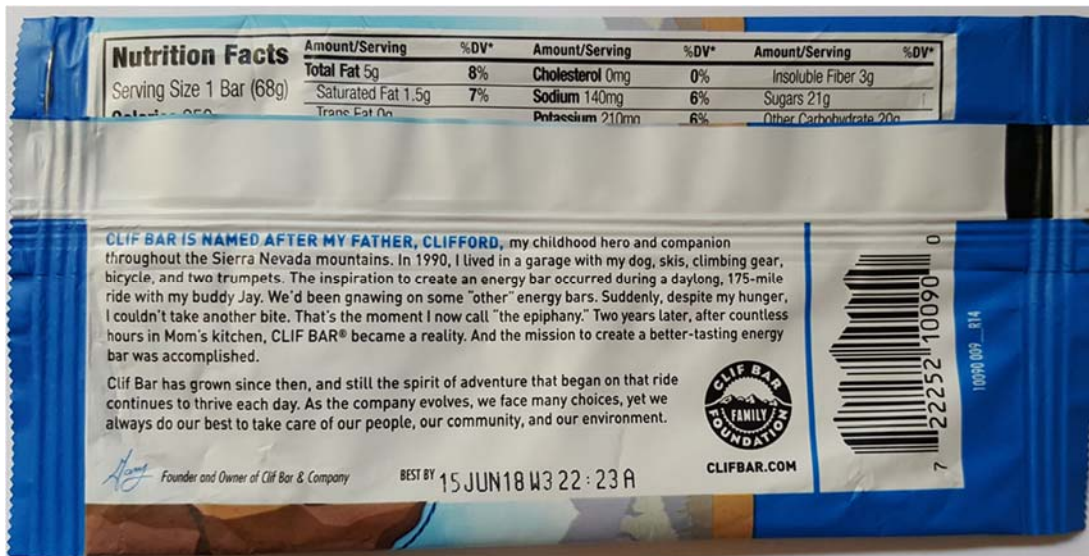
Clif Bar has grown since then, and still the spirit of adventure that began on that ride continues to thrive each day. As the company evolves, we face many choices, yet we always do our best to take care of our people, our community, and our environment.

Jay Founder and Owner of Clif Bar & Company

— FAMILY & EMPLOYEE Owned —



CLIFBAR.COM



1 **C. Clif Deceptively Omits, Intentionally Distracts From, and Otherwise**
2 **Downplays the Bars' High Added Sugar Content**

3 161. In marketing its bars with health and wellness claims, Clif regularly and
4 intentionally omits material information regarding the amount and dangers of the added
5 sugars in its products. Clif is under a duty to disclose this information to consumers because
6 (a) Clif is revealing *some* information about its products—enough to suggest they are healthy
7 or conducive to good physical health—without revealing additional material information—
8 that the amount of added sugar in the bars has detrimental health effects, (b) Clif's deceptive
9 omissions concern human health, and specifically the detrimental health consequences of
10 consuming its Products, (c) Clif was in a superior position to know of the dangers presented
11 by the added sugars in its bars, as it is a global food company whose business depends upon
12 food science and holds itself out to be a leader in health bars, and (d) Clif actively concealed
13 material facts not known to Plaintiffs and the class.

14 162. As described above, in marketing its bars, Clif regularly affirmatively uses
15 certain words and phrases to suggest its Products are healthy or conducive to good health
16 and physical well-being, which is misleading given their added sugar content. In light of
17 these voluntary statements, Clif therefore has a duty to disclose information regarding the
18 harmful effects of the added sugar in its Products.

19 **D. In Representing that Many of Its High-Sugar Bars Contain “NO HIGH-**
20 **FRUCTOSE CORN SYRUP,” Clif Leverages Consumer Confusion to**
21 **Obscure the Dangers of the Bars' Added Sugars**

22 163. Clif also regularly uses the phrase “NO HIGH-FRUCTOSE CORN SYRUP”
23 to falsely suggest that its Clif Kid Zbars' sugar content is not excessive or harmful.

24 164. This claim is false and misleading because the Zbar Products' sugar content is
25 high, not low. Such statements are likely to confuse even consumers aware of health issues
26 regarding added sugar, because they suggest any such health issues, in any event, do not
27 pertain to the Products that bear this claim, which in reality contain 6g - 12g of added sugar
28 per serving, contributing 17% - 37% of the Products' calories.

1 165. Clif has capitalized on consumer aversion toward high fructose corn syrup
2 (HFCS) by touting the absence of that ingredient, deceptively suggesting that its Clif Kid
3 Zbars are healthier because HFCS is absent.

4 166. This strategy leverages consumer confusion over the relative dangers of
5 different forms of added sugar, inasmuch as many consumers incorrectly believe that HFCS
6 is a substantially more dangerous form of added sugar than other forms.

7 167. Some consumers also incorrectly believe there are “healthy” forms of added
8 sugar, for example, honey, “cane” sugar, or “natural” sugars. Conversely, many consumers
9 are not even aware that some more obscure ingredients *are* added sugars, such as brown rice
10 syrup, glycerin, dextrose, maltodextrin, and fruit juice “concentrates.” Clif sweetens all of
11 its Products with brown rice syrup, and it is the *primary* ingredient in its “Classic” Clif Bars.

12 168. In reality, added sugar in virtually any form—and certainly in the forms used
13 to sweeten the Clif Products—contains toxic fructose, and thus has essentially the same
14 detrimental health effects, with typically only minor differences in the ratio of fructose to
15 glucose in a given form of added sugar. Thus, even if literally true, Clif’s “NO HIGH-
16 FRUCTOSE CORN SYRUP” representations are highly misleading.

17 **VI. The Labeling of the High-sugar Products Violates California, New York, and** 18 **Federal Law**

19 **A. Any Violation of Federal Food Labeling Statutes or Regulations is a** 20 **Violation of California and New York law**

21 169. “California, [and] New York . . . broadly prohibit the misbranding of food in
22 language largely identical to that found in the FDCA.” *Ackerman v. Coca-Cola Co.*, 2010
23 U.S. Dist. LEXIS 73156, at *12 (E.D.N.Y. July 21, 2010).

24 170. The Products and their labeling violate California Health and Safety Code §§
25 109875, *et. seq.* (the “Sherman Law”), which has expressly adopted the federal food labeling
26 requirements as its own. *See* Cal. Health & Safety Code § 110665.

27 171. Under the Sherman Law, any violation the Federal Food Federal Food, Drug,
28 and Cosmetic Act and/or federal regulations is also a violation of the Sherman Law. *See* Cal.

1 Health & Safety Code § 110665 (“Any food is misbranded if its labeling does not conform
2 with the requirements for nutrition labeling as set forth in Section 403(q) (21 U.S.C. Sec.
3 343(q)) of the federal act and the regulation adopted pursuant thereto.”).

4 172. Similarly, “New York’s Agriculture and Marketing law similarly . . .
5 incorporates the FDCA’s labeling provisions found in 21 C.F.R. part 101.” *Ackerman*, 2010
6 U.S. Dist. LEXIS 73156, *12 (citing N.Y. Comp. Codes R. & Regs. tit. 1, § 259.1).

7 173. The Federal Food Federal Food, Drug, and Cosmetic Act expressly authorizes
8 state regulations, such as such as the Agriculture and Marketing Law and the Sherman Law,
9 that are “identical to the requirement[s]” of the FDCA and federal regulations. *See* 21 U.S.C.
10 § 343-1.

11 174. Because the Agriculture and Marketing Law’s and Sherman Law’s
12 requirements are identical to the requirements of the Federal Food, Drug, and Cosmetic Act
13 and FDA regulations the Agriculture and Marketing Law and Sherman Law is explicitly
14 authorized by the FDCA.

15 **B. The High-sugar Products’ False and Misleading Labeling Claims Render**
16 **Them Misbranded**

17 175. Clif’s deceptive statements violate N.Y. Agric. & Mkts. Law § 201, Cal. Health
18 & Safety Code § 109875, and 21 U.S.C. § 343(a), which deem a food product misbranded
19 when its label is “false or misleading in any particular.”

20 176. As described above, the Products’ label contains numerous statements that are
21 false or misleading because they state, suggest, or imply that the Products are healthy or
22 conducive to good health and physical well-being, which render them misbranded.

23 177. In addition, Clif’s health and wellness statements challenged herein also
24 “fail[ed] to reveal facts that are material in light of other representations made or suggested
25 by the statement[s], word[s], design[s], device[s], or any combination thereof,” in violation
26 of 21 C.F.R. § 1.21(a)(1). Such facts include the detrimental health consequences of
27 consuming added sugars in amounts present in the challenged products.
28

1 178. Clif similarly failed to reveal facts that were “[m]aterial with respect to the
2 consequences which may result from use of the article under” both “[t]he conditions
3 prescribed in such labeling,” and “such conditions of use as are customary or usual,” in
4 violation of § 1.21(a)(2). Namely, Clif failed to disclose the increased risk of serious chronic
5 disease likely to result from the usual consumption of its Products.

6 **VII. Plaintiffs’ Purchase, Reliance, and Injury**

7 179. Plaintiffs were exposed to, read, and relied upon Defendant’s claims upon the
8 Products’ labeling and packaging that were intended to appeal to consumers, such as
9 themselves, that are interested in health and nutrition and that convey a misleading health
10 and wellness message or at least a message that the Products will not detriment health.

11 180. Mr. Milan has purchased boxes of Clif Kid ZBar “Original,” Clif Kid ZBar
12 Protein, and Clif Kid ZBar Filled, during the class period. Mr. Milan has also purchased both
13 boxes and individual Clif Classic bars in several flavors during the class period. He believes
14 he first began purchasing Clif products in late 2014 or early 2015, and would purchase Clif
15 products approximately 3-4 times per year. His most recent purchases occurred in June or
16 July of 2017. Mr. Milan typically made his purchases at Target stores located in Irvine, Santa
17 Ana, and Costa Mesa, such as those located at 1441 W. 17th St., Santa Ana, California
18 92706, 1330 17th St., Santa Ana, California 92705, 3300 S. Bristol St., Santa Ana, California
19 92704, 3030 Harbor Blvd., Costa Mesa, California 92626, and 3750 Barranca Pkwy, Irvine,
20 California 92606. Mr. Milan has also purchased the Classic Clif bars at 7-Eleven stores
21 throughout California.

22 181. To the best of his recollection, when deciding to purchase the high-sugar
23 Products Mr. Milan read and relied on the following deceptive claims contained on the
24 labeling and packaging of Products:

- 25 a. “Nourishing Kids in Motion”
 - 26 b. “No High-Fructose Corn Syrup”
- 27
28

1 c. “In raising our family, finding nutritious on-the-go snacks for our kids
2 wasn’t easy. That’s why we created Clif Kid – wholesome, delicious snacks made
3 with organic ingredients to keep kids going, growing, and exploring.”

4 d. “In raising our family, finding nutritious on-the-go snacks for our kids
5 wasn’t easy. That’s why we created Clif Kid – delicious snacks made with organic
6 ingredients to keep kids going, growing, and exploring.”

7 e. “CLIF Kid Zbar[’s] blend of carbs, fiber, protein, and fat gives kids
8 energy so they can keep Zipping and Zooming along.”

9 f. “[A] blend of nutrients for energy to help your kid Zipping and Zooming
10 along.”

11 g. “CLIF Kid Zbar Protein[’s] balanced blend of protein, whole grains,
12 vitamins, and minerals helps provide nutritional building blocks for kids’ growing
13 bodies”

14 h. “Nutrition for Sustained Energy”

15 182. Mr. Milan believed these claims regarding the health and nutrition qualities of
16 the Products, which are deceptive because they convey that the Products are healthy and will
17 not detriment health, despite that the Products contain excessive sugar, which detracts
18 health.

19 183. During the class period, Ms. Aquino purchased Clif Kid ZBar “Original” in
20 Iced Oatmeal Cookie and Chocolate Chip flavors, Clif Kid ZBar Filled in the Chocolate
21 Peanut Butter flavor, and Clif Kid ZBar Fruit and Veggie in Awesome Orange and Keen
22 Green flavors. She believes she first began purchasing Clif Kid ZBars in late 2016 and her
23 most recent purchase was in approximately September 2017. She would typically purchase
24 approximately two to three boxes about every other week from local grocery stores such as
25 the Target located at 950 E. 33rd St., Signal Hill, California, 90755 or the Grocery Outlet
26 Bargain Market located at 6436 E. Spring St., Long Beach, California, 90815.

1 184. To the best of her recollection, when deciding to purchase the high-sugar Clif
2 Kid ZBar Products, Ms. Aquino read and relied on the following deceptive claims contained
3 on the labeling and packaging of Products:

- 4 a. “Nourishing Kids in Motion”
- 5 b. “No High-Fructose Corn Syrup”
- 6 c. “In raising our family, finding nutritious on-the-go snacks for our kids
7 wasn’t easy. That’s why we created Clif Kid – wholesome, delicious snacks made
8 with organic ingredients to keep kids going, growing, and exploring.”
- 9 d. “In raising our family, finding nutritious on-the-go snacks for our kids
10 wasn’t easy. That’s why we created Clif Kid – delicious snacks made with organic
11 ingredients to keep kids going, growing, and exploring.”
- 12 e. “CLIF Kid Zbar[’s] blend of carbs, fiber, protein, and fat gives kids
13 energy so they can keep Zipping and Zooming along.”
- 14 f. “[A] blend of nutrients for energy to help your kid Zipping and Zooming
15 along.”
- 16 g. “CLIF Kid Zbar Fruit + Veggie . . . is crafted with a blend of whole
17 grains, vitamins & minerals, fruit juice concentrates, and vegetable powders to give
18 kids energy so they can keep Zipping and Zooming along.”

19 185. Ms. Aquino believed these claims regarding the health and nutrition qualities
20 of the Products, which are deceptive because they convey that the products are healthy and
21 will not detriment health, despite that the Products contain excessive sugar, which detracts
22 health.

23 186. Elizabeth Arnold has purchased Clif Kid ZBar “Original,” and Classic Clif Bars
24 during the class period. She believes she first began purchasing Clif products in 2013, and
25 would purchase Clif products approximately once every two weeks, or once per month. Her
26 most recent purchase occurred in January 2018. Ms. Arnold believes she has purchased
27 boxes of Clif Kid ZBar “Original” in Chocolate Chip and Chocolate Brownie flavors, during
28 the class period. Ms. Arnold has purchased both boxes and individual Clif Classic bars in

1 Chocolate Chip, Oatmeal Raisin Walnut, Chocolate Brownie and some seasonal flavors
2 during the class period. Ms. Arnold typically made her purchases at Wegmans located at
3 5275 Sheridan Dr. in Williamsville, New York and 675 Alberta Dr. in Amherst, New York.
4 She also purchased the Products at the Target store located at 5622 Amanda Lane, Orchard
5 Park, New York.

6 187. To the best of her recollection, when deciding to purchase the high-sugar
7 Products, Ms. Arnold read and relied on the following deceptive claims contained on the
8 labeling and packaging of Products:

- 9 a. “Nourishing Kids in Motion”
- 10 b. “No High-Fructose Corn Syrup”
- 11 c. “In raising our family, finding nutritious on-the-go snacks for our kids
12 wasn’t easy. That’s why we created Clif Kid – wholesome, delicious snacks made
13 with organic ingredients to keep kids going, growing, and exploring.”
- 14 d. “CLIF Kid Zbar[’s] blend of carbs, fiber, protein, and fat gives kids
15 energy so they can keep Zipping and Zooming along.”
- 16 e. “Nutrition for Sustained Energy”

17 188. Ms. Arnold believed these claims regarding the health and nutrition qualities of
18 the Products, which are deceptive because they convey that the products are healthy and
19 won’t detriment health, despite that the Products contain excessive sugar, which detracts
20 health.

21 189. When purchasing Clif bars, Plaintiffs were seeking products that were healthy
22 to consume, that is, whose consumption would not increase their risk of CHD, stroke, and
23 other morbidity.

24 190. The health and wellness representations on the Clif Products’ packaging,
25 however, were misleading, and had the capacity, tendency, and likelihood to confuse or
26 confound Plaintiffs and other consumers acting reasonably (including the putative class)
27 because, as described in detail herein, the Products are not healthy but instead their
28 consumption increases the risk of CHD, stroke, and other morbidity.

1 191. Plaintiffs are not nutritionists, food experts, or food scientists, but rather lay
2 consumers who did not have the specialized knowledge that Clif had regarding the nutrients
3 present in its Products. At the time of purchase, Plaintiffs were unaware of the extent to
4 which consuming high amounts of added sugar, in any form, adversely affects blood
5 cholesterol levels and increases risk of CHD, stroke, and other morbidity, or what amount of
6 added sugar might have such an effect.

7 192. The average and reasonable consumer is unaware of the extent to which
8 consuming high amounts of added sugar, in any form, adversely affects blood cholesterol
9 levels and increases risk of CHD, stroke, and other morbidity, or what amount of added sugar
10 might have such an effect.

11 193. Plaintiffs acted reasonably in relying on Clif's health and wellness marketing,
12 which Clif intentionally placed on the Products' labels with the intent to induce average
13 consumers into purchasing the Products.

14 194. Plaintiffs would not have purchased the Clif Products if they knew that their
15 labeling claims were false and misleading in that the Products were not as healthy as
16 represented but actually harm health.

17 195. The high-sugar Clif Products costs more than similar Products without
18 misleading labeling, and would have cost less absent the false and misleading statements.

19 196. Through the misleading labeling claims, Clif was able to gain a greater share of
20 the health-bar market than it would have otherwise and also increased the size of the market.

21 197. Plaintiffs paid more for the high-sugar Clif Products, and would only have been
22 willing to pay less, or unwilling to purchase the Products at all, absent the false and
23 misleading labeling complained of herein.

24 198. Plaintiffs and members of the Class would not have purchased the high-sugar
25 Products if it were known to them that the Products are misbranded pursuant to California,
26 New York and FDA regulations or that their claims were false or misleading.

27 199. For these reasons, the high-sugar Clif Products were worth less than what
28 Plaintiffs and the Class paid for them.

1 200. Instead of receiving products that had actual healthful qualities, the Products
2 Plaintiffs and the Class received were not healthy, but rather their consumption causes
3 increased risk of CHD, stroke, and other morbidity.

4 201. Plaintiffs and the Class lost money as a result of Defendant's deceptive claims
5 and practices in that they did not receive what they paid for when purchasing the high-sugar
6 Clif Products.

7 202. Plaintiffs and the Class detrimentally altered their position and suffered
8 damages in an amount equal to the amount they paid for the high-sugar Clif Products.

9 203. Plaintiffs continue to desire to purchase healthy nutrition bars, and continue to
10 see the Clif Products when they shop.

11 204. Plaintiffs would purchase the challenged Clif Products in the future if they were
12 in fact healthy, but unless Clif is enjoined in the manner Plaintiffs request, they may not be
13 able to reasonably determine whether the Products have been reformulated to conform to the
14 misleading claims.

15 205. Plaintiffs would likely purchase the challenged Clif Products if they could trust
16 that the health and wellness claims were not false or misleading, but absent an injunction,
17 Plaintiffs will be unable to trust the representations on the Clif Products when they encounter
18 them, as they frequently do, where they shop.

19 206. Plaintiffs' substantive right to a marketplace free of fraud, where they are
20 entitled to rely on representations such as those made by Clif with confidence continue to be
21 violated every time Plaintiffs are exposed to a misleading Clif Products' labeling claims—
22 which they currently cannot trust as being truthful.

23 207. If Plaintiffs could be assured that any health and wellness claims on the
24 challenged Products were lawful and not misleading, they would consider purchasing the
25 Products in the future.

26 **CLASS ACTION ALLEGATIONS**

27 208. Pursuant to Rule 23, Plaintiffs bring this action on behalf of themselves and a
28 class of all persons in the United States (or alternatively, California, and New York) who

1 purchased the high-sugar Products, for personal or household use, and not for resale or
2 distribution purposes.

3 209. The members in the proposed Class are so numerous that individual joinder of
4 all members is impracticable, and the disposition of the claims of all Class Members in a
5 single action will provide substantial benefits to the parties and Court.

6 210. Questions of law and fact common to Plaintiffs and the Class include:

7 a. whether Defendant communicated a message regarding healthfulness of
8 the Products through their packaging and advertising;

9 b. whether that message was material, or likely to be material to a
10 reasonable consumer;

11 c. whether the challenged claims discussed above are false, misleading, or
12 reasonably likely to deceive a reasonable consumer;

13 d. whether Defendant's conduct violates public policy;

14 e. whether Defendant's conduct constitutes violations of the laws asserted
15 herein;

16 f. whether Defendant engaged in false or misleading advertising;

17 g. whether Plaintiffs and Class members are entitled to declaratory and
18 injunctive relief; and

19 h. whether Plaintiffs and Class members are entitled to actual damages,
20 restitution, punitive damages, attorneys' fees and costs, injunctive, and the amount of
21 that or any other relief.

22 211. These common questions of law and fact predominate over questions that affect
23 only individual Class Members.

24 212. Plaintiffs' claims are typical of Class Members' claims because they are based
25 on the same underlying conduct by Defendant. Specifically, all Class Members, including
26 Plaintiffs, were subjected to the same misleading and deceptive conduct when they
27 purchased the challenged Products and suffered economic injury because the Products are
28 misrepresented. Absent Defendant's business practice of deceptively and unlawfully

1 labeling its Products, Plaintiffs and Class members would not have purchased the Products
2 or only would have been willing to pay less.

3 213. Plaintiffs will fairly and adequately represent and protect the interests of the
4 Class, have no interests incompatible with the interests of the Class, and have retained
5 counsel competent and experienced in class action litigation.

6 214. Class treatment is superior to other options for resolution of the controversy
7 because the relief sought for each Class Member is small such that, absent representative
8 litigation, it would be infeasible for Class Members to redress the wrongs done to them.

9 215. Questions of law and fact common to the Class predominate over any questions
10 affecting only individual Class Members.

11 216. Defendant has acted on grounds applicable to the Class, thereby making
12 appropriate final injunctive and declaratory relief concerning the Class as a whole.

13 217. As a result of the foregoing, class treatment is appropriate under Fed. R. Civ. P.
14 23(a), (b)(2), and (b)(3).

15 **CAUSES OF ACTION**

16 **FIRST CAUSE OF ACTION**

17 **Violations of the Unfair Competition Law,**

18 **Cal. Bus. & Prof. Code § 17200 *et seq.***

19 **(By the Nationwide Class)**

20 218. Plaintiffs reallege and incorporate the allegations elsewhere in the Complaint
21 as if set forth in full herein.

22 219. The UCL prohibits any “unlawful, unfair or fraudulent business act or practice.”
23 Cal. Bus. & Prof. Code §17200.

24 220. The acts, omissions, misrepresentations, practices, and non-disclosures of Clif
25 as alleged herein constitute business acts and practices.

26 **Fraudulent**

27 221. A statement or practice is fraudulent under the UCL if it is likely to deceive the
28 public, applying an objective reasonable consumer test.

1 222. As set forth herein, the Clif’s claims and omissions relating to the high-sugar
2 Products are likely to deceive reasonable consumers and the public.

3 **Unlawful**

4 223. The acts alleged herein are “unlawful” under the UCL in that they violate at
5 least the following laws:

- 6 • The Federal Food, Drug, and Cosmetic Act, 21 U.S.C. §§ 301 *et seq.*
7 • The False Advertising Law, Cal. Bus. & Prof. Code §§ 17500 *et seq.*;
8 • The Consumers Legal Remedies Act, Cal. Civ. Code §§ 1750 *et seq.*; and
9 • The California Sherman Food, Drug, and Cosmetic Law, Cal. Health & Safety
10 Code §§ 110100 *et seq.*

11 **Unfair**

12 224. Clif’s conduct with respect to the labeling, advertising, and sale of the high-
13 sugar Products was also unfair because it violated public policy as declared by specific
14 constitutional, statutory or regulatory provisions, including but not limited to the False
15 Advertising Law, portions of the Federal Food, Drug, and Cosmetic Act, and portions of the
16 California Sherman Food, Drug, and Cosmetic Law.

17 225. Clif’s conduct with respect to the labeling, advertising, and sale of the high-
18 sugar Products was also unfair because the consumer injury was substantial, not outweighed
19 by benefits to consumers or competition, and not one consumers themselves could
20 reasonably have avoided.

21 226. Clif’s conduct with respect to the labeling, advertising, and sale of the high-
22 sugar Products was unfair because Clif’s conduct was immoral, unethical, unscrupulous, or
23 substantially injurious to consumers and the utility of its conduct, if any, does not outweigh
24 the gravity of the harm to its victims.

25 227. Neither the economic nor health harm to consumers from purchasing and
26 consuming the high-sugar Products due to the deceptive claims are outweighed by
27 Defendant’s increased profits from use of the health and wellness labeling claims and its
28 material omissions.

1 228. Clif profited from its sale of the falsely, deceptively, and unlawfully advertised
2 high-sugar Products to unwary consumers.

3 229. Plaintiffs and Class Members are likely to be damaged by Clif’s deceptive trade
4 practices, as Clif continues to disseminate misleading information. Thus, injunctive relief
5 enjoining this deceptive practice is proper.

6 230. Clif’s conduct caused and continues to cause substantial injury to Plaintiffs and
7 the other Class Members, who have suffered injury in fact as a result of Clif’s fraudulent,
8 unlawful, and unfair conduct.

9 231. In accordance with Bus. & Prof. Code § 17203, Plaintiffs, on behalf of
10 themselves, the Class, and the general public, seek an order enjoining Clif from continuing
11 to conduct business through unlawful, unfair, or fraudulent acts and practices, and to
12 commence a corrective advertising campaign.

13 232. Plaintiffs, on behalf of themselves and the Class also seek an order for
14 disgorgement and restitution of all monies from the sale of the high-sugar Products, which
15 were unjustly acquired through acts of unlawful, unfair, and fraudulent competition.

16 **SECOND CAUSE OF ACTION**

17 **Violations of the False Advertising Law,**

18 **Cal. Bus. & Prof. Code §§ 17500 *et seq.***

19 **(By the Nationwide Class)**

20 233. Plaintiffs reallege and incorporate the allegations elsewhere in the Complaint
21 as if set forth in full herein.

22 234. Under the FAL, “[i]t is unlawful for any person, firm, corporation or
23 association, or any employee thereof with intent directly or indirectly to dispose of real or
24 personal property or to perform services” to disseminate any statement “which is untrue or
25 misleading, and which is known, or which by the exercise of reasonable care should be
26 known, to be untrue or misleading.” Cal. Bus. & Prof. Code § 17500.

1 235. It is also unlawful under the FAL to disseminate statements concerning property
2 or services that are “untrue or misleading, and which is known, or which by the exercise of
3 reasonable care should be known, to be untrue or misleading.” *Id.*

4 236. As alleged herein, the advertisements, labeling, policies, acts, and practices of
5 Clif relating to the high-sugar Products misled consumers acting reasonably as to the
6 healthfulness of the high-sugar Products.

7 237. Plaintiffs suffered injury in fact as a result of Clif’s actions as set forth herein
8 because Plaintiffs purchased the high-sugar Products in reliance on Clif’s false and
9 misleading marketing claims and lost money as a result.

10 238. Clif’s business practices as alleged herein constitute unfair, deceptive, untrue,
11 and misleading advertising pursuant to the FAL because Clif has advertised the high-sugar
12 Products in a manner that is untrue or misleading, which Clif knew or reasonably should
13 have known.

14 239. Clif profited from its sales of the falsely and deceptively advertised high-sugar
15 Products to unwary consumers.

16 240. As a result, pursuant to Cal. Bus. & Prof. Code § 17535, Plaintiffs and the
17 Class are entitled to injunctive and equitable relief, restitution, and an order for the
18 disgorgement of the funds by which Clif was unjustly enriched.

19 **THIRD CAUSE OF ACTION**

20 **Violations of the Consumer Legal Remedies Act,**

21 **Cal. Civ. Code §§ 1750 *et seq.***

22 **(By the Nationwide Class)**

23 241. Plaintiffs reallege and incorporate the allegations elsewhere in the Complaint
24 as if set forth in full herein.

25 242. The CLRA prohibits deceptive practices in connection with the conduct of a
26 business that provides goods, property, or services primarily for personal, family, or
27 household purposes.
28

1 243. Clif’s false and misleading labeling and other policies, acts, and practices
2 described herein were designed to, and did, induce the purchase and use of Clif’s high-sugar
3 Products for personal, family, or household purposes by Plaintiffs and other Class Members,
4 and violated and continue to violate at least the following sections of the CLRA:

5 a. § 1770(a)(5): representing that goods have characteristics, uses, or
6 benefits which they do not have;

7 b. § 1770(a)(7): representing that goods are of a particular standard, quality,
8 or grade if they are of another;

9 c. § 1770(a)(9): advertising goods with intent not to sell them as advertised;
10 and

11 d. § 1770(a)(16): representing the subject of a transaction has been supplied
12 in accordance with a previous representation when it has not.

13 244. Clif profited from its sales of the falsely, deceptively, and unlawfully advertised
14 high-sugar Products to unwary consumers.

15 245. Clif’s wrongful business practices regarding the high-sugar Products
16 constituted, and constitute, a continuing course of conduct in violation of the CLRA.

17 246. Pursuant to California Civil Code § 1782, Plaintiffs sent written notice to Clif
18 of their claims, but Clif failed to remedy the violations within 30 days thereafter. Because
19 Clif failed to implement remedial measures, Plaintiffs on behalf of themselves and the Class,
20 seek injunctive relief under Civil Code § 1782(d), as well as statutory, actual, and punitive
21 damages, including attorneys’ fees.

22 247. Filed concurrently with the Complaint is a venue of affidavit as required under
23 California Civil Code § 1782.

1 **FOURTH CAUSE OF ACTION**

2 **Breaches of Express Warranties,**

3 **Cal. Com. Code § 2313(1)**

4 **(By the Nationwide Class)**

5 248. Plaintiffs reallege and incorporate the allegations elsewhere in the Complaint
6 as if set forth in full herein.

7 249. Through labeling of the high-sugar Products, Clif made affirmations of fact or
8 promises, or description of goods, listed in paragraphs 128, 135, 142, 149, and 157. These
9 representations were “part of the basis of the bargain.” in that Plaintiffs and the Class
10 purchased the high-sugar Products in reasonable reliance on those statements. Cal. Com.
11 Code § 2313(1).

12 250. Clif breached its express warranties by selling Products that are harmful to
13 health.

14 251. That breach actually and proximately caused injury in the form of the lost
15 purchase price that Plaintiffs and Class members paid for the high-sugar Products.

16 252. As a result, Plaintiffs seek, on behalf of themselves and other Class Members,
17 their actual damages arising as a result of Clif’s breaches of express warranty.

18 **FIFTH CAUSE OF ACTION**

19 **Breach of Implied Warranty of Merchantability,**

20 **Cal. Com. Code § 2314**

21 **(By the Nationwide Class)**

22 253. Plaintiffs reallege and incorporate the allegations elsewhere in the Complaint
23 as if set forth in full herein.

24 254. Clif, through its acts set forth herein, in the sale, marketing, and promotion of
25 the high-sugar Products, made representations to Plaintiffs and the Class regarding the health
26 and nutrition properties of the Products.

1 255. Clif is a merchant with respect to the goods of this kind which were sold to
2 Plaintiffs and the Class, and there was, in the sale to Plaintiffs and other consumers, an
3 implied warranty that those goods were merchantable.

4 256. However, Clif breached that implied warranty in that the high-sugar Products
5 are harmful to health, increasing risk of cardiovascular disease, obesity, liver disease and
6 other serious diseases.

7 257. As an actual and proximate result of Clif's conduct, Plaintiffs and the Class did
8 not receive goods as impliedly warranted by Clif to be merchantable in that they did not
9 conform to promises and affirmations made on the container or label of the goods.

10 258. Plaintiffs and the Class have sustained damages as a proximate result of the
11 foregoing breach of implied warranty in the amount of the high-sugar Products' purchase
12 price.

13 **SIXTH CAUSE OF ACTION**

14 **Unfair And Deceptive Business Practices,**

15 **N.Y. Gen. Bus. L. § 349**

16 **(By the New York Subclass)**

17 259. The New York Plaintiff, Ms. Arnold, realleges and incorporates the allegations
18 elsewhere in the Complaint as if fully set forth herein.

19 260. Clif's conduct constitutes deceptive acts or practices or false advertising in the
20 conduct of business, trade or commerce or in the furnishing of services in New York which
21 affects the public interest under N.Y. Gen. Bus. L. § 349.

22 261. As alleged herein, Clif engaged in, and continues to engage in, deceptive acts
23 and practices by advertising, marketing, distributing, and selling the high-sugar bars with
24 false or misleading claims and representations as well as by additional deceptive omissions
25 in light of the representations made.

26 262. As alleged herein, by misbranding the high-sugar products, Clif engaged in, and
27 continues to engage in, unlawful and deceptive acts and practices.
28

1 263. Clif's conduct was materially misleading to Plaintiff and the class. During the
2 class period, Clif carried out a plan, scheme and course of conduct which was consumer
3 oriented.

4 264. As a direct and proximate result of Clif's violation of N.Y. Gen. Bus. L. § 349,
5 Plaintiff and the class were injured and suffered damages.

6 265. The injuries to Plaintiff and the class were foreseeable to Clif and, thus Clif's
7 actions were unconscionable and unreasonable.

8 266. Clif is liable for damages sustained by Plaintiff and the class to the maximum
9 extent allowable under N.Y. Gen. Bus. L. § 349, actual damages or fifty dollars, whichever
10 is greater, or both.

11 267. Pursuant to N.Y. Gen. Bus. L. § 349(h), Plaintiff and the class seek an Order
12 enjoining Clif from continuing to engage in unlawful acts or practices, false advertising, and
13 any other acts prohibited by law, including those set forth in this Complaint.

14 **SEVENTH CAUSE OF ACTION**

15 **False Advertising, N.Y. Gen. Bus. L. § 350**

16 **(By the New York Class)**

17 268. The New York Plaintiff, Ms. Arnold, realleges and incorporates the allegations
18 elsewhere in the Complaint as if fully set forth herein.

19 269. Clif has engaged and is engaging in consumer-oriented conduct which is
20 deceptive or misleading in a material way (both by affirmative misrepresentations and by
21 material omissions), constituting false advertising in the conduct of any business, trade, or
22 commerce, in violation of N.Y. Gen. Bus. L. § 350.

23 270. As a result of Clif's false advertising, Plaintiff and the class have suffered and
24 continue to suffer substantial injury, including damages, which would not have occurred but
25 for the false and deceptive advertising, and which will continue to occur unless Clif is
26 permanently enjoined by this Court.

1 271. Plaintiff Arnold and the New York Subclass seek to enjoin the unlawful acts
2 and practices described herein, and to recover their actual damages or five hundred dollars,
3 whichever is greater, or both such actions, and reasonable attorney fees.

4 **EIGHTH CAUSE OF ACTION**

5 **Breach of Express Warranty**

6 **NY CLS UCC § 2-313**

7 **(By the New York Class)**

8 272. The New York Plaintiff, Ms. Arnold, realleges and incorporates the allegations
9 elsewhere in the Complaint as if fully set forth herein.

10 273. In selling the high-sugar Products to Plaintiff and the class members Clif made
11 an affirmation of fact or promise that the products were “healthy” or at least would not
12 detriment health (described in paragraphs 128, 135, 142, 149, and 157), as well as related
13 affirmations of fact, promises, and descriptions, which formed part of the basis of the
14 bargain. Clif thus expressly warranted the goods sold.

15 274. The high-sugar Products do not live up to these affirmations of fact, promises,
16 and descriptions, causing the breach of warranty when Plaintiff and other consumers
17 purchased them.

18 275. That breach actually and proximately caused injury in the form of the lost
19 purchase price that Plaintiff and the Class paid for the high-sugar Products.

20 276. Plaintiff, on behalf of herself and the New York class, seek actual damages for
21 Clif’s breach of warranty.

22 **NINTH CAUSE OF ACTION**

23 **Breach of Implied Warranty of Merchantability**

24 **NY CLS UCC § 2-314**

25 **(By the New York Class)**

26 277. Plaintiff Arnold realleges and incorporates the allegations elsewhere in the
27 Complaint as if fully set forth herein.

1 278. Clif, through its acts set forth herein, in the sale, marketing, and promotion of
2 the Products, made representations to Plaintiff and the Class regarding the health and
3 nutrition properties of the Products.

4 279. Clif is a merchant with respect to the goods of this kind which were sold to
5 Plaintiff and the Class, and there was, in the sale to Plaintiff and other consumers, an implied
6 warranty that those goods were merchantable.

7 280. However, Clif breached that implied warranty in that the Products are not
8 adequately labeled, and do not conform to the promises or affirmations of fact made on the
9 label because the Products are harmful to health, increasing risk of cardiovascular disease,
10 obesity, liver disease and other serious diseases.

11 281. As an actual and proximate result of Clif's conduct, Plaintiff and the Class did
12 not receive goods as impliedly warranted by Clif to be merchantable in that they did not
13 conform to promises and affirmations made on the container or label of the goods.

14 282. Plaintiff and the Class have sustained damages as a proximate result of the
15 foregoing breach of implied warranty in the amount of the Products' purchase price.

16 **PRAYER FOR RELIEF**

17 283. Wherefore, Plaintiffs, on behalf of themselves, all others similarly situated, and
18 the general public, pray for judgment against Clif as to each and every cause of action, and
19 the following remedies:

20 A. An Order declaring this action to be a proper class action, appointing
21 Plaintiffs as class representatives, and appointing undersigned counsel as class
22 counsel;

23 B. An Order requiring Clif to bear the cost of class notice;

24 C. An Order enjoining Clif from using any challenged labeling or marketing
25 claim that is found to be false, misleading, or unlawful;

26 D. An Order compelling Clif to conduct a corrective advertising campaign;

27 E. An Order compelling Clif to destroy all misleading and deceptive
28 advertising materials and the high-sugar Products' labels;

1 F. An Order requiring Clif to pay restitution to restore all funds acquired by
2 means of any act or practice declared by this Court to be an unlawful, unfair, or
3 fraudulent business act or practice, or untrue or misleading advertising;

4 G. An Order requiring Clif to pay compensatory, statutory and punitive
5 damages where permitted by law;

6 H. Pre- and post-judgment interest where available;

7 I. An award of attorneys' fees and costs;

8 J. Any other and further relief that Court deems necessary, just, or proper.

9 **JURY DEMAND**

10 Plaintiffs hereby demand a trial by jury on all issues so triable.

11
12 Dated: April 18, 2018

/s/ Paul K. Joseph

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