

PERSONAL HEALTH

'Diabesity,' a Crisis in an Expanding Country

By JANE E. BRODY

I can't understand why we still don't have a national initiative to control what is fast emerging as the most serious and costly health problem in America: excess weight. Are our schools, our parents, our national leaders blind to what is happening — a health crisis that looms even larger than our former and current smoking habits?

Just look at the numbers, so graphically described in an eye-opening new book, "Diabesity: The Obesity-Diabetes Epidemic That Threatens America — and What We Must Do to Stop It" (Bantam), by Dr. Francine R. Kaufman, a pediatric endocrinologist, the director of the diabetes clinic at Children's Hospital Los Angeles and a past president of the American Diabetes Association.

In just over a decade, she noted, the prevalence of diabetes nearly doubled in the American adult population: to 8.7 percent in 2002, from 4.9 percent in 1990. Furthermore, an estimated one-third of Americans with Type 2 diabetes don't even know they have it because the disease is hard to spot until it causes a medical crisis.

An estimated 18.2 million Americans now have diabetes, 90 percent of them the environmentally influenced type that used to be called adult-onset diabetes. But adults are no longer the only victims — a trend that prompted an official change in name in 1997 to Type 2 diabetes.

More and more children are developing this health-robbing disease or its precursor, prediabetes. Counting children and adults together, some 41 million Americans have a higher-than-normal blood sugar level that typically precedes the development of full-blown diabetes.

'Then Everything Changed'

And what is the reason for this runaway epidemic? Being overweight or obese, especially with the accumulation of large amounts of body fat around the abdomen. In Dr. Kaufman's first 15 years as a pediatric endocrinologist, 1978 to 1993, she wrote, "I never saw a young patient with Type 2 diabetes. But then everything changed."

Teenagers now come into her clinic weighing 200, 300, even nearly 400 pounds with blood sugar levels that

are off the charts. But, she adds, we cannot simply blame this problem on gluttony and laziness and "assume that the sole solution is individual change."

The major causes, Dr. Kaufman says, are "an economic structure that makes it cheaper to eat fries than fruit" and a food industry and mass media that lure children to eat the wrong foods and too much of them. "We have defined progress in terms of the quantity rather than the quality of our food," she wrote.

Her views are supported by a 15-year study published in January in *The Lancet*. A team headed by Dr. Mark A. Pereira of the University of Minnesota analyzed the eating habits of 3,031 young adults and found that weight gain and the development of prediabetes were directly related to unhealthy fast food.

Taking other factors into consideration, consuming fast food two or more times a week resulted, on average, in an extra weight gain of 10 pounds and doubled the risk of prediabetes over the 15-year period.

Other important factors in the diabesity epidemic, Dr. Kaufman explained, are the failure of schools to set good examples by providing only healthful fare, a loss of required physical activity in schools and the inability of many children these days to walk or bike safely to school or to play outside later.

Genes play a role as well. Some people are more prone to developing Type 2 diabetes than others. The risk is 1.6 times as great for blacks as for

whites of similar age. It is 1.5 times as great for Hispanic-Americans, and 2 times as great for Mexican-Americans and Native Americans.

Unless we change our eating and exercise habits and pay greater attention to this disease, more than one-third of whites, two-fifths of blacks and half of Hispanic people in this country will develop diabetes.

It is also obvious from the disastrous patient histories recounted in Dr. Kaufman's book that the nation's medical structure is a factor as well. Many people do not have readily accessible medical care, and still many others have no coverage for preventive medicine. As a result, millions fall between the cracks until they are felled by heart attacks or strokes.

A Devastating Disease

There is a tendency in some older people to think of diabetes as "just a little sugar," a common family problem. They fail to take it seriously and make the connection between it and the costly, crippling and often fatal diseases that can ensue.

Diabetes, with its consequences of heart attack, stroke, kidney failure, amputations and blindness, among others, already ranks No. 1 in direct health care costs, consuming \$1 of every \$7 spent on health care.

Nor is this epidemic confined to American borders. Internationally, "we are witnessing an epidemic that is the scourge of the 21st century," Dr. Kaufman wrote.

Unlike some other killer diseases,

Type 2 diabetes issues an easily detected wake-up call: the accumulation of excess weight, especially around the abdomen. When the average fasting level of blood sugar (glucose) rises above 100 milligrams per deciliter, diabetes is looming.

Abdominal fat is highly active. The chemical output of its cells increases blood levels of hormones like estrogen, providing the link between obesity and breast cancer, and decreases androgens, which can cause a decline in libido. As the cells in abdominal fat expand, they also release chemicals that increase fat accumulation, ensuring their own existence.

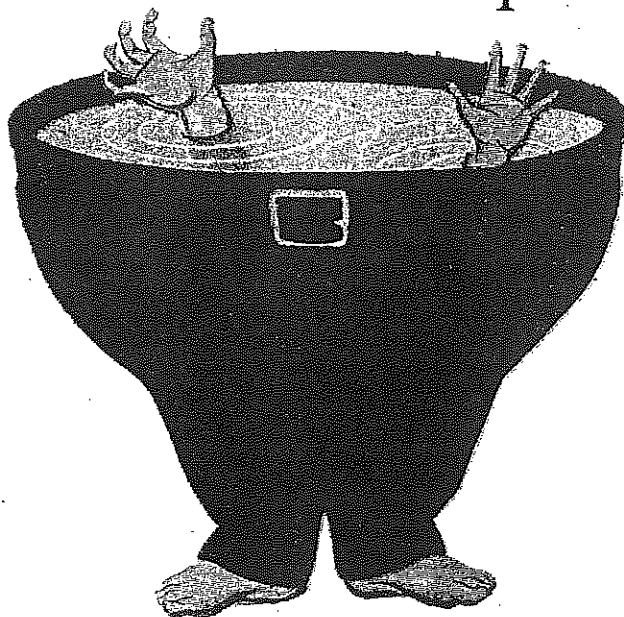
The result is an increasing cellular resistance to the effects of the hormone insulin, which enables cells to burn blood sugar for energy. As blood sugar rises with increasing insulin resistance, the pancreas puts out more and more insulin (promoting further fat storage) until this gland is exhausted. Then when your fasting blood sugar level reaches 126 milligrams, you have diabetes.

Two recent clinical trials showed that Type 2 diabetes could be prevented by changes in diet and exercise. The Diabetes Prevention Program Research Group involving 3,234 overweight adults showed that "intensive lifestyle intervention" was more effective than a drug that increases insulin sensitivity in preventing diabetes over three years.

The intervention, lasting 24 weeks, trains people to choose low-calorie, low-fat diets; increase activity; and change their habits. Likewise, the randomized, controlled Finnish Diabetes Prevention Study of 522 obese patients showed that introducing a moderate exercise program of at least 150 minutes a week and weight loss of at least 5 percent reduced the incidence of diabetes by 58 percent.

Many changes are needed to combat this epidemic, starting with schools and parents. Perhaps the quickest changes can be made in the workplace, where people can be encouraged to use stairs instead of elevators; vending machines can be removed or dispense only healthful snacks; and cafeterias can offer attractive healthful fare. Lunchrooms equipped with refrigerators and microwaves will allow workers to bring healthful meals to work.

Dr. Kaufman tells of a challenge to get fit and lose weight by Caesars Entertainment in which 4,600 workers who completed the program lost a total of 45,000 pounds in 90 days. Others could follow this example.



Alex Nabaum

Next week: Helping an overweight child.

Label Calls Sugary Cereal a 'Smart Choice'

A new food-labeling campaign called Smart Choices, backed by most of the nation's largest food manufacturers, is "designed to help shoppers easily identify smarter food and beverage choices."

The green checkmark label that is starting to show up on store shelves will appear on hundreds of packages, including — to the surprise of many nutritionists — sugar-laden cereals like Cocoa Krispies and Froot Loops.

"These are horrible choices," said Walter C. Willett, chairman of the nutrition department of the Harvard School of Public Health.

He said the criteria used by the Smart Choices Program were seriously flawed, allowing less healthy products, like sweet cereals and heavily salted packaged meals, to win its seal of approval. "It's a blatant failure of this system, and it makes it, I'm afraid, not credible," Willett said.

The Food and Drug Adminis-

tration and the Department of Agriculture sent the program's managers a letter on Aug. 19 saying they intended to monitor its effect on food choices. The letter said the agencies would be concerned if the Smart Choices label "had the effect of encouraging consumers to choose highly processed foods and refined grains instead of fruits, vegetables and whole grains."

Eileen T. Kennedy, president of the Smart Choices board and the dean of the Friedman School of Nutrition Science and Policy at Tufts University, said the program's criteria were based on government dietary guidelines and widely accepted nutritional standards.

Kennedy, who is not paid for her work on the program, defended the products endorsed by the program. She said Froot Loops was better than other things parents could choose for their children.

"You're rushing around, you're

trying to think about healthy eating for your kids and you have a choice between a doughnut and a cereal," Kennedy said, evoking a hypothetical parent in the supermarket. "So Froot Loops is a better choice."

Froot Loops qualifies for the label because it meets standards set by the Smart Choices Program for fiber and Vitamins A and C, and because it does not exceed limits on fat, sodium and sugar. It contains the maximum amount of sugar allowed under the program for cereals, 12 grams per serving.

Ten companies have signed up for the Smart Choices Program so far, including Kellogg's, Kraft Foods, ConAgra Foods, Unilever, General Mills, PepsiCo and Tyson Foods. Companies that participate pay up to \$100,000 a year to the program, with the fee based on total sales of its products that bear the seal.

WILLIAM NEUMAN

In Worries About Sweeteners, Think of All Sugars

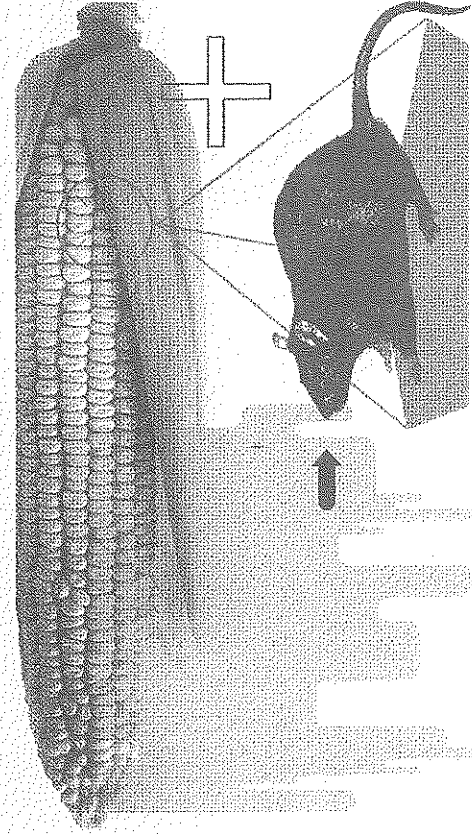
Are you worried about high-fructose corn syrup in your diet? If you answered yes, you're not alone. Today, about 55 percent of Americans list the infamous corn sweetener among their food-safety worries, right behind mad cow disease and mercury in seafood, according to the consumer research firm NPD Group.

As a result, food makers are reworking decades-old recipes, eliminating the corn syrup used to sweeten foods like ketchup and crackers, and replacing it with beet or cane sugar. To counter the backlash, the Corn Refiners Association last week suggested changing the name of the ingredient to "corn sugar," hoping a new moniker would help rebuild the product's image.

But most nutrition scientists say that consumer anxiety about the sweetener is misdirected. Only about half of the added sugar in the American diet comes from corn sources. All added sugars, they say, including those from sugar cane and beets, are cause for concern. Today, sugar calories now account for 16 percent of the calories Americans consume, a 50 percent increase from the 1970s. High sugar consumption has been linked to obesity and other health concerns.

"I think consumers have been misled into thinking that high-fructose corn syrup is particularly harmful," said Michael Jacobson, executive director of the Center for Science in the Public Interest, an advocacy group. "Chemically it's essentially the same as sugar. The bottom line is we should be consuming a lot less of both sugar and high-fructose corn syrup."

High-fructose corn syrup and sucrose, also known as table sugar, are made up of about the same amount of glucose and fructose. The American Dietetic Association says the two sweeteners are "nutritionally equivalent" and "indistinguishable" once absorbed in the bloodstream. The American Medical



STUART BRADFORD

experiments suggest that high-fructose corn syrup prompts more weight gain than sucrose, at least in rats, even when the animals eat the same number of calories over all. They speculate that the body metabolizes the calories in high-fructose corn syrup differently than the same amount of calories in regular sugar, prompting the body to pad on extra pounds.

"We know from our measurements that after a few months, the high-fructose corn syrup drinkers weighed more," said Bart Hoebel, a psychology professor and a senior author on the research. "That's what makes this interesting and surprising."

But critics of the Princeton study say the findings are inconsistent — some of the rat groups, after all, showed no differences in weight gain.

"How they came to these conclusions is beyond me," said Marion Nestle, a professor in New York University's department of nutrition and a longtime food industry critic who wrote about the research on her Food Politics blog. "I'm skeptical. I don't think the study produces convincing evidence of a difference between the effects of HFCS and sucrose on the body weight of rats."

But some researchers continue to put forth the theory that high-fructose corn syrup has a more nefarious effect on health than regular sugar. This year, psychology researchers at Princeton University published a report on a series of experiments that tracked weight gain among male and female rats that were given regular rat chow, along with 12- or 24-hour access to water sweet-

ened with either sucrose or high-fructose corn syrup. In some of the comparisons, there were no significant differences in weight gain between the groups. Among rats with 12-hour access to high-fructose corn syrup, the males gained more weight but the females did not. Among rats with 24-hour access to high-fructose corn syrup, the females gained more weight but the males did not.

The Princeton researchers say the

Association has said it's "unlikely that HFCS contributes more to obesity or other conditions than sucrose."

But there are some differences. To make table sugar, the sugar from beets and cane essentially is squeezed out of the plants. Corn syrup, meanwhile, is heavily processed using enzymes to turn cornstarch into glucose and then fructose.

In high-fructose corn syrup, the glucose and fructose molecules are chemically separate. In table sugar, the molecules are chemically bonded, forming a disaccharide that is broken apart inside the body.

Much of the confusion about high-fructose corn syrup stems from a 2004 article in the American Journal of Clinical Nutrition that suggested rising obesity rates were related to increased consumption of high-fructose corn syrup in beverages. The lead author, Dr. George A. Bray, said in an interview last week that the real issue highlighted in the report was overconsumption of all sugary beverages, but that the article has been distorted as an indictment of high-fructose corn syrup alone. Dr. Bray notes

"It allowed us to see a rapid rise in its use and opened up the discussion about rising fructose intake," Dr. Bray said. "Sugar is one of the commodities of which we've never had a surplus. We've always consumed all that's ever been produced."

DISCOVER MORE FOOD SECRETS!

10 Super Foods ... For Better Health!

At least one will surprise you ...

1 Sweet Potatoes.

A nutritional All-Star -- one of the best vegetables you can eat. They're loaded with carotenoids, vitamin C, potassium, and fiber. Bake and then mix in some unsweetened applesauce or crushed pineapple for extra moisture and sweetness.

2 Mangoes.

Just one cup of mango supplies 100% of a day's vitamin C, one-third of a day's vitamin A, a decent dose of blood-pressure-lowering potassium, and 3 grams of fiber. Bonus: mango is one of the fruits least likely to have pesticide residues.

3 Unsweetened Greek yogurt.

Non-fat, plain Greek yogurt has a pleasant tartness that's a perfect foil for the natural sweetness of berries, bananas, or your favorite breakfast cereal. It's strained, so even the fat-free versions are thick and creamy. And the lost liquid means that the yogurt that's left has twice the protein of ordinary yogurt -- about 17 grams in 6 ounces of plain Greek yogurt.

4 Broccoli.

It has lots of vitamin C, carotenoids, vitamin K, and folic acid. Steam it just enough so that it's still firm and add a sprinkle of red pepper flakes and a spritz of lemon juice.

5 Wild Salmon.

The omega-3 fats in fatty fish like salmon can help reduce the risk of sudden-death heart attacks. And wild-caught salmon has less PCB contaminants than farmed salmon.

6 Crispbreads.

Whole-grain rye crackers, like Wasa, Kavli, and Ryvita -- usually called crispbreads -- are loaded with fiber and often fat-free. Drizzle with a little honey and sprinkle with cinnamon to satisfy your sweet tooth.

7 Garbanzo Beans.

All beans are good beans. They're rich in protein, fiber, iron, magnesium, potassium, and zinc. But garbanzos stand out because they're so versatile. Just drain, rinse, and toss a handful on your green salad; throw them into vegetable stews, curries, and soups; mix them with brown rice, whole wheat couscous, bulgur, or other whole grains.

8 Watermelon.

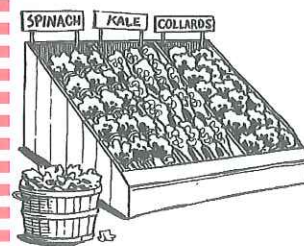
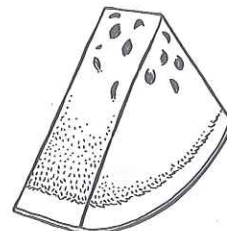
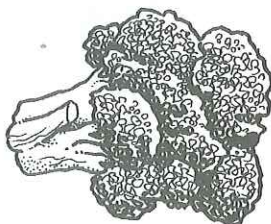
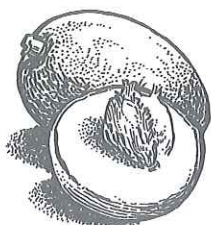
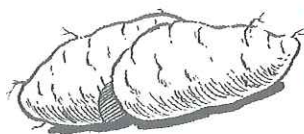
Watermelon is a heavyweight in the nutrient department. A standard serving (about 2 cups) has one-third of a day's vitamins A and C, a nice shot of potassium, and a healthy dose of lycopene for only 80 fat-free, salt-free calories. And when they're in season, watermelons are often locally grown, which means they may have a smaller carbon footprint than some other fruits.

9 Butternut Squash.

Steam a sliced squash or buy peeled, diced butternut squash at the supermarket that's ready to go into the oven, a stir-fry, or a soup. It's an easy way to get lots of vitamins A and C and fiber.

10 Leafy Greens.

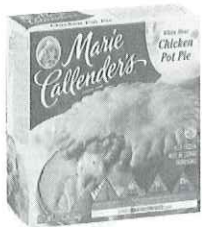
Don't miss out on powerhouse greens like kale, collards, spinach, turnip greens, mustard greens, and Swiss chard. These stand-out leafy greens are jam-packed with vitamins A, C, and K, folate, potassium, magnesium, calcium, iron, lutein, and fiber. Serve with a splash of lemon juice or red wine vinegar.



Nutrition Action Healthletter

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We Name Names!



1 Artery Crust. Judging by the label, Marie Callender's (16.5 oz) **Chicken Pot Pie** has "only" 520 calories, 11 grams of saturated fat, and 800 mg of sodium. But look again. Those numbers are for only *half* a pie. Eat the entire pie, as most people probably do, and you're talking 1,040 calories, 22 grams of saturated fat (more than a day's worth), and 1,600 mg of sodium (an entire day's worth).



2 Triple Bypass. Can't decide what to pick from a restaurant menu? No worries. Now you can order not just one entrée, but two ... or three ... *all at once*. Olive Garden's **Tour of Italy** – Homemade Lasagna, Lightly Breaded Chicken Parmigiana, and Creamy Fettuccine Alfredo – comes with 1,450 calories, 33 grams of saturated fat, and 3,830 milligrams of sodium. Add a breadstick (150 calories and 400 mg of sodium) and a plate of Garden-Fresh Salad with dressing (290 calories and 1,530 mg of sodium) and you'll consume almost 2,000 calories (an entire day's worth) and 5,760 mg of sodium (4 days' worth) in a single meal!



3 Liquid Salt An average cup of Campbell's regular **Condensed Soup** has 760 mg of sodium. But most people eat the whole can of soup, which contains 1,900 mg of sodium – more than most adults should consume in an entire day! Look for Campbell's Healthy Request, Progresso Reduced Sodium, and Healthy Choice soups with sodium in the 400s (still a lot if you eat the whole can). Better yet, choose reduced-sodium soups by Amy's, Imagine Foods, Pacific Natural Foods, and Tabatchnick.



4 Tortilla Terror. Interested in a **Chipotle Chicken Burrito** (tortilla, rice, pinto beans, cheese, chicken, sour cream, and salsa)? Think of its 970 calories, 18 grams of saturated fat, and 2,200 mg of sodium as three 6-inch Subway B.L.T. Subs! Skipping the cheese and sour cream cuts the saturated fat to 6 grams, but you still end up with 750 calories and more than a day's worth of sodium. Yikes!



5 Factory Reject. People don't expect low-calorie desserts at **The Cheesecake Factory**. But the **Chocolate Tower Truffle Cake** kicks things up a notch. If it weren't served on its side, this one would stand over six inches tall. And upright or not, the slab of cake still weighs in at three-quarters of a pound. What do you get for all that heft? Just 1,760 calories and 2½ days' worth of saturated

fat (50 grams), mostly from chocolate, sugar, cream, white flour, and butter.

6 Burial Grands. No one thinks of biscuits as health food. But each **Pillsbury Grands! Southern Style** frozen biscuit has 170 calories and 1½ grams of saturated fat, plus 3½ grams of trans fat (more than a day's worth). Companies are dumping their partially hydrogenated oils left and right, yet Pillsbury still makes most of its rolls and biscuits with the stuff



7 Transgression. "0mg Cholesterol" declares the box of **Parkay Margarine** sticks. But each tablespoon of the spread has 2½ grams of trans fat. And beware of other trans-filled sticks by Blue Bonnet, Land O Lakes, Country Crock, and Fleischmann's. Shopping tip: Look for tub margarine instead – most have little or no trans fat.



8 Starbucks on Steroids. The **Starbucks Venti (20 oz) White Chocolate Mocha** with 2% milk and whipped cream is more than a mere cup of coffee. It's worse than a McDonald's Quarter Pounder with Cheese. Few people have room in their diets for the 580 calories, 14 grams of saturated fat, and 13 teaspoons of added sugar that this hefty beverage supplies. But you can lose 130 calories and more than half of the saturated fat if you order it with nonfat milk and no whipped cream.



9 Extreme Ice Cream. An average half-cup serving of **Häagen-Dazs ice cream** squeezes half-a-day's saturated fat and a third-of-a-day's cholesterol into your artery walls and makes a 300-calorie down-payment on your next set of fat cells – if you can stop at a petite half-cup!



10 Stone Cold. Cold Stone Creamery's **Oh Fudge!** shake (chocolate ice cream, milk, and fudge syrup) starts at 1,060 calories for the small "Like It" (16 oz) size. That's more than a large (22 oz) McDonald's McCafé Chocolate Shake. The medium "Love It" (20 oz) has 1,360 calories and the large "Gotta Have It" (24 oz) reaches 1,600 calories (almost an entire day's worth) and 62 grams of saturated fat (3½ days' worth). That's the saturated fat content of two 16-oz ribeye steaks plus a buttered baked potato, all blended into a handy 24 oz cup.



**Far better alternatives are available to you.
Turn the page for some healthier choices!**

10 Weight-Loss Myths: Don't Be Fooled!

1. **"Lose 30 pounds in 30 days."** Or any other gimmick that pledges massive weight loss at breakneck speed. "It's not healthy, and it's not true," Wilbert says. Permanent weight loss requires lifestyle change, not a quick fix, he adds.
2. **Fat is bad for you.** "Dieticians forwarded that one to people for years," says registered dietician and nutrition teacher Rick Hall. Now they know better. The truth is that *some* fats are unhealthy, and some are good – indeed, necessary – for your health. (Hence the term, "*essential fatty acids*"!)
3. **Carbohydrates are bad for you.** First it was fat, now carbohydrates are the bad guy. Wilbert explains that this trendy idea is just too broad. When trying to lose weight, make a distinction between unhealthy carbohydrates, such as white sugar, and complex carbohydrates, such as vegetables and whole grains, which provide vital vitamins, and fiber to aid digestion.
4. **Lose weight by not eating.** Uh...no. Starving deprives the body of the nutrients it needs for life and can lead to serious illness. Plus you lose muscle mass, not fat. Even if you do lose pounds, you gain them back almost immediately when you raid the fridge again.
5. **Don't eat after 6 p.m.** "It's not what time you eat, it's *what* you eat!" insists *Dare to Lose* author, Shari Lieberman, Ph.D. "In Europe they eat at 10 o'clock at night and they're half the size of Americans."
6. **Salad bars are healthy.** Bacon, cheeses, fried chicken, oily dressings...The apparent allure of salad bars means they probably require as much of your considered attention as ordering at a fast food restaurant. "You have to choose the foods at a salad bar wisely," Lieberman reminds people.
7. **Diet sodas aid weight loss.** This is one of Lieberman's favorite pieces of diet-industry hype. "There isn't a single study that shows diet sodas help you lose weight. There's absolutely no data on that at all," she claims.
8. **You shouldn't step on a scale.** "It's another misconception that dieticians have passed on," says Hall. "I completely disagree with it." He says checking your weight on a regular basis, say once or twice a week, is an obvious way to gauge your progress and alter your diet accordingly. However, Lieberman notes that scales in and of themselves, well, suck. She encourages people to keep track of hip, thigh and tummy inches, too.
9. **You can lose weight with a pill.** "You can't replace healthy eating and exercise with a pill," Hall warns. "Pills aren't a new thing, they've been tried for decades...[with] horrible side effects."
10. **You have to join the gym.** Actually, the most recent research indicates 30 to 60 minutes per day of moderate physical activity is all it takes to balance healthy food intake. It doesn't have to be strenuous exercise, "just *move* your body!" exclaims Hall.

MSN INTERNET

Fat rat study throws wrench into low-cal sweeteners

By DENISE GELLEME

SPECIAL FROM THE LOS ANGELES TIMES

Casting doubt on the benefit of low-calorie sweeteners, new research released Sunday reported that rats on diets containing sac-

charin gained more weight than rats given sugary food.

The study in the Journal Behavioral Neuroscience found that the artificial sweetener appeared to break the physiological connection between sweet tastes and

calories, driving the rats to overeat.

Lyn M. Steffen, an associate professor of epidemiology at the University of Minnesota, who was not involved in the report, said the study offers a possible explanation for the unexpected association be-

tween obesity and diet soda found in recent human studies.

Researchers have puzzled over whether diet soda was a marker for poor eating habits, or whether the ingredients in diet soda caused people to put on pounds, she said.

"This rat study suggests a component of the artificial sweetener may be responsible for the weight gain," Steffen said.

Steffen's research has showed that people who drank diet soda

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Sweet

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had a higher risk of developing metabolic syndrome, a cluster of symptoms that includes obesity, than people who drank regular soda.

Food industry reacts

The food and beverage industries rejected the report.

"The causes of obesity are multi-factorial," Beth Hubrich, a dietitian with the Calorie Council, which represents low- and reduced-calorie food and beverage marketers, said in a statement. "Although surveys have shown that there has been an increase in the use of 'sugar-free' foods over the years, portion sizes of foods have also increased, physical activity has decreased and overall calorie intake has increased."

The number of Americans who consume sodas, yogurts and other products containing sugar-free sweeteners more than doubled to 160 million in 2000 from fewer than 70 million in 1987, according to the report. Over the same period, the incidence of obesity among U.S. adults rose to 30 percent from 15 percent. One interpretation of the trends is that people are eating lower calorie foods but in greater amounts.

An alternative interpretation is that artificial sweeteners lead to biological or behavioral changes that cause people to eat more. This possibility is easier to test in rats than in people because scientists can control the animals' diets and measure exactly what they eat, said the study's lead author Susan E. Swithers, an associate professor of psychological sciences at Purdue University in Indiana.

Fatter rats

In the experiment, funded by the National Institutes of Health and Purdue, nine rats received yogurt sweetened with saccharin and eight rats received yogurt sweetened with glucose, which is close in composition to table sugar. After receiving their yogurt snack, the animals were given their usual rat chow.

At the end of five weeks, rats that had been fed sugar-free yogurt gained an average of 88 grams compared with 72 grams for rats that dined on glucose-sweetened yogurt, a difference of about 20 percent. Rats fed sugar-free yogurt were consuming more calories and had 5 percent more body fat.

In a related experiment, scientists fed a sugary drink to the two groups of rats and measured changes in the animals' body temperatures. Body temperatures typically rise after a meal because it takes energy to digest food.

The rats in the sugar-free group experienced a smaller average temperature increase, scientists said, a sign that a regular diet of artificial sweeteners had blunted their body's response to sweet-tasting foods, making it harder for the animals to burn off their extra calories.

Swithers said that normally sweet tastes signal the body that it is about to receive a large amount of calories, and the digestive system prepares to react. When sweet tastes aren't followed by lots of calories, as in the case of artificial sweeteners, the body becomes conditioned against a strong response.

Although the experiment looked only at saccharin, Swithers said it was possible other artificial sweeteners had the same effect. She said that while some epidemiological studies were consistent with her findings, a controlled study was needed to determine whether sweeteners had the same effect in people.

Cautious response

Swithers said her next step was to determine whether dietary changes could reverse the physiological responses in rats.

Adam Drewnowski, director of the nutrition sciences program at the University of Washington, cautioned against interpreting the results broadly.

"It is unreasonable to claim that results obtained studying saccharin in rats translate to every sweetener in humans," said Drewnowski, who has received research funding from the beverage industry in the past.

by Michael O'Shea

Fight Fat With Sleep

GOOD NEWS: DIET AND exercise aren't the only ways to prevent childhood obesity. Research suggests that just putting your kids to bed earlier may help. In a University of Montreal study, more than a quarter of children who slept less than 10 hours a night were overweight by age 6, compared with only 15% who slept a full 10 hours and 10% who slept 11 hours. Researchers say the difference may be attributed to an increase in production of the hormone that stimulates appetite and a decrease in production of the hormone that reduces food intake—both of which result from lack of sleep. Similar findings seem to hold true for adults.

An early bedtime may keep off excess pounds

Get your kids in the habit of going to bed earlier. In a Cincinnati Children's Hospital Medical Center study, researchers found that overweight kids may be at higher risk for chronic headaches. Data showed that as children's body-mass indexes increased, so did the frequency of their headaches. As kids lost weight, they had fewer headaches.

Encourage your children to get active by playing sports or riding their bikes. If you keep them moving during the day, they'll be more than ready to hit the sheets come bedtime. And that means less fat for them—and fewer headaches for everyone.

Teenagers' Suit Says McDonald's Made Them Obese

By MARC SANTORA

Jazlyn Bradley loved her McDonald's Super Sized. A McMuffin in the morning and the Big Mac meal with an apple pie in the evening was standard operating procedure.

Ashley Pelman was more of a Happy Meal girl. She liked the prizes.

Ms. Bradley is 19 years old, 5-foot-6 and 270 pounds. Ms. Pelman, 14, is 4-foot-10 and weighs 170.

Now, the two teenagers are suing the McDonald's Corporation and the two Bronx franchises they frequented for damages related to their obesity. Yesterday, a judge in United States District Court in Manhattan heard a motion to dismiss the case presented by lawyers for McDonald's.

The judge, Robert W. Sweet, has not ruled on the motion, and the case has yet to reach trial. But the idea of suing McDonald's, and fast food companies in general, for health problems like obesity and diabetes that may stem from the consumption of their products has been an issue of great concern for the industry for months now. McDonald's and restaurant industry officials say the teenagers' lawsuit is the first to find its way into a courtroom.

"Within the industry, it has gotten everyone's attention," said Steven C. Anderson, the president of the National Restaurant Association, which represents 858,000 businesses across the country, from small cafes to large chains like McDonald's. He said that while his membership is concerned about such lawsuits, the organization finds



James Estrin/The New York Times

Jazlyn Bradley, 19, is suing McDonald's. She is 5-foot-6 and weighs 270 pounds.

them frivolous.

At the heart of the lawsuit brought by Ms. Pelman and Ms. Bradley is whether McDonald's is responsible for their obesity because it did not provide the necessary information about the health risks associated with its meals. If their lawyer, Samuel Hirsch, makes it to trial with the suit, he hopes to turn it into a class action on behalf of all

New York children under age 18 who claim health problems they say resulted from eating at McDonald's.

The company's lawyers argued yesterday that the case did not even warrant the court's attention, saying the matter was really about common sense and individual

Continued on Page B8

2 Girls Sue McDonald's, Saying Super Sizes Made Them Obese

Continued From Page B1

responsibility.

"Every responsible person understands what is in products such as hamburgers and fries, as well as the consequences to one's waistline, and potentially to one's health, of excessively eating those foods over a prolonged period of time," the lawyers wrote in their motion to have the case dismissed.

Saying this knowledge has been well known for generations, they quoted Benjamin Franklin ("To lengthen thy life, lessen thy meals") and Henry David Thoreau ("There is a difference between eating and drinking for strength and for mere gluttony").

But Mr. Hirsch said the chain's billion-dollar advertising campaign encourages children to find their inner glutton.

"Young individuals are not in a position to make a choice after the onslaught of advertising and promotions," Mr. Hirsch said in an interview.

Walt Riker, a spokesman for McDonald's, denied that McDonald's makes children a target of its advertising. "No one cares more about kids than McDonald's," he said.

Neither side argues with the fact that America's waistline is expanding, at a time when a "small" size is a rarity on coffee shop or fast food menus. According to a study conducted last year by the surgeon general, 61 percent of Americans are overweight and 14 percent of adoles-

cents ages 12 to 19 are overweight — a figure that has tripled over the last two decades.

Defenders of the fast food industry point to changes in lifestyle that have made Americans more sedentary, while Mr. Hirsch and others say the problem has more to do with what he called the "supersize culture" of the fast food industry.

Ms. Bradley's order of a Big Mac with Super Size fries and Super Size Coke contains 1,600 calories. According to the United States Department of Agriculture's dietary guidelines in 2000, the recommended total daily allowance for older children, including teenage girls, is 2,200 calories.

Ms. Bradley's father, Israel, who now lives with his daughter in Brooklyn, said he never saw anything in the McDonald's restaurants he visited providing information about the ingredients in the food, according to court documents. "I always believed McDonald's was healthy for my children," he said in an affidavit.

Mr. Riker said McDonald's makes nutritional information available in a variety of ways, including brochures and posters and on its Web site.

On a visit yesterday to the McDonald's on Bruckner Boulevard in the Bronx, one of those named in the lawsuit, the listing of ingredients in the food could not be found at all.

But patrons did not seem concerned as they ate Big N' Tasty Burgers washed down with Super Size Cokes, and children were welcomed by a smiling Ronald McDonald outside the Playplace. Most said they found the lawsuit absurd.

Don't Blame the Eater

By David Zinczenko

If ever there were a newspaper headline custom-made for Jay Leno's monologue, this was it. Kids taking on McDonald's this week, suing the company for making them fat. Isn't that like middle-aged men suing Porsche for making them get speeding tickets? Whatever happened to personal responsibility?

I tend to sympathize with these portly fast-food patrons, though. Maybe that's because I used to be one of them.

I grew up as a typical mid-1980's latchkey kid. My parents were split up, my dad off trying to rebuild his life, my mom working long hours to make the monthly bills. Lunch and dinner, for me, was a daily choice between McDonald's, Taco Bell,

The connection between fast food and obese kids.

Kentucky Fried Chicken or Pizza Hut. Then as now, these were the only available options for an American kid to get an affordable meal. By age 15, I had packed 212 pounds of torpid teenage tallow on my once lanky 5-foot-10 frame.

Then I got lucky. I went to college, joined the Navy Reserves and got involved with a health magazine. I learned how to manage my diet. But most of the teenagers who live, as I once did, on a fast-food diet won't turn their lives around. They've crossed under the golden arches to a likely fate of lifetime obesity. And the problem isn't just theirs — it's all of ours.

Before 1994, diabetes in children was generally caused by a genetic disorder — only about 5 percent of childhood cases were obesity-related, or Type 2, diabetes. Today, according to the National Institutes of Health, Type 2 diabetes accounts for at least 30 percent of all new childhood cases of diabetes in this country.

Not surprisingly, money spent to treat diabetes has skyrocketed, too. The Centers for Disease Control and Prevention estimate that diabetes accounted for \$2.6 billion in health care costs in 1969. Today's number is an unbelievable \$100 billion a year.

Shouldn't we know better than to eat two meals a day in fast-food restaurants? That's one argument. But where, exactly, are consumers — particularly teenagers — supposed to find alternatives? Drive down any thoroughfare in America, and I guarantee you'll see one of our country's more than 13,000 McDonald's restaurants. Now, drive back up the block and try to find someplace to buy a grapefruit.

Complicating the lack of alternatives is the lack of information about what, exactly, we're consuming. There are no calorie information charts on fast-food packaging, the way there are on grocery items. Advertisements don't carry warning labels the way tobacco ads do. Prepared foods aren't covered under Food and Drug Administration labeling laws. Some fast-food purveyors will provide calorie information on request, but even that can be hard to understand.

For example, one company's Web site lists its chicken salad as containing 150 calories; the almonds and noodles that come with it (an additional 190 calories) are listed separately. Add a serving of the 280-calorie dressing, and you've got a healthy lunch alternative that comes in at 620 calories. But that's not all. Read the small print on the back of the dressing packet and you'll realize it actually contains 2.5 servings. If you pour what you've been served, you're suddenly up around 1,040 calories, which is half of the government's recommended daily calorie intake. And that doesn't take into account that 450-calorie super-size Coke.

Make fun if you will of these kids launching lawsuits against the fast-food industry, but don't be surprised if you're the next plaintiff. As with the tobacco industry, it may be only a matter of time before state governments begin to see a direct line between the \$1 billion that McDonald's and Burger King spend each year on advertising and their own swelling health care costs.

And I'd say the industry is vulnerable. Fast-food companies are marketing to children a product with proven health hazards and no warning labels. They would do well to protect themselves, and their customers, by providing the nutrition information people need to make informed choices about their products. Without such warnings, we'll see more sick, obese children and more angry, litigious parents. I say, let the deep-fried chips fall where they may. □

David Zinczenko is editor in chief of Men's Health magazine.

PERSONAL HEALTH | Jane E. Brody

You Are Also What You Drink

What worries you most? Decaying teeth, thinning bones, heart disease, stroke, diabetes, dementia, cancer, obesity? Whatever tops your list, you may be surprised to know that all of these health problems are linked to the beverages you drink — or don't drink.

Last year, with the support of the Unilever Health Institute in the Netherlands (Unilever owns Lipton Tea), a panel of experts on nutrition and health published a "Beverage Guidance System" in hopes of getting people to stop drinking their calories when those calories contribute little or nothing to their health and may actually detract from it.

The panel, led by Barry M. Popkin, a nutrition professor at the University of North Carolina, was distressed by the burgeoning waistlines of Americans and the contribution that popular beverages make to weight problems. But the experts also reviewed 146 published reports to find the best evidence for the effects of various beverages on nearly all of the above health problems. I looked into a few others, and what follows is a summary of what we all found.

At the head of the list of preferred drinks is — you guessed it — water. No calories, no hazards, only benefits. But the panel expressed concern about bottled water fortified with nutrients, saying that consumers may think they don't need to eat certain nutritious foods, which contain substances like fiber and phytochemicals lacking in these waters. (You can just imagine what the panel would have to say about vitamin-fortified sodas, which Coca-Cola and Pepsi plan to introduce in the coming months.)

Sweet Liquid Calories

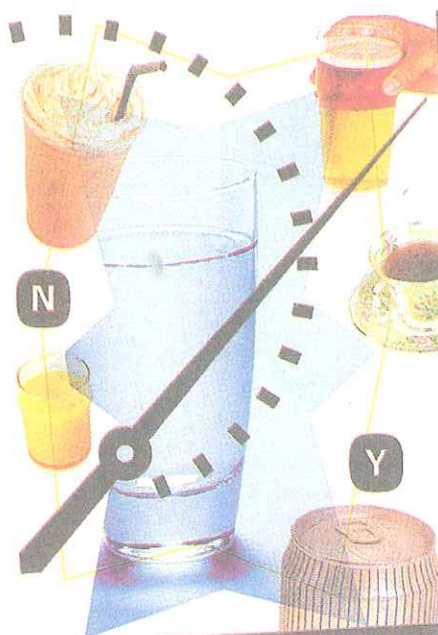
About 21 percent of calories consumed by Americans over the age of 2 come from beverages, predominantly soft drinks and fruit drinks with added sugars, the panel said in its report. There has been a huge increase in sugar-sweetened drinks in recent decades, primarily at the expense of milk, which has clear nutritional benefits. The calories from these sugary drinks account for half the rise in caloric intake by Americans since the late 1970s.

Not only has the number of servings of these drinks risen, but serving size has ballooned, as well, with some retail outlets offering 32 ounces and free refills.

Add the current passion for smoothies and sweetened coffee drinks (there are 240 calories in a 16-ounce Starbucks Caffe Mocha without the whipped cream), and you can see why people are drinking themselves into XXXL sizes.

But calories from sweet drinks are not the only problem. The other matter cited by the panel, in its report in *The American Journal of Clinical Nutrition*, is that beverages have "weak satiety properties" — they do little or nothing to curb your appetite — and people do not compensate for the calories they drink by eating less.

Furthermore, some soft drinks contribute to other health problems. The American Academy of General Dentistry says that noncola carbo-



Stuart Bradford

nated beverages and canned (sweetened) iced tea harm tooth enamel, especially when consumed apart from meals. And a study of 2,500 adults in Framingham, Mass., linked cola consumption (regular and diet) to the thinning of hip bones in women.

If you must drink something sweet, the panel suggested a no-calorie beverage like diet soda prepared with an approved sweetener, though the experts recognized a lack of long-term safety data and the possibility that these drinks "condition" people to prefer sweetness.

Fruit juices are also a sweet alternative, although not nearly as good as whole fruits, which are better at satisfying hunger.

Coffee, Tea and Caffeine

Here the news is better. Several good studies have linked regular coffee consumption to a reduced risk of developing Type 2 diabetes, colorectal cancer and, in men and in women who have not taken postmenopausal hormones, Parkinson's disease.

Most studies have not linked a high intake of either coffee or caffeine to heart disease, even though caffeinated coffee raises blood pressure somewhat and boiled unfiltered coffee (French-pressed and espresso) raises harmful LDL and total cholesterol levels.

Caffeine itself is not thought to be a problem for health or water balance in the body, up to 400 milligrams a day (the amount in about 30 ounces of brewed coffee). But pregnant women should limit their intake because more than 300 milli-

grams a day might increase the risk of miscarriage and low birth weight, the panel said.

Mice prone to an Alzheimer's-like disease were protected by drinking water spiked with caffeine equivalent to what people get from five cups of coffee a day. And a study of more than 600 men suggested that drinking three cups of coffee a day protects against age-related memory and thinking deficits.

For tea, the evidence on health benefits is mixed and sometimes conflicting. Tea lowers cancer risk in experimental animals, but the effects in people are unknown. It may benefit bone density and help prevent kidney stones and tooth decay. And four or five cups of black tea daily helps arteries expand and thus may improve blood flow to the heart.

Alcohol

Alcohol is a classic case of "a little may be better than none but a lot is worse than a little." Moderate consumption — one drink a day for women and two for men — has been linked in many large, long-term studies to lower mortality rates, especially from heart attacks and strokes, and may also lower the risk of Type 2 diabetes and gallstones. The panel found no convincing evidence that one form of alcohol, including red wine, was better than another.

But alcohol even at moderate intakes raises the risk of birth defects and breast cancer, possibly because it interferes with folate, an essential B vitamin. And heavy alcohol consumption is associated with several lethal cancers, cirrhosis of the liver, hemorrhagic stroke, hypertension, dementia and some forms of heart disease.

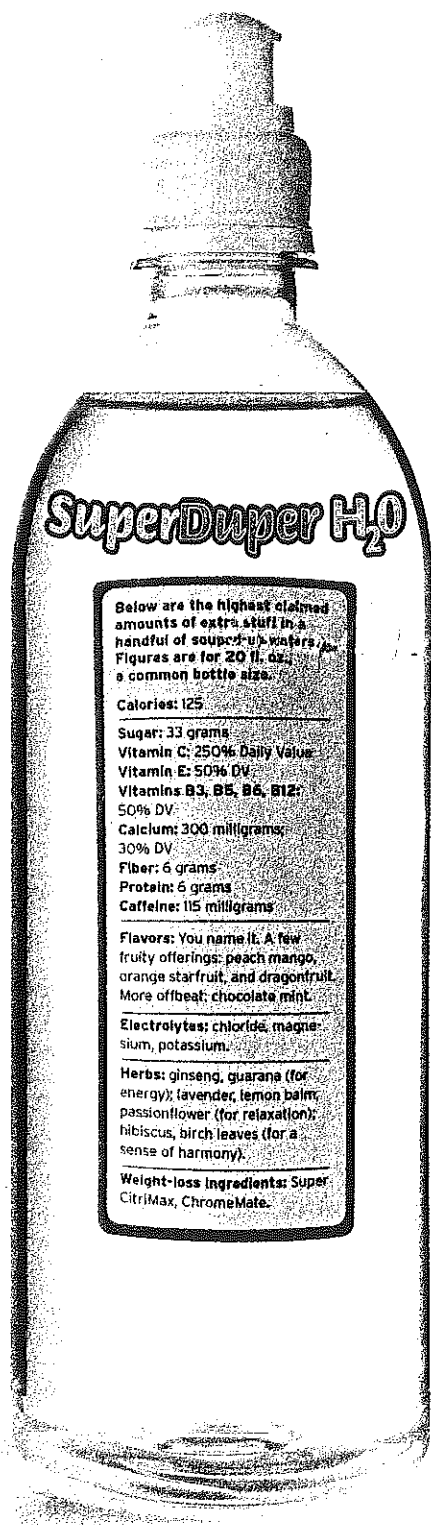
Dairy and Soy Drinks

Here my reading of the evidence differs slightly from that of the panel, which rated low-fat and skim milk third, below water and coffee and tea, as a preferred drink and said dairy drinks were not essential to a healthy diet. The panel acknowledged the benefits of milk for bone density, while noting that unless people continue to drink it, the benefit to bones of the calcium and vitamin D in milk is not maintained.

Other essential nutrients in milk include magnesium, potassium, zinc, iron, vitamin A, riboflavin, folate and protein — about eight grams in an eight-ounce glass. A 10-year study of overweight individuals found that milk drinkers were less likely to develop metabolic syndrome, a constellation of coronary risk factors that includes hypertension and low levels of protective HDLs. To me, this says you may never outgrow your need for milk.

The panel emphasized the need for children and teenagers to drink more milk and fewer calorically sweetened beverages.

"Fortified soy milk is a good alternative for individuals who prefer not to consume cow milk," the panel said, but cautioned that soy milk cannot be legally fortified with vitamin D and provides only 75 percent of the calcium the body obtains from cow's milk.



What's wrong with plain water?

Call it Cola Wars redux: A recent TV spot for Propel Fit, a vitamin-infused water from the maker of Pepsi, slams a product resembling VitaminWater, by Coca-Cola, for having 125 calories per bottle. (Propel has 25.) The competition's customer would have to do 492 sit-ups to burn those babies off, the ad warns.

Never mind that you really don't do sit-ups to burn calories, or that Sobe Life Water, also owned by Pepsico, has nearly as many as VitaminWater. The ad is a sign of the times: More and more ingredients are being added to what used to be the plainest drink on earth, and they're not just vitamins and flavors. Water can contain calcium, electrolytes, herbs, and weight-loss ingredients, among other strange and wondrous things. There's a fortified water for dogs (FortiFido) and one enhanced with "positive thoughts" to "raise consciousness in humanity" (Aquamantra). And priced as high as almost \$1.70 per bottle (usually for 16.8 or 20 ounces), these fancy waters aren't cheap.

Curious about the thinking behind the enhanced-water boom, we contacted the makers of 10 products and asked the question in our headline. None of their representatives dissed regular water, but they tended to say that the extras made water taste better and led people to drink more (a good thing) or made it more nutritious and therefore boosted health and happiness (ditto). We heard that

VitaminWater "can help people live healthier, more active, and fulfilling lifestyles by hydrating more responsibly." Fruit₂O's Relax water combines fruit with chamomile and hibiscus "to soothe the senses." And Metromint Chocolatemint Water is "a great way to enjoy chocolate and stay hydrated." (How often are the words "chocolate" and "hydrated" used in the same sentence?) All of this implied that the clear, pure stuff was, to put it simply, a little too simple. "Consumers are now asking for water that multitasks," said Kristine Hinck, senior public relations manager for Pepsi-Cola North America, referring to Aquafina Alive (another Pepsico brand).

Kellogg's Special K2O Protein Water really stumped us. Water as a source of protein? "We know from our research that many consumers who are dieting are interested in easy, portable ways to add more protein and fiber to their diets," says Jennifer Garrett, director of nutrition marketing for Kellogg. The water helps "take the edge off hunger."

If all this fancy-water talk is making your head swim, here's a ray of hope: Mintel, a leading market-research firm, predicted late last year that tap water might make a comeback as the H₂O of choice for consumers who are just interested in quenching their thirst. Free water? Less plastic? What a concept.

CR's take. As a rule, foods, not fancy waters, remain the best source of nutrients.

The Energy-Drink Buzz Is Unmistakable.

By MICHAEL MASON

Meet Jamey Kirby. If you're young enough, and hip enough, he'd like to sell you some Cocaine.

Arriving soon at a convenience store near you, Cocaine is a recent and controversial entry in the burgeoning market for so-called energy drinks. Loaded with caffeine and sugar, and often laced with herbs, vitamins or amino acids, they have become the fuel of choice for some thrill-seeking youngsters and, more recently, for weary adults navigating an always-on world.

But with their increasingly novel additives, energy drinks are taking consumers into uncharted nutritional territory, especially because they are often used as mixers with alcohol. Even if they are not dangerous, experts say, energy drinks may be fostering an unhealthy dependence on caffeine even as they pad the waistlines of young adults.

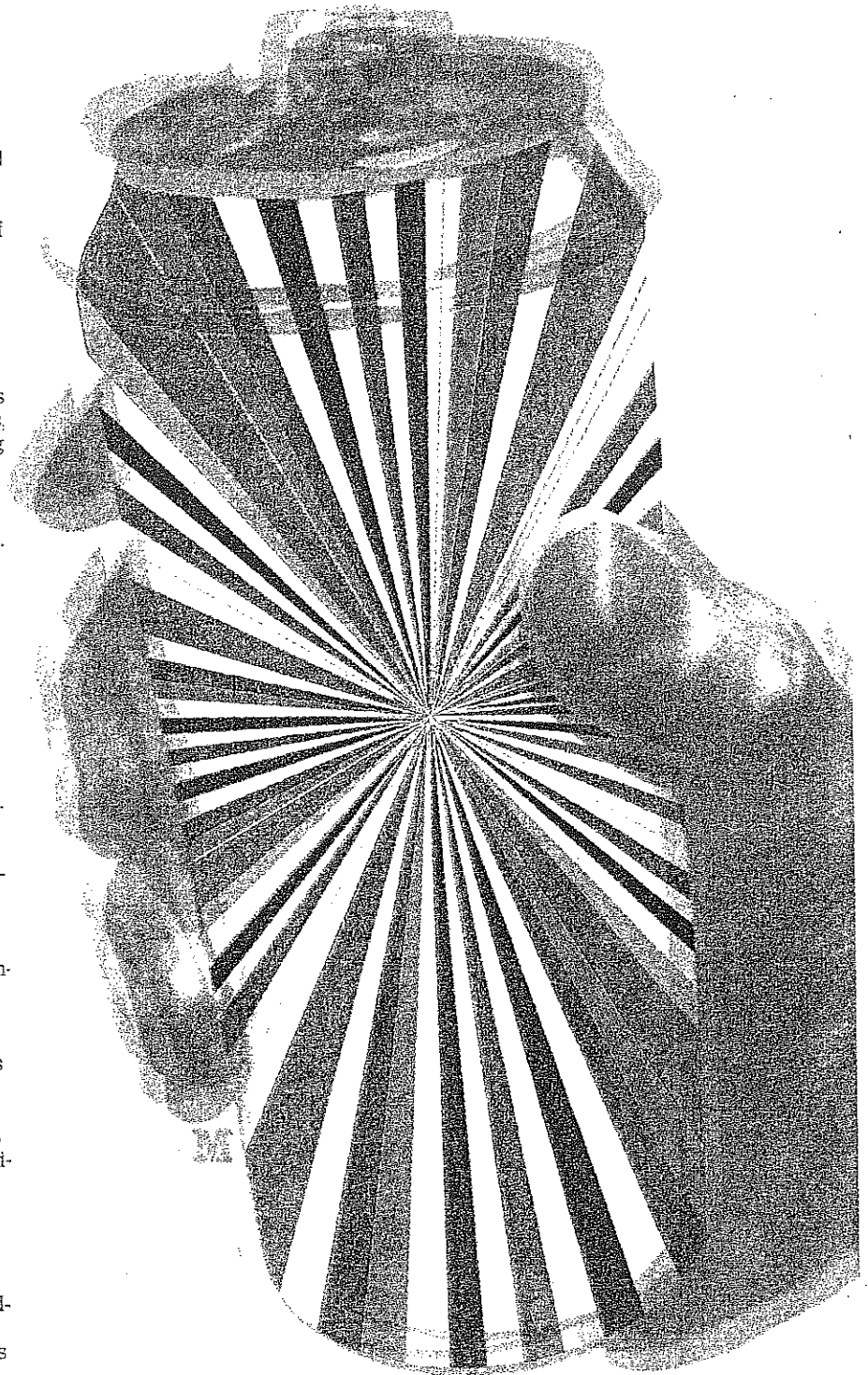
None of that much concerns Mr. Kirby, the California entrepreneur behind Cocaine. His business is buzz — in every sense of the word. Each 8.4-ounce can of Cocaine contains 280 milligrams of caffeine, more than twice the amount in a cup of coffee, and a throat-numbing blend of fiery spices. It's perfect, Mr. Kirby said, for jaded 16- to 28-year-olds clamoring for extreme refreshment.

And the provocative name? Just marketing. "It was always the plan to let negative publicity move us forward," Mr. Kirby said. "There is an enormous amount of competition out there."

About that, there is no controversy. Nearly 200 new energy drinks have hit store shelves since January, according to the market research firm ACNielsen. Led by such brands as Red Bull, Rockstar and Monster, energy drinks are a \$3.7 billion industry whose revenues have increased by 51 percent in the past year alone. Red Bull is the third-largest source of beverage profits in convenience stores, according to one recent market survey.

"It started out as something for clubbers and extreme-sports types," said Jeffrey Klenneman, the editor of Beverage Spectrum. "Now it's gone mainstream."

So has the ingredient list. Energy drinks increasingly are formulated with fruit juices, teas and dietary supplements like ginseng and glucosamine that appeal to older, health-minded consumers. Taurine, an amino acid essential to growth in infants, is a frequent additive, though scientists say large amounts provide no advantage to ordi-



The New York Times

THE CONSUMER

mistakable. The Health Impact Is Unknown.

nary adults.

Despite exotic formulations, the energy boost in these drinks is delivered via a whopping dose of common caffeine.

This year, in a study published in the *Journal of Analytical Toxicology*, a team of researchers analyzed the caffeine content of 10 popular energy drinks and found concentrations as high as 141 milligrams per 16-ounce can. While the Food and Drug Administration does not regulate the amount of

Extreme refreshment — exotic formulations with huge doses of caffeine — goes mainstream.

caffeine in soft drinks, agency guidelines for colas suggest no more than 68 milligrams per 12-ounce serving.

Only four of the drinks carried caffeine warnings on their containers, the researchers noted, and none suggested a limit.

"The caffeine content really should be listed on the labels," said the lead author, Bruce A. Goldberger, a toxicologist at the University of Florida. "Caffeine may be the mostly widely used drug in the world, but certain people need to avoid it."

Among them are those with high blood pressure, cardiovascular disease and certain anxiety disorders, as well as pregnant women.

Perhaps more troubling, Dr. Goldberger said, is that there is little scientific research on how high intakes of caffeine affect adolescents over the long term. Caffeine is difficult to abuse; unpleasant side effects appear even at modest doses, and toxicity occurs only at very high doses. Those who overconsume it are usually teenagers or young adults.

"There's an American subculture out there that loves the idea of being wired," said James D. Lane, professor of medical psychology at Duke University. "But caffeine produces real psychological and physiological dependence."

A recent survey by researchers at Northwestern University found that an overdose of caffeine supplements triggered more than 250 reports to the Illinois Poison Control Center over a three-year period. The average age of those affected was 21.

At an emergency room in Berkeley, Calif., Dr. Guy Shochat last year treated an 18-year-old who had arrived in an ambulance with sudden heart arrhythmia. The teenager had been drinking eight 16-ounce cans of Rockstar every evening to stay awake for his night job.

"He was totally clueless that there might be something wrong with drinking so much of this stuff," said Dr. Shochat, an assistant clinical professor of emergency medicine at the University of California, San Francisco.

The American College of Sports Medicine has warned high school athletes away from energy drinks because the caffeine in them may cause dehydration. High schools in Fairfax County, Va., this year removed energy drinks from its vending machines after student athletes complained of headaches and nausea after drinking them at practice.

Energy drinks may be a worry at bars and clubs, too, where certain brands are used as mixers. In a recent Brazilian study, 26 men were evaluated as they downed an energy drink and alcohol, separately and in combination. Consumption of the beverages together did not diminish the men's intoxication, as demonstrated on objective tests.

But the combination did reduce the men's ability to perceive their own inebriation, the researchers found, leading the subjects to believe they were more in control than they were. By masking the depressant effects of alcohol, the scientists concluded, energy drinks may have made it more likely that the users drank to excess.

Ordinary use of caffeine may be addictive, experts say, but it is usually benign. Still, there is strong evidence that in a hectic world, this kind of "energy" isn't part of the solution — it's part of the problem.

The grogginess that plagues so many people in the morning and during the day can be a symptom of caffeine withdrawal, according to Dr. Lane. Far from being revitalizing, another shot merely sates the user's addiction for a while.

"Caffeine's effect at high doses is like having a chronic anxiety condition," Dr. Lane said. "It exaggerates the perception of stress and the body's response to it, and I think it could be contributing to the stress we all experience in daily life."

But if Mr. Kirby's reported sales of Cocaine are any measure, the country's jittery romance with caffeine is intact. He said more than 200,000 additional cases of the drink have been ordered and are in production.