CENTER FOR SCIENCE IN THE PUBLIC INTEREST

FAT UNDER EIDE

New findings or shaky science?

"Study doubts saturated fats link to heart disease," reported *The New York Times* in March. ("Butter is Back," exulted *Times* columnist Mark Bittman.)

Yet just last November, the American Heart Association and the American College of Cardiology issued their long-awaited advice on diet and exercise. Their bottom line: cut saturated fat to half the earlier target levels.

What gives? Shaky science...and a mission by the global dairy industry to boost sales.

Continued on page 3.







MEMO FROM MFJ

The Obesity Epidemic: Going, Going...

Obesity in kids has tumbled.

Time to kick it while it's down.



et's celebrate! Obesity rates appear to have leveled off since 2005, after having doubled in adults—and tripled in kids since 1980.

Before we break out the rice cakes, though, we need to keep in mind that one out of three children or teens-and

two out of three adults—still weigh enough to

put their health at risk.

I don't know about adults, but I suspect that obesity in children will continue to decline. If it does, we can thank these changes:

- WIC. In 2009, the U.S. Department of Agriculture upgraded the quality of foods provided by its WIC (Women, Infants, and Children) program for low-income mothers, infants, and toddlers. That means more whole grains, fruits, and vegetables, and less cheese, eggs, and juice. About half of all U.S. children benefit from the WIC program.
- Daycare. More daycare centers are offering healthier foods—they're replacing fruit drinks with water or low-fat milk, for example. And many are ensuring that kids are more active.
- TV ads. The volume of junk-food advertising aimed at children is declining. On Nickelodeon, the biggest TV network for kids, the number of ads for unhealthy foods dropped by 60 percent between 2005 and 2012.
- School food. Thanks to the Healthy, Hunger-Free Kids Act of 2010 (which the Center for Science in the Public Interest, publisher of Nutrition Action, helped to pass), school breakfasts and lunches now have low-fat instead of whole milk and more fruits, vegetables, and whole grains.

This fall, new rules will kick junk foods and most sugary drinks out of vending machines and other locations in schools. And the Country and Administration has proposed ridding schools of junk-food marketing on vending machines, in fundraisers, and in curricula.

My optimism is tempered only by the fact that conservatives in Congress and foodservice companies are trying to undo some of the progress we've made on school foods. They've legislated that pizza (because of its tomato sauce) counts as a vegetable in school lunches. They've tried to delay the implementation of the salt and whole-grains guidelines.

> And they're trying to let schools opt out of new rules on getting junk out of vending machines. (To let them know that you want healthy school foods, go to bit.ly/ImproveSchoolFood.)

> Finally, although obesity rates are leveling off, we need to cut them. Among the ways to do that:

- Print calories in larger type and use more realistic serving sizes on Nutrition Facts labels (as the FDA recently proposed).
- Mount media campaigns to motivate people to replace junk foods with fruits and veg-
- Levy excise taxes and slap warning labels on soft drinks. (California legislators are considering those measures.)
- Improve the foods offered in parks, at highway rest stops, and at government cafeterias, as well as on other public property.
- Finalize the long-overdue rules for calorie labeling at chain restaurants.
- Take soda off kids' menus at restaurants.
- Stop all junk-food marketing to children.

If we can do those things (and more), don't be surprised to see, in not too many years, an editorial entitled "What Obesity Epidemic?"

Michael F. Jacobson, Ph.D. **Executive Director**

Center for Science in the Public Interest

The contents of NAH are not intended to provide medical advice, which should be obtained from a qualified health professional.

The use of information from **Nutrition Action Healthletter**

without written permission from CSPI. For permission to reuse material, go to copyright.com and search for Nutrition

for commercial purposes is prohibited

The Center for Science in the Public Interest (CSPI) is the nonprofit health-advocacy group that publishes Nutrition Action Healthletter. CSPI mounts educational programs and presses for changes in government and corporate policies. **MAY 2014**

Volume 41 Number 4

EDITORIAL

Michael F. Jacobson, Ph.D. Executive Editor

Bonnie Liebman, M.S. Director of Nutrition

Stephen B. Schmidt **É**ditor-in-Chief

Jayne Hurley, RD **David Schardt** Senior Nutritionists

Stephanie Scarmo, Ph.D., M.P.H. Staff Scientist

> Kate Sherwood Culinary Director

Paige Einstein, RD Lindsay Moyer, M.S., RD Camilla Peterson, M.P.H. **Project Coordinators**

Jorge Bach

Art Director

CIRCULATION MANAGEMENT

Bill Dugan

Debra Brink Damon Dorsey Jennifer Green-Holmes Louella Fennell Myriam Pierre Chris Schmidt Sheila Thomas Ken Waldmiller

SCIENTIFIC ADVISORY BOARD

Kelly D. Brownell, Ph.D. Duke University

Greta R. Bunin, Ph.D. Children's Hospital of Philadelphia

Caldwell B. Esselstyn Jr., M.D. Cleveland Clinic Foundation

Stephen Havas, M.D., M.P.H., M.S. Northwestern University Medical School

> Norman M. Kaplan, M.D. Southwestern Medical Center University of Texas, Dallas

JoAnn E. Manson, M.D., Ph.D. Harvard Medical School

Susan Taylor Mayne, Ph.D. Yale University

Julie Mares, Ph.D. University of Wisconsin

J. Glenn Morris, Jr., M.D., M.P.H.&T.M. Emerging Pathogens Institute University of Florida

Susan B. Roberts, Ph.D. USDA Human Nutrition Research Center on Aging, Tufts University

> Frank Sacks, M.D. Harvard Medical School

Jeremiah Stamler, M.D. Northwestern University Medical School

Regina G. Ziegler, Ph.D., M.P.H. National Cancer Institute

Nutrition Action Healthletter (ISSN 0885-7792) is published 10 times a year (monthly except bi-monthly in Jan./Feb. and Jul./Aug.) by The Center for Science in the Public Interest (CSPI), 1220 L Street NW, #300, Washington, DC 20005. Periodicals postage paid at Washington, DC and additional

POSTMASTER: Send address changes to *Nutrition Action Healthletter*, 1220 L Street, NW, Suite 300, Washington, DC 20005.

SUBSCRIBER SERVICES

The cost of a one-year subscription or gift (10 $\,$ issues) is \$24; two years are \$42. For bulk subscriptions, please write for details. To change your ad dress, send us your subscriber number and your old and new address. If you don't want us to exchange vour name, send us your name and mailing-label

Mail: CSPI, 1220 L Street NW, Suite 300, Washington, DC 20005 E-mail: circ@cspinet.org. Tel: (202) 777-8393 Internet: www.cspinet.org

Expiration date is in the upper center of your mailing label. **Your subscriber number** precedes the expiration date.

GUARANTEE! We'll give you 2 FREE ISSUES of Nutrition Action if there's ever a problem with your subscription.



© 2014 Center for Science in the Public Interest

FAT UNDER FIRE

New findings or shaky science?





Martijn Katan is an emeritus professor of nutrition at the Vrije Universiteit Amsterdam and a world-renowned expert on diet and cardiovascular disease whose pioneering research helped

document the harm caused by trans fat. He is a member of the Royal Netherlands Academy of Arts and Sciences. Katan spoke to *NAH*'s Bonnie Liebman by phone from Amsterdam.

WHICH STUDIES?

Q: Why do some studies find no higher risk of heart disease in people who eat more saturated fat?

A: Not finding something can have two causes: either it's not there or the people who were searching didn't use the right method to search. The question is whether the observational studies that we're talking about are able to answer the question.

Q: You mean studies that ask people what they eat and then track them for years to see who gets heart disease?

A: Yes. Similar studies have always been unable to find an association between saturated fat intake and blood cholesterol levels. Now, the fact that saturated fat raises cholesterol, especially the bad LDL cholesterol, is beyond doubt. That has been shown in hundreds of trials that fed people different fats. Anyone who doubts it can do an experiment by himself.

Q: How?

A: Just buy one of those do-it-yourself cholesterol measuring kits, eat a lot of butter—which is high in saturated fat—

or decades, experts have advised us to replace saturated fats (in foods like meat, dairy, and butter) with unsaturated fats (in foods like oils, nuts, and fish). Now some controversial studies are challenging that advice. Here are the facts behind the headlines.

for a couple of weeks, and you'll see your LDL cholesterol go up. Then eat a lot of polyunsaturated oils for a couple of weeks, and you'll see your LDL cholesterol go down.

So if an observational study is unable to find even something that is as thoroughly established as that, we have to question why it doesn't find an association between saturated fat and heart disease.

Q: Why might observational studies miss the link?

A: For two reasons. First, the differences in saturated fat intake between people in the same population are small. And second, there's a lot of error in the dietary



A key goal of the Global Dairy Platform: "neutralizing the negative image of milkfat by regulators and medical professionals."

data. If you look in detail at how these studies are done, everything works in favor of *not* finding an effect.

Q: By too much error do you mean that people's diets are not measured precisely enough?

A: Yes. Some studies simply ask people, "What did you eat yesterday?" Well, what you ate yesterday may be vastly different from what you ate today.

Other studies ask how often you eat various foods. But that's only as good as the questionnaire you use. In some studies, questionnaires are limited to as few as 40 foods. That can never capture what people really eat.

Also, diets are assessed only at the start of most studies. So the researchers have no way of knowing if people may have changed their diets over the 10 to 15 years before they suffered a heart attack.

Those and other sources of imprecision may make it hard to know what people are really eating. And that makes it hard to see what would happen if people were to really change their diets.

Q: So observational studies can't tell us what would happen if someone replaced saturated fat with other fats or with carbs?

A: Right. These studies don't replace anything. They don't actually do any experiment. They just have this set of data showing that some people eat this and other people eat that—or at least this is what they *say* they eat—and then they analyze the data mathematically.

Unfortunately, the mathematics often fails to make up for the weaknesses in the data. You can easily get a wrong answer.







Trade the sat fat in cream cheese for the unsaturated fat in peanut butter. Swap half the bagel for a banana.

THE DAIRY INDUSTRY WEIGHS IN

Q: Are some researchers intent on showing that saturated fat does not cause heart disease?

A: Unfortunately, yes. In November 2008, the global dairy industry held a meeting in Mexico City where they decided that one of their main priorities was to "neutralize the negative impact of milkfat by regulators and medical professionals."

In my experience, people who work for dairy companies are very competent, highly motivated, and hardworking, and they really believe in milk. When they set out to do something, they get it done.

Q: And they wanted to make milk fat sound healthy?

A: Yes. They set up a major, well-funded campaign to provide proof that saturated fat does not cause heart disease. They assembled scientists who were sympathetic to the dairy industry, provided these scientists with funding, encouraged them to put out statements on milk fat and heart disease, and arranged to have them speak at scientific meetings.

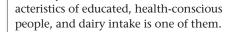
And the scientific publications we've seen emerging since the Mexico meeting



have helped neutralize the negative image of milk fat.

The industry also attempted to water down the nutritional guidelines of the World Health Organization.





I've got the right result...let's publish it,"

Q: Could some studies find that dairy eaters have no higher risk of heart disease because they're health conscious? A: Yes. People with a high dairy intake tend to be from a higher socioeconomic class, they're more health conscious, and they smoke less. There's a slew of char-

is very strong.

Q: You mean it's hard to tell if dairy eaters do something else that matters?

A: Right. They may suffer fewer heart attacks in spite of a higher saturated fat intake. Is it because they don't smoke



Many sandwiches get sat fat from both meat and cheese. Instead, try a turkey sandwich or veggie burger loaded with lettuce and tomato. Add mayo if you like.

Q: Are you saying that these publications involved fraud?

A: No. I do not mean that the data were fabricated. But the methodological limitations of observational studies make it easy to get the result that you think beforehand should be correct—namely, that saturated fat is not associated with heart disease. So the temptation to say, "OK,



Remember when people didn't order an entire personal pizza? Eat a small slice or two (with less cheese, no meat, and thin crust) and a salad.

and are thin and exercise? Or is it because they know which doctor to go to and which medical advice to follow and which drugs to take and which drugs not to take? It could be anything.

Q: So you don't know what's the cause?

A: Right. You're more likely to be dealing with a real cause when the association is very strong. For example, obese people are five times as likely to be diagnosed with type 2 diabetes as thin people. That's unlikely to be a coincidence.

But if the risk of heart disease is only, say, 10 percent lower or higher among dairy eaters, the statistical techniques for eliminating confounding don't work.

Q: Don't some studies control for smoking, weight, exercise, and other potential confounders?

A: Yes, but there is always the problem that important things have not been

measured or that they were imperfectly measured. These problems are too easily neglected in the scientific community.

RESULTS FROM TRIALS

Q: What is the evidence that saturated fat does harm the heart?

A: I'm a biochemist by training, and I have great faith in experiments, where you say, "We're only going to change

cholesterol falls—all these interventions, and, of course, the dietary interventions, lower the risk of heart disease.

So I'm not willing to throw all of that overboard just because in certain observational studies, certain scientists say, "We can't find convincing proof."

These are extraordinary claims and they require extraordinary evidence. It's just not there.



Meat and potatoes means sat fat and starch. You get more polys (and fewer carbs) from fish and vegetables. Add a side of salad with dressing and nuts instead of cheese.

one thing and keep everything else constant, and we're going to see what happens." You can get strong evidence from such experiments.

The experiments that replaced saturated fat from foods like butter and high-fat dairy or meat with polyunsaturated fats from corn or soybean or sunflower oil were not perfect. But they consistently showed a fall in coronary heart disease exactly to the extent that you would expect from the fall in LDL cholesterol.

Q: Those were clinical trials that randomly assigned people to eat either saturated or polyunsaturated fats?

A: Yes. So there's a consistent picture that anything that raises LDL cholesterol—be it diet or genes—raises the risk of heart disease. And most treatments that lower LDL cholesterol lower the risk of heart disease.

If you look at different types of interventions that lower blood cholesterol—whether it's drugs that inhibit cholesterol synthesis, or drugs that take bile acids out of your gut so that the body has to move more cholesterol from your blood into your gut, or even surgery that takes away part of your intestine so that your blood

Q: Why did the recent meta-analysis of trials cited by The New York Times find that polyunsaturated fats failed to lower the risk of heart disease?

A: The meta-analysis included a trial that gave people a margarine that was high in trans fat. When the authors omitted that trial, they found that people who replaced saturated with polyunsaturated fats had a 19 percent *lower* risk of heart disease. But the meta-analysis buried that finding in a supplement that didn't make the headlines.

Q: What about replacing foods high in saturated fat with carbs?

A: We don't have rigorous data on that.



In the few trials where saturates were replaced by carbs, the effect on heart disease was marginal.

Now, some people would argue that while replacing saturated fat with carbs lowers LDL, or bad, cholesterol, it also lowers HDL, or good, cholesterol. So you wouldn't expect much of a benefit. The question is: How important are changes in HDL?

Q: Doesn't HDL ferry cholesterol out of arteries?

A: There's an increasing concern that HDL may simply be an indicator of something else, and that HDL doesn't work to change your risk of heart disease.

Drugs that raise HDL haven't done anything to lower the risk of heart disease—unfortunately for me because I spent a major part of my career finding out what foods do to HDL.

Q: Didn't the biggest trial that replaced saturates with carbs actually replace very little?

A: Yes, these were minor changes, so the trial doesn't help you make up your mind. Also, we don't eat fatty acids and carbs, we eat foods. So the question arises: What do you mean by a high-carb diet? Is it a diet high in soda or is it a diet high in beans? That could make a difference.

Q: Are monounsaturated fats from foods like olive oil good?

A: We don't have the solid evidence for monos that we have for polys. We do have evidence that replacing saturated fat with monounsaturated fat lowers LDL cholesterol, though not as much as polys do. And the default assumption should be that if you lower your LDL cholesterol,



Mac 'n cheese is a trendy side dish that's heavy on carbs and sat fat. Swap it for a bowl of beans...or a side of veggies.

you lower your risk of heart disease.

That would be reason enough to say, "If you like olive oil, go ahead—it's very likely that it will lower your heart disease risk." Also, the countries where people eat huge amounts of olive oil have low heart disease risk, so that makes it more plausible.

Q: Does it matter if the polys you eat are rich in omega-3 fats?

A: In the high-quality controlled experiments that have been done over the last five or ten years, the omega-3s from fish oil—EPA and DHA—have shown less and less of an effect on heart disease risk.

It's embarrassing, since we've been telling people to eat omega-3 fatty acids because they are wonderful for the heart. And some people have been saying that omega-3s are wonderful for anything that ails you.

Q: What about the omega-3s in plants, like the alpha-linolenic acid in canola, soybean, and flaxseed oil?

A: There's much less data on them. I've been involved in the large Alpha Omega Trial, which gave heart attack survivors an extra two grams a day of alpha-linolenic acid—about what you'd get in 11/2 tablespoons of canola oil. And it didn't do a thing. So oils that are high in alpha-linolenic acid may be no better than oils without it.

Q: Is it harmful to eat more omega-6 fats-which are found in some oils and nuts—than omega-3 fats?

A: No. There have been heated discussions about how bad a high omega-6 to omega-3 ratio could be. Most of the evidence is from test-tube and rat experiments. There is little evidence that this ratio affects human health.



Q: So omega-6s may protect the heart as much as omega-3s?

A: Yes. They may even be better. The bottom line is to replace saturated fats with polyunsaturated fats.

I am not ready to give up on omega-3s yet, but you're better off getting them from fish, not fish oil capsules. Even if fish oil is not as great as we thought, fish still provides nutrients like vitamin D, protein, and iron.

BEYOND FATS

Q: Besides replacing sat fat with polys, what else can people do to protect their heart?

A: This may sound surprising, but saturated fat is not the issue that it was 30, 40, 50 years ago. That's not because it's less harmful. It's because we have changed our diets.

Less of our fat is saturated, and blood cholesterol levels have gone down markedly since the days when President Eisenhower had his heart attack.

And in the Netherlands, just about everybody who's at risk for heart disease is taking statins. That has a huge effect on cholesterol levels. The big issue now is not cholesterol, but obesity.

Q: Because it leads to diabetes and the metabolic syndrome, which raise the risk of heart disease?

A: Yes. And obesity is not caused by carbs or fats or proteins or whatever. That has caused a huge amount of confusion.



Most sweets are high in sat fat, white flour, and sugar. You're better off with fruit and low-fat yogurt for dessert...and maybe a small cookie on the side.

What to Eat

To keep a lid on your LDL cholesterol (and your blood pressure and blood sugar), eat a diet that's based on the OmniHeart and DASH studies (see NAH, Oct. 2009, p. 1). It's rich in vegetables, fruit, and fiber, and low in sugar, carbs, and saturated fat. A 2,100-calorie diet should have:

Daily Servings



Obesity is caused by foods that are tasty, attractive, cheap, convenient, and present 24/7. The easiest way to realize that is to think of foods that we all know to be obesogenic, like a double hamburger, a large Coke, french fries, and ice cream.

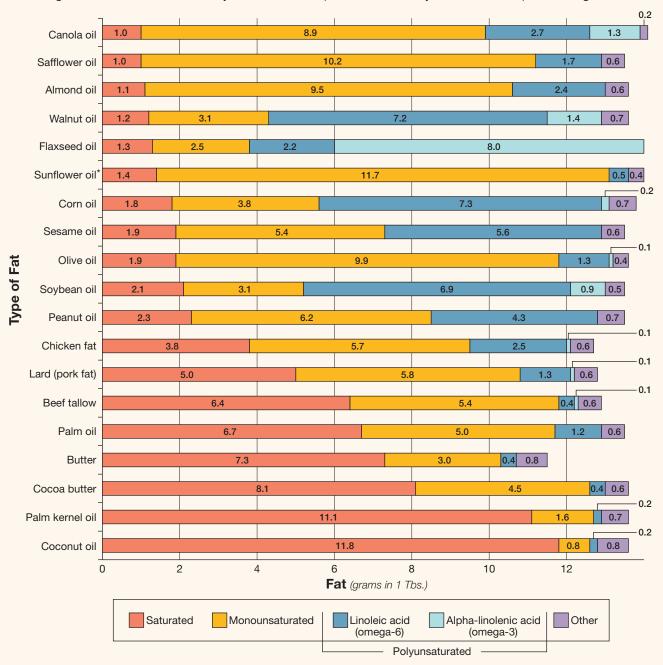
Just before you're going to eat it, put it into a bucket and stir it around. The fats and carbs are the same, but it's no longer obesogenic, because it's disgusting.

Q: So the problem is that we're surrounded by appealing foods?

A: Yes. It's this intricate wizardry that the food industry does with our foods that makes us want to eat more. It's not just the salt, fat, or sugar. It's also the sound

Oil in the Family

Il fats are a mix of saturated, monounsaturated, and polyunsaturated fatty acids (though we usually categorize each by the fatty acid it has the most of). Odds are, you get mostly soybean oil in prepared foods (like salad dressings, mayonnaise, and margarine) and restaurant foods. So you'll probably end up with a good mix of unsaturated fats if you use canola oil (and olive oil when you want its flavor) for cooking.



^{*}Sunflower seeds are lower in monounsaturated fat and higher in linoleic acid than sunflower oil. The fats in almonds, walnuts, peanuts, sesame seeds, flaxseeds, and coconuts are similar to their oils.

Sources: USDA National Nutrient Database for Standard Reference (Release 26), National Sunflower Association, Flax Council of Canada.

that the food makes when you chew it. It's the smell, and which smells are released in your mouth after one second, two seconds, four seconds. Also, that food is cheap and easy to stuff in your mouth.

This is a billion-dollar industry. And that is what is making us fat. Trying to couch that in terms of fat or carbs obscures the issue.

Kev Studies

Latest meta-analysis: Ann. Intern. Med. 160: 398, 2014. Heart Association advice: Circulation 2013. doi:10.1161/01.cir.0000437740.48606.d1. Fats & heart disease: PLoS Med. 7: e1000252, 2010. Fats & LDL: Am. J. Clin. Nutr. 77: 1146, 2003. Alpha Omega Trial: N. Engl. J. Med. 363: 2015, 2010.

QUICK STUDIES



Antioxidant Risk

aking high doses of selenium or vitamin E could raise a man's risk of prostate cancer.

Starting in 2001, the SELECT trial gave roughly 35,500 men either selenium (200 micrograms a day of selenomethionine), vitamin E (400 IU a day of synthetic alpha-tocopherol), both, or a placebo. In 2008, researchers

stopped the trial three years early because it was clear that the supplements were not preventing prostate cancer.

In a new analysis, researchers compared 489 men in the study who were diagnosed with high-grade prostate cancer (a Gleason score of 7 to 10) during the trial to 3,117 men in the study without prostate cancer. The results:

- Taking selenium roughly doubled the risk of high-grade prostate cancer among men who started the study with *higher* levels of selenium (measured in toenail samples), but not among men with lower levels.
- Taking vitamin E roughly doubled the risk of high-grade prostate cancer among men who started the trial with *lower* selenium levels, but not among men with higher levels.

Among placebo takers, starting the trial with lower—or higher—selenium levels had no impact on the risk of prostate cancer.

What to do: Don't take more than the Recommended Dietary Allowance for selenium (55 mcg) or vitamin E (22 IU). Scientists aren't sure how to explain the results, which agree with other trials that found no lower—and possibly a higher—risk of cancer in people taking high doses of antioxidants.

J. Natl. Cancer Inst. 2014. doi:10.1093/jnci/djt456 and doi:10.1093/jnci/dju005.

Look AHEAD

An intensive lifestyle intervention can help people with diabetes lose weight.

The Look AHEAD (Action for Health in Diabetes) trial randomly assigned 5,145 overweight or obese adults with type 2 diabetes to an intensive lifestyle intervention or to "usual care" (advice for people with diabetes).

The intensive intervention included 1,200-to-1,800-calorie diet plans, advice to replace one snack and one or two meals a day with liquid shakes or meal bars, and 175 to 200 minutes of exercise (like brisk walking) each week.

During the first year, the intensive-intervention group had two to three weekly group sessions and one individual session a month where they were coached on cognitive behavioral therapy, problem solving, and other techniques to help them stay on track. For the next seven years, they had just one monthly meeting with a counselor. The usual-care group had one to three group meetings per year.

After eight years, the intensive-intervention group lost more weight (about 5 percent of their initial weight) than the usualcare group (2 percent). And 27 percent of the intensive group—but only 17 percent of the usual-care group—lost at least 10 percent of their starting weight.

What to do: Eat less and move more. Want a copy of the Look AHEAD hand-outs? Go to www.lookaheadtrial.org/public/dspMaterials.cfm.

Obesity 22: 3, 5, 2014.

Not So Fast

Eating slowly may help you eat less.

Scientists offered 35 normal-weight and 35 overweight or obese men and women a huge portion of the same lunch (pasta with tomatoes, olive oil, parmesan cheese, garlic, herbs, and spices) on two separate occasions.

On the "fast eating" day, the participants were told to eat their lunch as quickly as possible without feeling uncomfortable, to take large bites and chew quickly, and to not pause or put their utensils down between bites. They typically finished eating in 9 minutes.

On the "slow eating" day, they were told not to rush, to take small bites and chew thoroughly, and to pause and put their utensils down between bites. They typically took 22 minutes to eat.

The results: slower eating cut the calories from about 890 to 800 in the normal-weight people, but from only about 720 to 670 in the overweight or obese (which wasn't a statistically significant difference). Both groups were less hungry after eating slowly.

What to do: Slow down. It takes time for your satiety hormones to kick in.

J. Acad. Nutr. Diet. 114: 393, 2014.

Beans & Blood Pressure

Beans, peas, lentils, and other legumes may help lower your blood pressure.

Researchers examined eight trials on 554 people (with or without high blood pressure) who were told to eat either beans (about a cup a day) or other foods with the same calories, typically for about 10 weeks.

Systolic blood pressure (the higher number) was roughly two points lower when the people ate beans instead of other foods.

What to do: Give peas a chance. These studies weren't controlled well enough to prove that beans trim blood pressure. But beans are packed with fiber, protein, potassium, magnesium, folate, iron, and flavor. How can

Am. J. Hypertens. 27: 56, 2014.

you lose?

TESTOSTERONE

TIME TO MAN UP?

BY DAVID SCHARDT

ow T" ads promise men a vibrant, new lease on life from prescription testosterone gels and patches. And dozens of over-the-counter supplements claim to boost or "support" testosterone levels. Do aging healthy men need to worry about Low T? Could treating it be dangerous?

"Low T, a pharmaceutical company-recognized condition affecting millions of men with low testosterone, previously known as getting older."—Stephen Colbert, "The Colbert Report"

Google the word "fatigue" and the first item you'll probably see is a drug-company ad that asks, "Is it Low T?"

"Lack of energy may be one symptom of low testosterone," the ad goes on to say. Solution? The company's hormone gel.

For most men (and women), however, fatigue has nothing to do with testosterone levels.

In fact, "only a relatively small proportion of the population meets the criteria for testosterone replacement therapy," says testosterone expert Stephanie Page. (See page 10.)

TESTOSTERONE 101

Testosterone is a hormone that helps build muscle, reduce fat, strengthen bones, and boost sex drive. In men, it also helps produce sperm.

Males produce testosterone primarily in their testes. Women, who have much lower levels, make the hormone in their ovaries and adrenal glands.

Since a man's testosterone level gradually declines with age, the Low T ads have a guaranteed audience for their promise of a boost.

And the heavier men are, the sharper the drop in their testosterone. "The fall is steeper in those who are overweight or obese," says Allan Mazur, a professor of public affairs and a testosterone researcher at Syracuse University.

Using data collected from Vietnam War veterans over a 20-year period, Mazur and his colleagues found that testosterone levels in the blood were 15 percent lower

in those who were overweight or obese than in those who were normal weight or slightly overweight.¹

Why? Researchers don't know. One possibility: overweight and obese men produce lower levels of a protein that transports testosterone through the blood.

But growing waistlines and an aging population aren't enough to explain why testosterone levels appear to have been declining for decades.^{2,3} Even if an average 65-year-old man in the United States today weighs no more than his father did at age 65, he probably has a lower testosterone level (though it's likely still within the normal range).



"A common medical condition"? Drug companies would like men to think so.

"We don't know when the decline started, what's causing it, or what it means," says Mazur. Some speculate that toxic chemicals in the environment like PCBs or BPA may be responsible, "but it's anyone's guess."

HOW LOW CAN YOU GO?

Do you fall asleep after dinner? Do you feel sad or grumpy? Has your libido declined? Has your work performance slipped?

You may have Low T. Or not.

Those questions are from the Low T Quiz, an industry-created questionnaire

about the "symptoms" of testosterone deficiency.

"The quiz is very useful if you want to increase the market for testosterone, but not if you want to identify people who really have a medical condition that needs to be treated," says Lisa Schwartz, professor of medicine and co-director of the Medicine and the Media Programs at The Dartmouth Institute for Health Policy & Clinical Practice in Lebanon, New Hampshire.

"It's such a broad net that it captures people with all kinds of problems, including what many people experience in life and during normal aging.

That's what happens when a company has a drug and needs a disease for it, says Schwartz.

"The company convinces people that the condition is really common, that doctors fail to recognize it, and that patients need to help make the diagnosis so they can get prescriptions to 'cure' the disease."

REAL BENEFITS FOR SOME

Testosterone as a drug was originally approved by the Food and Drug Administration for men with severe hormone deficiencies, explains Schwartz. They were suffering from genetic disorders, or their testes never descended properly or had been damaged by cancer therapy or radiation.

Testosterone helps them mature sexually and "develop maleness normally," says Schwartz.

"Since then, the FDA hasn't changed the reasons for prescribing testosterone," she adds. "But over the years there's been this 'indication creep,' where somehow just having a low testosterone level has become enough for some doctors to prescribe it."

> > > >

WHO REALLY NEEDS TESTOSTERONE?

estosterone replacement is really important for men with very low levels and a medical condition," says Dartmouth's Lisa Schwartz. "But it's not for the guys you see in the ads-healthy aging men whose testosterone is a little lowbecause we don't know whether we're helping or harming them."

WHO'S IT FOR?

"Men who have repeatedly tested low for testosterone concentrations in their blood and who also have symptoms consistent with testosterone deficiency are reasonable candidates for treatment," says Ronald Swerdloff, chief of the division of endocrinology and metabolism at the UCLA David Geffen School of Medicine and a spokesperson for the Endocrine Society.

Testosterone should be measured in the morning, says Swerdloff, because that's what the standards are based on. And men should be tested more than once.

"Some men may have a low level on one day, but a week or a month later they may be back to a completely normal level," he explains.

Reduced sexual interest or drive is the symptom most strongly linked to low testosterone, along with a decrease in muscle strength and a loss of vitality and general well-being.

Having those symptoms and low testosterone are both important, Swerdloff points out, because some men with low testosterone levels have no symptoms. "And we don't have good evidence that treating a man with few or no symptoms produces any significant benefits."

SMALL BENEFITS

■ **Strength.** Researchers in the U.S., the UK, and the Netherlands have conducted five trials over the past six years that gave a total of 936 men with lower-than-normal testosterone levels either testosterone or a placebo for 6 to 24 months. 1-5

The men, whose average age ranged from 67 to 77, were healthy in two of the studies. In the other three, they were chest sen for their frailty or limited mobility. from 67 to 77, were healthy in two of the studies. In the other three, they were cho-

While testosterone replacement raised the men's testosterone levels and tended to increase their muscle and decrease their body fat, "the changes were small, and we don't know whether the men actually functioned any better," says Lisa Schwartz.

For example, in the Dutch study of 237 healthy men between the ages of 60 and 80, those who received testosterone for six



Testosterone builds muscle and cuts fat, but doesn't help in everyday activities.

months lost about three pounds of body fat and gained about three pounds of muscle compared with the placebo takers.4

But at the end of the study the men taking testosterone weren't any stronger, weren't any better at carrying out everyday activities, didn't perform any better on tests of cognitive function or physical mobility, and didn't express any greater satisfaction with life than the placebo takers.

■ **Sexual function.** In studies of men with sexual dysfunction and low testosterone, those who took the hormone reported increased desire but not satisfaction compared with those who took a placebo.6 Men with low-normal or normal testosterone reported no increase in desire.

As for women, "some good trials show a small benefit for sexual function in those

who have undergone surgical menopause or are naturally menopausal," says the University of Washington's Stephanie Page.7

But the FDA hasn't approved testosterone for women. The manufacturer that sought the go-ahead in 2004 to market a testosterone patch to women could provide no long-term safety data.

■ Weight loss. "Testosterone therapy takes off pounds," reported Science News in 2012. "Five-year study finds consistent weight loss in men getting hormone."

Testosterone levels do rise when overweight or obese men lose weight, "but we don't usually see weight loss with testosterone therapy," says Page.

In the study reported by Science News, 255 overweight or obese German men who were given testosterone injections for up to five years lost an average of 36 pounds.8

"But this was an uncontrolled, company-funded study that hasn't been replicated anywhere else to date," cautions Page.

In two better studies—one lasted six months and one lasted a year-138 overweight men who were taking testosterone lost no more weight than 157 similar men who got a placebo. 1,4

■ **Diabetes.** "Since testosterone increases muscle and reduces fat mass, it should improve insulin sensitivity," notes Page.

In several studies, men with type 2 diabetes and low testosterone levels who took the hormone improved their insulin sensitivity more than similar men who took a placebo.9

"It will be important to see if these benefits are observed in larger studies of men with obesity or type 2 diabetes," says Page.

¹ J. Clin. Endocrinol. Metab. 98: 1891, 2013.

² J. Am. Geriatr. Soc. 58: 1134, 2010.

³ N. Engl. J. Med. 363: 109, 2010.

⁴ JAMA 299: 39, 2008.

⁵ J. Clin. Endocrinol. Metab. 95: 639, 2010.

⁶ Mayo Clin. Proc. 82: 20, 2007.

⁷ J. Clin. Endocrinol. Metab. 90: 5226, 2005.

⁸ Obesity 21: 1975, 2013.

⁹ Diabetes Care 34: 828, 2011.

Women accidentally exposed to prescription testosterone can grow body hair and develop acne. In children, exposure can trigger premature puberty. Why mess with that when you can boost your testosterone with a supplement? Or can you?



Mdrive Elite

Claim: "Naturally Increase Testosterone."

Among the ingredients: fenugreek seed extract.

List price for a month's supply: \$79.99.

Evidence: Fenugreek seed extract is marketed to bodybuilders as a testosterone booster. It doesn't work.

In four trials, the extract was no better than a placebo at raising the testosterone levels of mostly young men.¹⁻⁴

- ¹ Phytother. Res. 25: 1294, 2011.
- ² Int. J. Sport Nutr. Exerc. Metab. 20: 457, 2010.
- ³ J. Int. Soc. Sports Nutr. 7: 34, 2010.
- ⁴ Int. J. Exerc. Sci. Conf. Proc. 2: 13, 2009.



Ageless Ultra T Gold

Claim: "A revolutionary supplement that naturally increases free testosterone levels."

Among the ingredients: Tribulus terrestris.

List price for a month's

supply: \$39.99.

Evidence: The botanical *Tribulus terrestris* hit the news in the 1970s when Bulgarian Olympic weightlifters claimed that it was responsible for their success in competition.

But in three trials, mostly in young men, *Tribulus terrestris* failed to increase testosterone levels.¹⁻³

- ¹ J. Ethnopharmacol. 101: 319, 2005.
- ² J. Am. Coll. Nutr. 20: 520, 2001.
- ³ Int. J. Sport Nutr. Exerc. Metab. 10: 340, 2000.



Nature's Plus T Male Testosterone Boost for Man

Claim: "Works by promoting the body's natural testosterone production."

Among the ingredients: zinc.

List price for a month's supply: \$40.80.

Evidence: Companies like to toss inexpensive zinc (the "ultimate sex mineral," according to menshealth.com) into supplements marketed to men.

Depriving young men of zinc lowers their testosterone levels, but giving healthy men zinc doesn't raise theirs. 1,2

- ¹ Am. J. Clin. Nutr. 56: 148, 1992.
- ² Int. J. Androl. 29: 339, 2006.

A quarter of men who are prescribed testosterone haven't had their hormone levels tested within the previous 12 months.⁴ And if they're getting testosterone they don't need, they could be hurting—instead of helping—themselves.

"While it's true that testosterone gels and patches can increase testosterone levels," says Schwartz, "we don't know enough about the balance of benefits and harms in men who don't have the serious conditions that the FDA originally approved testosterone for. We don't know if this testosterone supplementation is hurting people."

FIRST, DO NO HARM?

"It was a long-held belief that testosterone could increase the risk of prostate cancer, but I don't think the science backs that up," says Stephanie Page, an associate professor of medicine at the University of Washington School of Medicine in Seattle.

"We haven't seen signals from the studies so far that giving men testosterone promotes the development of prostate cancer, or that prostate cancer rates have risen with the increase in testosterone prescriptions."

But, Page adds, the studies haven't lasted long enough or included enough men to know for sure. "The bottom line is that

THE BOTTOM LINE

- If you think you have low testosterone, get your level checked.
- Men with consistently low testosterone and symptoms of a deficiency who take the hormone build muscle, lose fat, and report a boost in libido but no increased sexual satisfaction.
- Taking testosterone may increase the risk of heart attacks, but large, longterm studies designed to test that haven't been done.

we don't know what the risk is."

Something to perhaps worry about: a 2010 trial that gave testosterone or a placebo to 209 men with low or low-normal levels (100 to 350 nanograms per deciliter of blood) was halted early because the men getting the hormone were five times more likely to have a heart attack, congestive heart failure, or some other cardiac trouble than the men taking the placebo.⁵

Some other studies detected no increased risk, while still others saw a hint of one.^{6,7}

The jury is still out, says Page.

"The bottom line is that we don't know what the risks are because we don't have the large randomized controlled trials we need to evaluate them."

- ¹ PLos One 8: e76178, 2013.
- ² J. Clin. Endocrinol. Metab. 92:196, 2007.
- ³ J. Clin. Endocrinol. Metab. 92: 4696, 2007.
- ⁴ JAMA Intern. Med. 173: 1465, 2013. ⁵ New Engl. J. Med. 363: 109, 2010.
- ⁶ JAMA 299: 39, 2008.
- ⁷ J. Clin. Endocrinol. Metab. 98: 1891, 2013.

CHOW ITALIANO

When Not in Rome...

BY JAYNE HURLEY & BONNIE LIEBMAN

hrimp scampi, pepperoni pizza, mozzarella sticks, marinara sauce, veal parmigiana, spaghetti and meatballs. Those are some of the "Italian" foods you'd be hard-pressed to find in Italy, according to Fodors.com.

No matter. Americans seem to love what restaurants call Italian food. But how much damage does it do to our waistlines and arteries?

From breadsticks to tiramisu—with plenty of cheese, meat, and white-flour pasta in between-Italian has never been confused with spa cuisine. But in recent years, restaurants have fattened the pot, deep-frying their lasagna and ravioli, pouring alfredo sauce on anything that doesn't move, and selling platters with two or three entrées. The foodand the diners-just keeps getting heavier.

Of course, some restaurants offer lowercalorie dishes for patrons who don't want to roll out the door looking like a meatball. Olive Garden, the largest full-service Italian chain in the country, has a Lighter Italian Fare menu with seven entrées that have less than 575 calories. And menus at Carrabba's Italian Grill and Romano's Macaroni Grill highlight dishes with less than 600 calories. (Most are still loaded with salt. Sigh.) At other chains, like Maggiano's Little Italy, it would be a challenge to find any entrées below 600 calories.

Here's a sampling of items from those four chains. The numbers—we took them from the companies' Web sites-are likely to reflect what you'd get in similar dishes at similar restaurants. But wherever you eat Italian, you can use our tips on page 15 to slim down the usual fare.

The information for this article was compiled by Paige Einstein.

APPETIZERS

CARRABBA'S

TOMATOES CAPRESE

Calories 450 • Sat fat 18 grams • Sodium 340 mg

"Fresh milk mozzarella with sliced tomatoes, red onions, fresh basil and a balsamic reduction" keeps the sodium admirably low. And it's one of the few dishes not loaded with white flour. Share it with others to dilute nearly a day's

MAGGIANO'S

BRUSCHETTA

Calories 560 • Sat fat 10 grams • Sodium 920 mg

Half a dozen pieces of buttered toast topped with fresh tomatoes, basil, balsamic vinegar, and roasted garlic. Olive Garden's nine-piece order swaps the butter for oil, so the sat fat drops to just 3 grams. But you'll be starting dinner with 950 calories' worth of white flour and close to a two-day supply of sodium. Uah.

OLIVE GARDEN

PARMESAN OLIVE FRITTA

WITH GORGONZOLA CREAM SAUCE

Calories 560 • Sat fat 11 grams • Sodium 980 mg

WITH CITRUS AIOLI SAUCE

Calories 710 • Sat fat 12 grams • Sodium 850 mg

"A bite-sized blend of olives and Italian cheeses, rolled together and lightly fried." Translation: deep-fried olive-and-cheese balls with an oil or cream sauce. Ordering the Crispy Risotto Bites (deep-fried cheese-and-rice balls) instead drops the calories to 350 and the sat fat to 4 grams. but the sodium is about the same.

Maggiano's

STUFFED MUSHROOMS

Calories 600 • Sat fat 26 grams • Sodium 1,280 mg

Butter gives Maggiano's mushrooms about twice the calories—and five times the sat fat of Olive Garden's version. Macaroni Grill's hit 640 calories and 15 grams of sat fat thanks to the Italian sausage and goat cheese filling.

OLIVE GARDEN

GRILLED CHICKEN FLATBREAD

Calories 760 • Sat fat 15 grams • Sodium 1,500 mg

"Chicken, mozzarella, roasted red peppers and basil with alfredo and garlic spread." Flatbread pizza may sound healthy, but it's loaded with calories from the same white flour, cheese, and alfredo sauce that may well show up in your



CARRABBA'S

CALAMARI

WITH HOUSEMADE MARINARA Calories 940 • Sat fat 13 grams • Sodium 1,960 mg

WITH SPICY ITALIAN PEPPER AND LEMON BUTTER SAUCE

Calories 1,510 • Sat fat 53 grams • Sodium 2,130 mg

Who can afford to share roughly 1,000 or 1,500 calories-mostly from the frying oil and the breading that entombs the squid-before dinner? The calamari with lemon butter sauce (and its 21/2-day load of sat fat) should come with a defibrillator.

OLIVE GARDEN

LASAGNA FRITTA

Calories 1.030 • Sat fat 21 grams • Sodium 1.590 mg

"Parmesan-breaded lasagna pieces, fried and served over alfredo sauce, topped with parmesan cheese and marinara sauce." Do you need a new appetizer for your restaurant? No problem. Just deep-fry an old dish and add alfredo sauce! Nothing like 1,000 calories and a day's sat fat and sodium to start a meal.

PASTA

OLIVE GARDEN

CHEESE RAVIOLI

WITH MARINARA SAUCE

Calories 660 • Sat fat 11 grams • Sodium 1,440 mg

WITH MEAT SAUCE

Calories 790 • Sat fat 14 grams • Sodium 1,510 mg

It's not just the cheese inside, but the melted cheese on top, that gives ravioli with marinara half a day's sat fat. Still, it's hard to find pasta dishes with only 660 calories. Get it with meat sauce, though, and the calories rise to ravioliwith-cream-sauce territory. Olive Garden's meat sauce delivers a double whammy: it's made with beef and Italian sausage...and sausage promotes colon cancer.

OLIVE GARDEN

WHOLE WHEAT LINGUINE

WITH FRESH TOMATO POMODORO Calories 670 • Sat fat 3 grams • Sodium 1,390 mg

WITH SPICY DIAVOLO

Calories 680 • Sat fat 6 grams • Sodium 900 mg

Stick with the Pomodoro (240 calories) or Diavolo sauce (250) atop your Cucina Mia "create your own pasta" 100% Whole Wheat Linguine (430). Carrabba's whole-grain Spaghetti with Pomodoro sauce is in the same ballpark. Want a topping? The Sautéed Shrimp adds 730 mg of extra sodium, but 15 grams of protein and only 70 calories.

OLIVE GARDEN

SPAGHETTI WITH MEAT SAUCE

Calories 710 • Sat fat 8 grams • Sodium 1,340 mg

A hefty pile of white-flour pasta and salty beefand-sausage-laden sauce isn't the healthiest meal. Carrabba's version (with beef and pork) has fewer calories (530), while Maggiano's (just beef) has more (1,060). It mostly comes down to how much pasta the kitchen staff dishes out.

CARRABBA'S

LASAGNE

Calories 760 • Sat fat 24 grams • Sodium 2,480 mg

It's like eating a Pizza Hut Personal Pan Pepperoni Pizza with 20 extra slices of pepperoni. Olive Garden's Lasagna Classico is roughly as

bad. But Maggiano's Mom's Lasagna with meat sauce could well make Mom a widow. Who needs 1.170 calories, 11/2 days' sat fat (34 grams), and a two-day supply of sodium (3,550 mg) in their entrée?

Maggiano's

MUSHROOM RAVIOLI AL FORNO

Calories 820 • Sat fat 24 grams • Sodium 2,140 mg

If only ravioli stuffed with mushrooms weren't served with alfredo or some other cream sauce. That pushes the sat fat to high (17 grams in Olive Garden's Ravioli di Portobello), higher (24 grams in Maggiano's Mushroom Ravioli al Forno), or really high (31 grams in Macaroni Grill's Mushroom Ravioli). The cream sauce makes the Lobster Ravioli at Macaroni Grill no better.

CARRABBA'S

SHRIMP AND SCALLOP LINGUINE ALLA VODKA

Calories 860 • Sat fat 14 grams • Sodium 1.400 mg

"Sautéed shrimp and scallops tossed with linguine in our housemade vodka tomato cream sauce." Healthy seafood doesn't stand a chance against a plate of white-flour pasta topped with what's closer to a cream sauce than a tomato sauce.

OLIVE GARDEN

SPAGHETTI WITH MEAT SAUCE AND MEATBALLS

Calories 920 • Sat fat 14 grams • Sodium 1,770 mg

Nearly 1,000 calories of white flour, beef, and sausage (it's in the meat sauce) threaten your heart, waistline, and colon. Trade in the meatballs for chicken meatballs and you'll trim the sat fat (to 10 grams), but not the calories (960) or sodium (1,840 mg). Whatever you do, don't swap for Italian sausage (1,270 calories, 24 grams of sat fat, and 3,090 mg of sodium).

Maggiano's

CHICKEN & SPINACH **MANICOTTI**

Calories 970 • Sat fat 31 grams • Sodium 1,770 mg

Don't blame the chicken or spinach for the 1½ days' supply of sat fat. It's all those Italian cheeses and the asiago cream sauce.

OLIVE GARDEN

FIVE CHEESE ZITI AL FORNO

Calories 1,050 • Sat fat 26 grams • Sodium 2,370 mg

"Ziti pasta in a five cheese marinara sauce, baked with a laver of melted Italian cheeses" is one heavy dish for heavy-to-be diners. But the Italian sausage in Maggiano's Taylor Street Baked Ziti helps kick the calories up to 1,400, the sat fat to 30 grams, and the sodium to the saltosphere (4,080 mg).

OLIVE GARDEN

CHICKEN & SHRIMP CARBONARA

Calories 1,210 • Sat fat 35 grams • Sodium 2,270 mg

Want to ruin your chicken and shrimp? Surround them with white flour and "a creamy parmesan sauce with bacon." You end up with 300 more calories than Olive Garden's Spaghetti with Meat Sauce and Meatballs...and more than twice the sat fat. Maggiano's Chef KB's Lobster Carbonara hits 1,740 calories and (hold on to vour arteries) 4.010 mg of sodium.

OLIVE GARDEN

CHICKEN ALFREDO

Calories 1,440 • Sat fat 48 grams • Sodium 2,070 mg

When Olive Garden's top-selling menu item has this many calories, is it any wonder we've got an obesity epidemic? The sauce has enough butter, cream, and parmesan to supply 2½ days' worth of sat fat. It's like ordering two Outback Steakhouse 14 oz. New York Strip steaks. "Alfredo" in the name of any pasta dish means at least 1,000 calories, 1½ days' sat fat, and a day's sodium en route to your insides. Mayday. Mayday.

MAGGIANO'S SHRIMP SCAMPI

Calories 1,680 • Sat fat 28 grams • Sodium 2,490 mg

Shrimp sautéed with tomatoes, garlic, and lemon butter, served with angel hair pasta tossed with butter, olive oil, and garlic. Shrimp is so low in sat fat and calories that you might think a little butter can't hurt. Wrong. To your arteries and waistline, this dish looks like three Big Macs.





Photos: CSPI (top), Paige Einstein/CSPI (bottom).

UNDER 600 CALORIES

OLIVE GARDEN

BAKED TILAPIA WITH SHRIMP

Calories 340 • Sat fat 5 grams • Sodium 1,070 mg

"Oven-baked white fish and shrimp with a white wine sauce," served with garlic broccoli. You can't beat the calories. The dish has roughly half the calories and sat fat of Olive Garden's Parmesan Crusted Tilapia with roasted asparagus. And you have a shot at leaving the restaurant without blowing an entire day's sodium. Well done!

MACARONI GRILL

GRILLED CHICKEN SPIEDINI

Calories 410 • Sat fat 2 grams • Sodium 990 mg

Grilled chicken and vegetables is a steal (assuming the chef doesn't overdo the oil). Now that's Mediterranean fare.

OLIVE GARDEN

CENTER CUT FILET MIGNON

Calories 440 • Sat fat 9 grams • Sodium 1,470 mg

If you want red meat, this 6 oz. filet is a bargain. It's got half the calories and sat fat of the chain's Steak Toscano because it's half the size and comes with vegetables instead of garlic parmesan mashed potatoes. Too bad neither dish is low in sodium.

OLIVE GARDEN

SEAFOOD BRODETTO

Calories 480 • Sat fat 3 grams • Sodium 2,250 mg

"Scallops, shrimp and delicate tilapia with spinach and mushrooms simmered in a light white wine and marinara-saffron broth. Served with toasted ciabatta bread." Skip the bread and leave some of the broth behind to save some white flour and sodium.

CARRABBA'S

WOOD-GRILLED SALMON

Calories 500 • Sat fat 6 grams • Sodium 880 mg

It's only 500 calories if you order the smaller (6 oz.) portion and get steamed spinach as your side. Olive Garden's Herb-Grilled Salmon comes with seasoned broccoli, yet the entire dish has a mere 500 mg of sodium. Bravo!



CHICKEN, SHRIMP, ETC.

CARRABBA'S SHRIMP RISOTTO

Calories 540 • Sat fat 11 grams • Sodium 2,420 mg

"Sautéed shrimp and light tomato risotto" (rice cooked in broth) is only light compared to other menu items. It's still high in salt and refined carbs, but you could do a lot worse.

OLIVE GARDEN

EGGPLANT PARMIGIANA

Calories 850 • Sat fat 10 grams • Sodium 1,900 mg

Breaded, fried, topped with marinara, mozzarella, and parmesan and served with a side of pasta. That's no way to treat a vegetable. But it still beats the chain's Chicken Parmigiana, with 1,090 calories and almost twice the sat fat (18 grams) and sodium (3,380 mg).

CARRABBA'S

VEAL MARSALA

WITH GARLIC MASHED POTATOES

Calories 880 • Sat fat 28 grams • Sodium 1,670 mg

"Sautéed and topped with mushrooms, prosciutto and our housemade Lombardo Marsala wine sauce." Chicken Marsala is similar. Roughly half of the calories and sat fat come from the garlic mashed potatoes. Trade it for the vegetable of the day and you drop to around 620 calories and "only" 17 grams of sat fat and 1,060 mg of sodium.

MAGGIANO'S CHICKEN PICCATA

Calories 1,160 • Sat fat 23 grams • Sodium 2,290 mg

Chicken breasts sautéed with capers and lemon butter, served with pasta with butter, olive oil, and garlic. Oh dear. The sauce gives this classic chicken dish as many calories as Maggiano's Spaghetti & Meatball with meat sauce

(and twice the sat fat).
The Veal Piccata
ups the sat fat to
30 grams.

MACARONI GRILL

MAMA'S TRIO

Calories 1,430 • Sat fat 30 grams • Sodium 3,430 mg

Not sure which entrée to order? Why not get three: say, Chicken Parmesan, Lasagna Bolognese, and Chicken & Mushroom Cannelloni? How sensible. Olive Garden swaps the cannelloni for Fettuccine Alfredo and calls it a Tour of Italy. The damage is similar.

Maggiano's

PRIME NEW YORK STEAK

Calories 1,510 • Sat fat 46 grams • Sodium 3,030 mg

Maggiano's serves its 1 lb. fatty steak with fried potatoes. And it serves your poor arteries more than enough sat fat for today *and* tomorrow. Would you sit down to two Pizza Hut Ultimate Cheese Lovers Personal Pan Pizzas topped with 7 pats of butter? You pretty much just did.

Maggiano's

CHICKEN SALTIMBOCCA

Calories 1,690 • Sat fat 28 grams • Sodium 3,370 mg

How to turn chicken breasts into belly fat? Bread them, then top with prosciutto and provolone and serve with buttered and oiled pasta.



UNDER 600 CALORIES

OLIVE GARDEN

CHICKEN ABRUZZI

Calories 540 • Sat fat 6 grams • Sodium 1.850 mg

Chicken, cannellini beans, kale, and garden vegetables...what's not to love? The more than a day's supply of sodium. Still (sad to say), that's no worse than most other Italian restaurant dishes

OLIVE GARDEN

GARLIC ROSEMARY CHICKEN

Calories 540 • Sat fat 7 grams • Sodium 1,560 mg

"Grilled marinated chicken breasts topped with rosemary and caramelized garlic cloves," with garlic parmesan mashed potatoes and fresh spinach. Delish. If only Olive Garden could trim the salt.

MACARONI GRILL

POLLO CAPRESE

Calories 560 • Sat fat 7 grams • Sodium 1.530 mg

Grilled chicken breast and capellini pomodoro, topped with a few dollops of mozzarella and served with an arugula salad. If Italian isn't Italian without at least some pasta, this dish should be on your short list.

OLIVE GARDEN

LASAGNA PRIMAVERA WITH GRILLED CHICKEN

Calories 560 • Sat fat 10 grams • Sodium 1,700 mg

"Hand-folded lasagna filled with zucchini, squash and bell peppers, topped with a tomatobasil sauce, grilled chicken and a creamy parmesan drizzle." It trounces the chain's Lasagna Classico on calories (850), sat fat (25 grams), and sodium (2,830 mg), thanks to less pasta and cheese and no beef.

DESSERTS

CARRABBA'S

MINI CANNOLI

Calories 500 • Sat fat 34 grams • Sugar 111/2 tsp.

"Two crisp mini pastry shells stuffed with sweet ricotta and chocolate chip filling, topped with pistachios and powdered sugar." Each mini cannoli has nearly a day's sat fat.

CARRABBA'S

PANNA COTTA

Calories 560 • Sat fat 27 grams • Sugar 5½ tsp.

"Housemade Madagascar vanilla bean custard with fresh raspberries" may sound like a light dessert, but it's like eating an 8 oz. tub of Kraft Philadelphia Original Cream Cheese Spread sprinkled with 4 teaspoons of sugar.

Maggiano's **TIRAMISU**

Calories 820 • Sat fat 31 grams • Sugar 12½ tsp.

"Ladyfingers soaked in espresso with mascarpone cheese." You're looking at more calories than the Tiramisu at Olive Garden (510) or Macaroni Grill (690), but it pales in comparison to Carrabba's version (1.060). Olive Garden's Amaretto Tiramisu Dolcini cuts the calories to 240 and the sat fat to 9 grams because it's tiny.

OLIVE GARDEN

WHITE CHOCOLATE RASPBERRY CHEESECAKE

Calories 890 • Sat fat 36 grams • Sugar NA

Congrats. You've just finished your meal with the equivalent of a Dairy Queen Banana Split topped with half a stick of melted butter. And Maggiano's New York Style Cheesecake, with its 1,130 calories and 47 grams of artery gunk, lays the groundwork for an entirely new layer of

TIPS

- 1. Bread. Leave it in the basket. You'll save 150 to 300 calories' worth of white flour.
- 2. Soup. Skip it to dodge 1,000 to 2,000 mg of sodium. Get a salad instead for less sodium (400 to 800 mg with dressing) and more potassiumrich veggies.
- **3. Light menu.** Items that are marked as "light" or "lower calorie" typically have 600 calories or less (though they're usually still loaded with sodium).
- 4. Pasta sauce. Order tomatobased sauces like marinara, pomodoro, arrabbiata, or diavolo (around 200 calories) over alfredo, cream, pesto, or butter (at least 500 calories).
- **5. Protein toppings.** Seafood is best. Meat sauce beats meatballs. Sausage is worst.
- 6. Sides. Get veggies (50 to 200 calories) instead of potatoes (200 to 500) or pasta (300 to 700).
- **7. Size.** Order a lunch portion for about a third less calories, sat fat, and sodium. Or split an ordinary entrée.
- 8. Drinks. A glass of Chianti or Prosecco adds about 150 calories. Every glass of sangria adds about 250.

CARRABBA'S

SOGNO DI CIOCCOLATA

Calories 1,190 • Sat fat 35 grams • Sugar 22 tsp.

"A rich fudge brownie with chocolate mousse, fresh whipped cream and housemade chocolate sauce." Memo to fat cells and arteries: Make room for nearly two days' sat fat and almost half a cup of (mostly) added sugar-about what you'd get in a whole box of Girl Scout Thin Mints.

MAGGIANO'S APPLE CROSTADA

Calories 1,330 • Sat fat 40 grams • Sugar 23½ tsp.

Granny Smith apples baked in a buttery pastry crust, dipped in cream and crystallized sugar, and served with caramel sauce and a scoop of vanilla bean ice cream. Why not save some money and head to McDonald's for five Baked Apple Pies plus a Vanilla Cone? They'll do about the same damage.



RIGHT STUFF

FOOD PORN



WHAT A CATCH



"Sourced from the cold waters of the Northern Pacific, our salmon is wild caught and carefully selected to make only the best quality burgers," says the **Whole Foods**

Whole Catch Alaskan Salmon Seafood Burgers box.

And wild is just the start. "Our seafood burgers are made with 100% pole & line caught fish, which ensures little to no bycatch," Whole Foods told us in an e-mail. That's good for marine life. "The product quality is superior because these fishing trips are very short and the fish is processed immediately upon landing," the company noted. That may explain why the burgers taste so fresh and moist.

You don't even need to season them. Just remove from the freezer and grill, sauté, or bake for 3 to 8 minutes per side. Add a whole-wheat bun, veggie side, and salad, and dinner is done.

Each 3.2 oz. burger comes with just 130 calories, but delivers 17 grams of protein and a low-for-salmon-burgers 190 milligrams of sodium. Bonus: salmon is rich in EPA and DHA, the omega-3 fats that may protect your heart.

Also at Whole Foods—but at Wegmans and Market Basket in the Northeast and Bristol Farms and Natural Grocers in the West as well—you're likely to find Henry & Lisa's delicious Wild Alaskan Salmon Burgers. (Pick up the original variety, not the saltier Teriyaki.) The company says that it gets its salmon from small operations that use sustainable fishing practices.

Neither brand is quite like catching your own fresh salmon...but they're as close as you're gonna get in the freezer case.

wholefoodsmarket.com—(512) 542-0878 henryandlisas.com—(603) 834-6034

13 teaspoons of



Sautéed Radishes

Trim and quarter 2 bunches of radishes (about ¾ lb.). In a large pan over mediumhigh heat, heat 1 Tbs. extra-virgin olive oil until hot but not smoking. Sauté the radishes until lightly browned and tendercrisp, 5-7 minutes. Season with just a pinch of kosher salt (no more than 1/16 tsp.). Makes 2 cups. Serve like potatoes.

CPK? TRY CPR

"Trust us. Just try it," says the California Pizza Kitchen menu. CPK must figure that customers need a bit of tempting, because its Butter Cake doesn't sound as indulgent as the chain's tiramisu, red velvet cake, or other

desserts.



And it doesn't look like much more than a cream-filled doughnut nestled in whipped cream (and topped with a scoop of vanilla ice cream if you order it "à la Häagen-Dazs").

Aren't you in for a surprise.

Even without the ice cream, you're talking 1,100 calories, 45 grams of saturated fat (more than two days' worth), and 15 teaspoons of added sugar (what you'd get from drinking

1½ cans of soda). That's worse than every other dessert on CPK's menu, including the Belgian Chocolate Soufflé Cake, complete with "triple-thick hot fudge and vanilla bean sauce."

If you order the Butter Cake with the Häagen-Dazs—it sits atop the cake's thin layer of cheesecake—get your fat cells and artery walls ready to house 1,380 calories, 56 grams of sat fat, and, we estimate, 19½ teaspoons of added sugar. It's like eating an entire (four-serving) box of Sara Lee All Butter Pound Cake slathered with eight pats of butter.

Of course, your cells are probably already scrambling to make room for the 1,000-plus calories that recently arrived via your CPK pasta or pizza or main-dish salad.

"Just try it"? Just don't.

cpk.com-(800) 919-3227



Always treat raw chicken as if it's contaminated. Why? A single drop of contaminated juice is enough to cause diarrhea, vomiting, and cramping from a *Campylobacter* infection.