The changing American diet

THE BEST DIPS

Are heartburn drugs safe?

COLORECTAL CANCER

A disease on the decline

Thanks to efforts by Katie Couric and others, more than half of all adults now get screened. But that’s not the only reason death rates have dropped.
“This is good news,” says Gilbert Welch, professor of medicine at Dartmouth’s Geisel School of Medicine. Colorectal cancer death rates in people aged 50 and older are half what they were in 1975. “There’s nothing ambiguous about it,” adds Welch. “This disease is clearly on the decline.”

That said, colorectal cancer is still the third leading cause of cancer death in men (after lung and prostate) and in women (after lung and breast).

A Success Story

“My father died of metastatic colon cancer when I was in medical school, so I have more than a passing interest in this disease,” says Dartmouth’s Gilbert Welch. “There’s no question that something good has happened with colorectal cancer.”

The average American’s risk of dying or being diagnosed with colorectal cancer has plummeted in the last 40 years (see graphs). The question is: Why?

“Screening has without a doubt had an impact,” explains Welch. He’s talking about colonoscopies and other measures to look for cancer or precancers in people without symptoms.

“But the decline started long before screening,” he notes. “And until around 2005, less than half the U.S. population had been regularly screened. So it’s only recently that we would begin to see screening’s effect.”

Better treatment has also played a role. “The surgery is safer, and we’ve improved the care of people who have more advanced disease,” says Welch.

But that’s not the whole story. “We’ve known for a long time that lifestyle and perhaps other aspects of the environment have had a profound effect on risk of colorectal cancer,” says Walter Willett, chair of the nutrition department at the Harvard T.H. Chan School of Public Health.

“Back in the ’60s, there were roughly ten-fold differences in colorectal cancer rates across countries. Yet those huge differences pretty much disappeared when people migrated from low-inci-dence countries like Japan to high-in-cidence countries like the U.S.”

Now it’s a different story. “U.S. colorectal cancer incidence and mortality are down by about half what they were in the ’60s,” says Willett.

“At the same time, in East Asian countries, colorectal cancer rates are skyrocketing. Rates in Japan now actually exceed those in the U.S. It’s hard for me to believe that so much has happened since I started researching the topic.”

It’s good news that colorectal cancer is on the decline here. But that’s no excuse to avoid screening...or other steps to lower your risk.

Get Screened

“Making sure you get screened is the optimal way to reduce your colorectal cancer risk,” says Andrew Chan, associate professor of medicine at Harvard Medical School.

In June, the U.S. Preventive Services Task Force issued new recommendations on screening. The task force “strongly recommends that adults 50 to 75 be screened for colorectal cancer,” explains Owens, professor of medicine at Stanford University and a task force member, explained in an interview with the Journal of the American Medical Association.

“The bad news about colorectal cancer screening is that about a third of the people who should be screened are not.”

If you’re 76 to 85, the decision depends on who you are, said the task force. “The people who are most likely to benefit,” explained Owens, “would include people who have never been screened before,” as well as people who...
are healthy enough to be treated if cancer 
is diagnosed and people who don’t have 
other illnesses that may shorten their lives. 
“We don’t recommend screening after 
with screening go up with age.” And 
because colorectal cancer takes about 10 
years to develop, screening has a smaller 
payoff in people over 85.

Which screening test is best? A colonoscopy is the gold standard.

“It’s best because you can see the whole 
colon,” says Harvard’s Walter Willett. “I 
had a colleague who would still be alive if 
had he had gotten one at age 50.”

But the task force recommended several 
options, ranging from a colonoscopy 
every 10 years to a stool sample analysis 
looking for hidden blood (with one of 
three types of tests) every year.

“An ongoing trial at the VA is testing 
whether a colonoscopy has an advantage 
over a simple fecal occult blood test— 
which is about a hundredth of the cost,” 
says Dartmouth’s Gilbert Welch.

“It’s one of the biggest randomized trials 
going on now, with about 50,000 veterans 
who will be followed for 10 years.”

If vets assigned to a yearly fecal 
immmunochemical test (FIT) show signs of 
hidden bleeding, they will then get a 
colonoscopy.

In the meantime, 
any test is better 
than no test. “What matters is that you 
get screened,” says 
Owens.

Keep a Lid on 
Insulin

“We have lots of 
data showing that 
physical activity is 
related to a lower 
risk and obesity is 
related to a higher 
risk,” says Willett.

“They’re very 
important, but it’s 
interesting that the 
striking decrease in the U.S. incidence of 
colorectal cancer has occurred despite the 
obsesity epidemic.”

What’s more, Asians have gained 
weight, but nowhere near as much as 
Americans.

“In Japan, obesity has hardly gone up, 
especially in women,” says Willett. “The 
rates are still around 5 percent, compared 
to 40 percent here.” (He’s counting only 
obese, not overweight, women.)

That may be because it’s not excess 
weight, but high blood insulin levels—a 
sign that your cells are resistant to 
insulin—that matters most. (How do you 
know if you’re insulin resistant? If your 
doctor says you have the metabolic 
syndrome, you probably are.)

“The metabolic syndrome is highly 
prevalent in Asia,” notes Willett. One sign 
of the syndrome is a large waist. How­­ever, “large” starts at 40 inches for white 
men and 35 inches for white women but 
at only 35 inches for Asian men and 
32 inches for Asian women, because 
they’re more prone to insulin resistance.

“It’s not strapping 20 pounds on your 
waist that’s causing increased colorectal 
cancer risk,” says Willett. “It’s that 
increased weight is causing metabolic 
changes including higher insulin levels, 
which may fuel cancer growth.”

Cut Back on Meat

“The International Agency for Research 
on Cancer examined all of the evidence to date and concluded that processed meat consumption causes cancer in 
humans,” says Amanda Cross, a cancer 
researcher at Imperial College London.

One of the prime culprits: carcinogens 
called nitrosamines that are created both 
outside and inside the body.

“These N-nitroso compounds form in 
processed meats when they’re cured 
using sodium nitrite,” says Cross.
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COVER STORY

Staying active and trim may lower your risk of colorectal cancer by keeping a lid on your insulin levels.

Insulin—that matters most.3 (How do you sign that your cells are resistant to weight, but high blood insulin levels—a)

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“The International Agency for Research changes including higher insulin levels, increased weight is causing metabolic cancer risk,” says Willett. “It’s that waist that’s causing increased colorectal cancer risk,” says Willett.

We don’t see an increased risk for white meat,” notes Cross, “but most studies have only investigated total white meat and haven’t looked at processed white meat separately.”5 Heme, a protein that carries oxygen through the blood, may explain why.

Heme has a part in catalyzing the reaction that forms nitrosamines,” says Cross. “And heme iron levels in white meat are lower than those in red meat.”

The bottom line: “Avoid processed meat,” says Willett. “Eat it no more than a couple of times a year, not just to lower your risk of colorectal cancer, but also diabetes and cardiovascular disease.”

And keep red meat low—again, not just to prevent colorectal cancer. Replace it with plant sources of protein like beans or nuts, or with poultry or fish.”

Get Enough Calcium

“Calcium is pretty clearly a beneficial factor for lowering the risk of colorectal cancer,” says Willett.

The leading explanation: calcium may bind—and neutralize—bile acids that might be toxic to the colon’s lining.

“The overall data pretty strongly suggests that calcium protects the colon,” says Willett. For example, when research­ers pooled data from 10 studies on more than 534,000 people, those who consumed about 1,000 milligrams of calcium a day had roughly a 20 percent lower risk of colorectal cancer than those who consumed less than 500 mg a day.4 And giving people calcium carbonate (1,000 mg a day) eliminated the increase in nitrosamines that they excreted when they were fed six ounces a day of cooked ham for four days.2 “Dairy products have also been related to lower risk, likely through the calcium pathway,” adds Willett.

What has befuddled scientists are the results of two large clinical trials that gave calcium (1,200 mg a day) to people who had already had a precancerous colon polyp removed. Both studies were led by John Baron, now professor of medicine at the University of North Carolina.

In the first trial, calcium cut the risk of precancerous colon polyps by 15 percent.1 In the second, calcium had no impact.3 Why?

“John has spent many long nights trying to understand the ambiguous results,” says Willett.

In the meantime, shoot for the Recommended Dietary Allowance for calcium. (The RDA for adults is 1,000 mg a day. It jumps to 1,200 mg for women over 50 and men over 70).

“Most of the benefit comes from getting 800 or 1,000 mg a day,” says Willett.

“And you can basically get there with one or two servings of dairy on top of a healthy diet. Or you can take a calcium supplement. With their calories and saturated fat, some dairy foods are a very expensive way to get some calcium.”

Get Your Vitamin D

“We see a very consistent relationship between lower blood levels of vitamin D and higher colorectal cancer risk,” says Willett.11 The large VITAL trial is now testing whether a high dose (2,000 IU a day) of vitamin D can lower the risk of colorectal cancer. “If there’s a benefit, the results will be definitive,” notes Willett. “But if we don’t see something, it may be because the trial didn’t last long enough or because too many people in the placebo group were already getting enough vitamin D or started to take it on their own.”

What to do in the meantime?

Who needs pepperoni, sausage, bacon, or ham when you can get a scrumptious veggie pizza?


But since 1978, the U.S. Department of Agriculture has required bacon to contain either sodium ascorbate (vitamin C) or its chemical cousin sodium erythorbate, and many other meats with added nitrates have done the same. “That inhibits the nitrosation reaction,” says Cross.

But nitrosamines can still form inside the body. “If you’re consuming amines and amid­es from meats, and then you get naturally occurring nitrates from water or vegetables, nitrosamines can form in the gut,” explains Cross.

“So with red meat, nitrosamines are formed only inside the body, but with processed meats, they can form both outside—during meat processing—and inside.”

Is processed poultry like turkey bacon or chicken sausage safe? It’s not clear.

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What to do in the meantime?
you’re older.) “If someone has darker skin and isn’t in the sun much, I think it’s reasonable to go for 2,000 IU.”

Consider Aspirin

“A series of randomized clinical trials has confirmed that taking aspirin for 10 years or more is associated with a lower risk of colorectal cancer,” says Harvard’s Andrew Chan.

“The evidence is so persuasive that the U.S. Preventive Services Task Force now recommends taking low-dose aspirin for the prevention of colorectal cancer as well as heart disease in people with cardiovascular risk factors.”

That advice is for people aged 50 to 59 who have at least a 10 percent risk of having a heart attack, stroke, or other cardiovascular event over 10 years, who don’t have an elevated risk of bleeding, and who are willing to take aspirin for at least 10 years.1

(See tools.acc.org/ASCVD-Risk-Estimator to estimate your risk of cardiovascular disease. It’s based on your age, blood pressure, cholesterol, and other factors.)

For those people, the benefits outweigh the risks—GI bleeding and hemorrhagic stroke—from taking aspirin. Similar people in their 60s should also consider taking aspirin, said the task force.

“This represents a milestone in cancer prevention,” says Chan. “It’s the first time the task force has recommended a medicine for cancer prevention for people who are not at high cancer risk. This really reflects the strength of the data.”

2. uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/colorectal-cancer-screening?

WHAT ELSE MAY (OR MAY NOT) MATTER

■ Smoking. “It’s very clear that smoking is a cause of colorectal cancer, and the decline in smoking here is one factor that’s contributing to our decline,” says Harvard’s Walter Willett. “Smoking has gone up in many East Asian countries and in China, in particular, now that people can afford it.”

■ Alcohol. “It’s a risk factor, but the risk only goes up when you get beyond two drinks a day,” says Willett.

■ Folic acid. “The evidence is strong for folic acid in observational studies that track people for years,” notes Willett. On the other hand, clinical trials find no lower risk of colorectal cancer in people who take folic acid than in placebo takers, possibly because those studies last only a few years.1

In the past, some researchers feared that the folic acid that is added to white flour might raise the risk of colorectal cancer. “But we’ve seen a lower—not a higher—risk, so that hasn’t been a problem,” says Willett. “The folic acid added to white flour and multivitamins has very likely contributed to the lower risk.”

■ Sugar. “We’ve looked, but we don’t see anything big there,” says Willett.

■ Fiber. Fiber was long believed to protect against colorectal cancer, notes Willett. “It just made sense that fiber would move carcinogens more rapidly through the colon, so it would dilute them.”

And some health authorities, like the American Institute for Cancer Research, recommend fiber-rich foods to prevent colorectal cancer. But the evidence is mixed. “Some European studies find a link,” says Willett. “But interestingly, the U.S. data on fiber and colorectal cancer is not impressive.”2

■ Whole grains. “They’re not a game changer for colorectal cancer,” says Willett. “But the evidence is so strong for cardiovascular disease and diabetes that eating whole grains is still important.”

■ Constipation. In a study of more than 110,000 nurses and health professionals, neither the frequency of bowel movements nor laxative use was linked to cancer risk.3

“We didn’t see a relationship with bowel habits, which also argues against the fiber hypothesis,” says Willett.