

Fight Obesity..With Fat

The world is getting fatter. There is no doubt whatsoever that we are in the midst of an obesity epidemic. Last year, a survey of 188 countries, paid for by the Bill & Melinda Gates Foundation, showed that nearly 30 percent of the global



Dr. David Williams

population is either overweight or obese. Not a single country has been able to lower its obesity rate in the last 33 years, and numbers continue

to rise each and every year.

In this country, nearly 75 percent of men and more than 60

percent of women are either overweight or obese. We have the highest proportion of the world's obese people.

Almost 30 percent of US kids are either overweight or obese, compared to only 4 percent of the children in Netherlands or Sweden.

Lately, we've heard a lot of talk about global environmental issues, but the worldwide obesity problem never gets mentioned. The rapid modernization of third-world societies hasn't been good for health. Villagers no longer rely on their farms for food, nor do they slaughter their own animals. New road systems are allowing companies to bring in processed foods, soft drinks, and items previously unheard of in those parts.

One study found that obesity rates had increased fivefold in the last 20 years, even in remote Himalayan villages in Pakistan, since processed foods have been introduced. (*BMC Pediatr 2011 Nov 21;11:105*)

The same thing is happening all over the world. Countries in the Middle East, North Africa, Central America, and island nations in the Pacific and Caribbean are

experiencing exceptionally high rates of obesity.

If this epidemic can't be stopped, we're going to see drastic changes in the way health care is provided in this country. And more alarmingly, I'm afraid it will begin to erode many of the personal freedoms we now take for granted.

In 2004, Richard Carmona, the serving US Surgeon General, said that childhood obesity was "every bit as threatening to us as is the terrorist threat we face today." I don't think he was wrong.

Already in Britain, which has the highest obesity rate in Europe, there are proposals to limit government benefits depending on an individual's weight and behavior. As more and more people in this country become dependent on government assistance, I suspect we will start to see similar proposals here.

We've already witnessed some states, such as New York and California, passing (or attempting to pass) legislation that taxes certain foods and beverages. The general idea is that local or federal governments have to remove or restrict selected food choices from the people for their own benefit. (In other words, it is the duty of government to drive

Inside

Fight Obesity..With Fat . . . 1

Tips from Readers 7

Alternatives Mailbox 8

You will observe with concern how long a useful truth may be known, and exist, before it is generally received and practiced on.

— BENJAMIN FRANKLIN

consumer behavior.) This concept would have been unthinkable just a few years ago. But as people become less responsible for their own actions, it seems like an idea more are willing to accept.

We're starting down a very slippery slope. If it progresses like it has in other countries, expect to see some medical procedures withheld unless you have followed certain prerequisites. For example, before you can have surgery, you may have to show that you've tried to remedy the problem by taking the "required" and "recommended" drug therapies. And just as has happened in other countries, natural therapies won't be acceptable.

Now more than ever, it's so important to take responsibility for your own health. If you don't, someone else will—and their goals, beliefs, and philosophies will most likely be different than your own. You could be risking the most precious gift you have. The more you can avoid riding this health care roller coaster, the better off you'll be.

Don't get caught up in thinking there's a drug for every problem, or that there are no longer any cures and every condition needs to be managed for life with medication. Always remember your body has the innate ability to heal itself—if you give it the right tools and

proper environment. If you haven't already, make a commitment now to doing the following:

Clean up your diet. Everyone wants the magic key to losing weight, and yet the world around us is providing some of the best real-life examples. (It's also producing some amazing research that we can benefit from, which I'll discuss later.) It couldn't be any clearer, when we see obesity rates skyrocket fivefold after the introduction of processed foods and beverages into some of the most remote villages in the world. Hippocrates so wisely said, "Let food be thy medicine and medicine be thy food." Get back to basic whole food choices and minimize processed items.

Get on a good supplement program, and stick with it. I hear people all the time complain about the cost and inconvenience of taking supplements. View supplements as an extension of your food because that's what natural supplements are. Budget them into your weekly grocery bill.

If we could organically grow all of our own fruits and vegetables, raise and slaughter all of our meat and fish, and eat a perfect diet, we might not need supplements. But in the real world, they help fill in the gaps where our diets fall short. Supplements allow us to prevent

future health problems...problems that we can accurately predict will occur because of genetic weaknesses, advanced age, environmental exposure, and dietary failings.

Find some physical activity you enjoy, and do it regularly. I can't overemphasize the importance of exercise. Use it or lose it.

Stay informed about natural health. I know I'm preaching to the choir. Since you subscribe to *Alternatives*, it's obvious you understand the importance and power of the right information. Many others obviously don't. We can't save the world, but by sharing the information you learn, you can help those around you.

The Many Colors (and Purposes) of Fat

When it comes to the fight against obesity, researchers not too long ago discovered how certain types of fat in the body actually have health benefits and even help you burn more fat.

Let me start by saying, there are several types of fat. Three of the types I'll discuss here are white, brown, and beige.

White fat is the fat that everyone loves to hate. It stores

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extra calories and accumulates around the belly, hips, and thighs.

Brown fat (commonly referred to as brown adipose tissue, or BAT), on the other hand, burns calories and creates heat. Brown fat cells contain numerous large mitochondria—the energy-burning cellular factories.

We've known about brown fat since the 1960s, but until recently researchers only thought brown fat existed in babies. Since newborns don't have the ability to shiver, brown fat produces heat to help them stay warm. It is also what protects the vital organs of hibernating animals.

It was only six years ago that researchers discovered that brown fat existed in adults and was metabolically active. (*N Engl J Med* 2009 Apr 9;360(15):1509–17)

The location of brown fat in the body is less predictable, which makes finding it difficult. Brown fat appears to be mostly in the neck and shoulder region, but it has also been found in the chest, down the spine, and mixed to a degree among white fat cells.

Although brown fat cells only make up a small percentage of the total fat in the body, they have a disproportionately high number of mitochondria and contain a protein called thermogenin, which makes them super fat burners. Brown fat can produce 300 times more heat per gram than any other tissue in the body.

Brown fat is now considered a thermogenic *organ*. New research has just revealed that brown fat actually communicates with the brain via the sensory nervous system! When brown fat tissue is

activated, it “talks” to the brain, letting it know how much fat is available and how much has been lost. The brain responds by telling it to break down additional fat and either release the energy or use it for body functions. This is the first study to demonstrate the existence of a feedback loop between brown fat and the brain. (*Am J Physiol Regul Integr Comp Physiol* 2012 May;302(9):R1049–58)

Brown fat's neural connections to the brain and other properties make it totally different from white fat. When it was first described in 1551 by the Swiss naturalist Konrad Gessner, he called it “neither fat nor flesh—but something in between.” This was a brilliant observation. It didn't totally resemble fat because of its darker color, which comes from its intense blood supply, iron content, and many mitochondria. If anything, it looks somewhat like muscle tissue that contains lots of fat globules. (*Front Endocrinol (Laussane)* 2012 Feb 27;3:36)

The Origin and Purpose of Brown Fat

When you understand the origin and purpose of brown fat, you'll understand just how closely related it is to muscle tissue and why certain things can boost the activation of brown fat in your body.

In the embryonic development stage, stem cells specialize and develop into specific tissues that form the various parts of the body. Muscle and fat cells evolve from the same precursor cells. Brown fat cells have proteins that are found only in muscle cells and not white fat tissue. In many aspects, brown

fat is a closer relative to muscle tissue than it is to white fat.

One of the characteristics of mammals is that they can maintain a constant body temperature. We do this primarily through muscle contraction. Heat is the byproduct of muscle contraction. (Muscle contractions really aren't very efficient, with about 50 percent of the energy being lost as heat.) When the surrounding temperature drops, we increase muscle contractions and/or start to shiver. Shivering is really just muscle contractions on a smaller scale.

Because babies aren't born with the ability to shiver, the body utilizes brown fat to create heat. The process could be compared to a car idling with the heater on. It just burns fuel (triglycerides, fatty acids, blood sugar, etc.) to generate heat, but doesn't go anywhere.

Other mammals need brown fat to create heat when they hibernate, since very little muscle activity occurs during hibernation.

Once babies develop the ability to shiver, the need for brown fat wanes. As such, brown fat stores tend to steadily decrease as we age. (Thin people tend to retain more brown fat than obese individuals, and it also tends to be more active.)

It's probably no surprise that drug companies are excited about brown fat because they hope to develop drugs that will raise its levels and/or activity, aiding in weight loss.

The third type of fat is called beige fat. Beige fat was just discovered in 2012. It was even harder to locate since it doesn't accumulate in pockets like white or

brown fat, but instead is dispersed within white fat cells. (*Cell* 2012 Jul 20;150(2):366–76)

Much like brown fat, beige fat has the thermogenin protein that burns calories to generate heat. What makes researchers really interested in beige fat is that they can increase the amount of beige fat cells by turning white fat into beige. (Unlike beige fat, researchers have only been able to “activate” brown fat and not significantly increase the overall number of cells.)

The Benefits of Brown and Beige Fat

Since brown and beige fat perform basically the same functions, I’ll just refer to brown fat unless there is a difference that needs to be noted. But there are some interesting side benefits of the calorie burning by both types of fat.

Brown fat can fuel itself with triglycerides and sugar taken directly from the bloodstream. Remember, triglycerides are the fatty molecules that raise the risk of developing metabolic syndrome, which in turn leads to higher risk of heart disease, stroke, and diabetes. Through their removal of blood glucose and triglycerides, brown fat cells regulate blood sugar levels and improve insulin sensitivity. A loss of insulin sensitivity (called insulin resistance) is a primary factor in diabetes. Improving insulin sensitivity is a monumental step in both the prevention and treatment of diabetes.

In studies using mice, the effects of brown fat were nothing short of amazing. Researchers transplanted brown fat into the visceral cavities of mice and fed them a normal diet

for eight to 12 weeks. After that period, the mice exhibited improved glucose tolerance, better insulin sensitivity, lower body weight, and decreased fat mass. Overall metabolism increased throughout their bodies. (*J Clin Invest* 2013 Jan 2; 123(1):215–23)

With the obesity and diabetes epidemics, it’s understandable why the drug companies would be pumped about this new research. They dream of developing a diet pill that can burn calories without the need for exercise, while at the same time treat diabetes. Like the hundreds of other drugs that held promise, we’ll have to wait and see if this one becomes a reality. (And then there’s always the bigger question: Will it be safe?)

Naturally Activate Your Brown Fat Calls

When you delve deeper into the research on brown and beige fat, the data reveal several natural methods to activate these cells.

Keep in mind, if you ramp up your brown/beige fat cells and start burning extra calories, but don’t watch your diet, none of this information is going to do you any good. It might be possible to burn an extra 250 to 500 calories a day using these techniques, but if you eat junk food, you’re wasting your time. However, if you eat a clean diet and moderately exercise, this is a way to accelerate the calorie burn. Burning an extra 500 calories a day translates to a loss of a pound of fat a week.

It’s also important to keep in mind that even small increases in your energy balance can have

a profound change in your body weight.

For example, a four-year study involving more than 50,000 nurses found that drinking just one serving of soda or fruit juice a day for one year resulted in an extra 10 to 12 pounds of weight gain and an 80 percent elevated risk of developing type 2 diabetes. (*JAMA* 2004 Aug 25;292(8):927–34)

On the other hand, just a small but consistent increase in your metabolic rate is like turning up the body’s furnace a couple of degrees for a year. Then you’re burning excess fuel (calories).

Here are some ways to do just that by activating your brown/beige fat cells.

Start Shivering

In the 1970s, the army noticed that soldiers sent to train in cold regions returned with significantly less body fat compared to those who trained in more temperate climates. At the time, they didn’t recognize brown fat as the cause, but one study reported that a week of mild exercise in the cold for 2½ hours daily resulted in a loss of between 1¾ and 5 pounds of body fat.)

There are several benefits to using the cold to activate brown fat cells. First, if you live in a cold climate or it’s wintertime, “thermal dieting” is free. Second, it doesn’t have to be uncomfortably cold to work. And third, it only takes a couple of hours or less of

exposure to cold temperatures for it to work.

Another benefit of “cold therapy” is that it doesn’t leave you hungry.

In one study, six men remained inactive for a three-hour period while wearing a cold suit that circulated 64.4 degrees F water over their skin. The water was just cold enough to drop their body temperature but not so cold that it produced excess shivering. The researchers wanted to make sure any extra calories being burned were the result of brown fat activity and not from shivering muscles.

During that three-hour period, the men burned an extra 250 calories compared to what they would have burned if they had been inactive without the cooling suits. Burning 250 calories per day over a two-week period translates to a loss of one pound of body fat, without any exercising or dieting. (*J Clin Invest* 2012 Feb;122(2):486–9)

Another recent study involved 22 healthy males who had either low or undetectable brown fat cell activity. Half maintained their normal lifestyles. The other half were placed in a room cooled to 63 degrees F for six weeks, two hours a day.

Brown fat activity jumped 50 percent and they lost 5 percent of their total body fat. As the study progressed, their brown fat cells became more active and efficient at burning fat. At the beginning of the study, they burned 108 calories during their two hours in the cold. At the end of the study, they burned 289 calories. (*J Clin Invest* 2013 Aug;123(8):3404–8)

Now that it’s summertime, dropping your thermostat to 60 degrees

could get expensive. But during the winter, opening the window and letting in some cold air is a different scenario and something you might want to consider.

Our ability to easily alter our environment is a good example of how subtle technological changes we’ve embraced in the last few decades can affect our bodies in ways we never anticipated. With the widespread use of central heating and air conditioning, our bodies are no longer subjected to huge variations in temperature throughout the year. Instead of sleeping in 60-degree (or colder) temperatures like our ancestors did, our bedrooms, cars, and work environments are kept at a constant 72 degrees.

And instead of going to bed when it gets dark and rising with the sun, artificial lighting has increased the length of our days and reduced our production of melatonin. Both of these factors have had subtle, yet negative influences on brown fat cell activity and overall health.

One University of California professor has an alternative to cooling a room or investing in a whole-body cooling suit. He has developed an adjustable vest with sewn-in pockets that hold gel-packs against the front and back of your shoulders, where brown fat resides. He calls it the Cold Shoulder. (You could make this vest rather easily if you don’t want to spend \$200. You can see what it looks like and learn more at www.coldshoulderweightloss.com.)

Twice a day, you take the vest out of the freezer and wear it in a comfortable room while watching television, working on your computer, driving in the car, etc., until

the ice melts. It transfers heat from your body and forces your brown fat cells to kick in. (This brings to mind my college days when I tried to sleep on an unheated waterbed. It was a prime example of how cold water can quickly transfer heat from the body. With the vest, I’m sure the heat transfer is far less drastic and more comfortable.)

US Olympic swimmer Michael Phelps undoubtedly also displaced body heat and triggered a boost in brown fat calorie burning during his training. I remember an interview where he outlined his daily diet and reported that he consumed 12,000 calories a day. It was hard for me to imagine anyone being able to burn that many calories with any type of training program. But spending hours a day in a cold pool would definitely suck the heat from his body and require the brown fat to kick in so he could maintain his core temperature.

Increase Your Intake of These Brown Fat-Stimulating Nutrients

There are numerous food ingredients, nutrients, and supplements that stimulate brown fat activity.

- **Capsaicin.** Research has shown that this compound, found in chilies, can mimic the effects that repeated cold exposure has on the activation of brown fat. Several weight loss formulas include chili extracts and capsaicin in an effort to boost brown fat activity. But it seems that actually tasting the spice may play a part in its activity. The burning sensation in the mouth appears to be part of the trigger that causes the body to boost its metabolism and heat up. (*Curr Opin Clin Nutr Metab Care* 2013 Nov;16(6):625–31) (*Am J Clin Nutr* 2012 Apr;95(4):845–50) (*Physiol Behav* 2011 Mar 1;102(3–4):251–8)

- **Curcumin** (the key component in turmeric) and **green tea extract** (epigallocatechin gallate or EGCG) are other food compounds that naturally activate brown fat. That's only one of the many reasons I include them in my multivitamin/mineral formulation.
- **Good fats.** It appears that a diet rich in easily oxidized fats can help promote brown fat cell activation. This helps explain why omega-3-rich oils such as those found in fish and fish oil, flaxseed, and chia and hemp seed oils have all been shown to promote weight loss.
- **Melatonin.** The hormone melatonin has been shown to activate the fat-burning activity of brown fat cells. If you've been a long-time reader of *Alternatives*, this probably doesn't come as any surprise. I've talked about the ill effects of not sleeping in a fully darkened room on many occasions in the past.

Exposure to light at night is a contributory factor in higher risk of breast cancer, obesity, and a long list of other health problems. Artificial light sources lower much-needed melatonin production, which has been shown to be essential in cancer prevention. And it's well established that night owls have a greater tendency to be overweight or obese.
- **Resveratrol**, one of the polyphenols found in fruit, has been shown to slow aging and fight cancer, Alzheimer's disease, heart disease, obesity, and diabetes. But how it works is still somewhat of a mystery. Dr. Min Du, a professor at Washington State University, recently found that resveratrol converted excess white fat into beige fat.

Dr. Du fed mice a high-fat diet with resveratrol in amounts equivalent to 12 ounces of fruit per day for humans. The mice receiving the resveratrol gained 40 percent

less weight than the control mice. His work demonstrated that the resveratrol-fed mice converted white fat to beige fat. Based on what he saw, he recommends eating all fruits, but especially blueberries, strawberries, raspberries, grapes, and apples. He says red wines contain resveratrol, but the filtering process in their production removes most of it. That's why he recommends eating the whole fruit.

- **Berberine**, the compound isolated from the Chinese medicinal plant, elicits all the same beneficial effects associated with brown fat activity. Berberine protects against excess weight gain, reduces free fatty acids, and improves glucose tolerance. Animal studies have demonstrated that berberine raises body temperature, increases energy expenditure, and improves cold tolerance. And in a recent study, researchers demonstrated that berberine didn't just activate brown fat, it also induced the conversion of white fat to brown. (*Nat Commun* 2014 Nov 25;5:5493)
- **Irisin.** After exercise, muscle cells release a powerful hormone called irisin, which makes white fat behave like brown fat. In one study, mice were injected with a gene that tripled blood levels of irisin. These mice were obese and had dangerously high blood sugar levels, yet they lost weight and regained control of their glucose levels in just 10 days. (*Cell* 2012 Jul 20;150(2):366-76) (*Nature* 2012 Jan 26;481(7382):463-8) (*Diabetes* 2014 Feb;63(2):381-3)
- **Ursolic acid** increases brown fat and skeletal muscle mass, while decreasing obesity, glucose intolerance, and fatty liver disease. Ursolic acid is a molecule found in apple peels and in several herbs, including holy basil (*Ocimum sanctum*), *Boswellia serrata*, *Boerhaavia diffusa*, and *Asparagus racemosus*. It can also be found in

blueberries, cranberries, rosemary, oregano, thyme, and plums.

It seems to be relatively unknown except for within the bodybuilding community, where it has been dubbed a promising "body recomposition" agent. There haven't been a lot of studies related to ursolic acid's effects on brown fat, but at a dosage of 150 mg taken three times daily with meals, it has been shown to increase irisin levels (12 percent in only eight weeks). It also has been shown to boost levels of insulin-like growth factor-1 (IGF-1) (22.8 percent in eight weeks), which accounts for some of the blood sugar control exhibited by brown fat. In addition, it reduced blood glucose by 53 percent over a period of 11 weeks.

Ursolic acid is very safe at the above dosage. Combined with a healthy diet and exercise, it can reduce fat accumulation and increase muscle tissue. And during periods of fasting, it also triggers fat burning via brown fat activity while preserving muscle tissue.

- **Garlic** contains sulfur compounds that increase the growth of brown fat tissue. While garlic isn't the strongest fat burner, it has such a long list of other health attributes that it should be a part of everyone's daily diet. When taken regularly, animal studies have repeatedly shown that it may boost the production of additional brown fat cells. (*J Nutr* 1999 Feb;129(2):336-42)

Avoid These Brown Fat Inhibitors

During my research, I discovered that brown fat activity could be impaired or blocked by certain drugs or nutritional deficiencies.

Hypertension drugs in the class known as beta blockers impair brown fat activity. I have no doubt that there are dozens of drugs that do the same thing and

contribute to our obesity problem. Pharmaceutical companies have no incentive to test for this, so don't expect to see a lot of research in this area. If one of the side effects of a drug is weight gain, however, I would suspect suppression of brown fat cell activity could be involved.

In addition, deficiencies in essential fatty acids, iron, vitamin A, riboflavin, creatine, selenium, and iodine all can impede brown fat activity and lead to weight gain (or make it hard to lose excess fat).

I talked about the need for essential fatty acids earlier. Iron induces the oxidation of fats. An iron deficiency would make the process less efficient and impair brown fat cell activity. Iron's relationship to brown fat/thyroid activity further explains why iron deficiency anemia leads to excess weight gain. (*Clin Ter* 2014;165(2):e87-9) (*Thyroid* 2002 Oct;12(10):867-78) (*Pediatr Res* 1985 Oct;19(10):989-91) (*J Endocrinol* 2000 Sep;166(3):511-7) (*Biochem Soc Trans* 1990 Dec;18(6):1269-70) (*Physiol Rev* 2004 Jan;84(1):277-359)

An Effective Tool...But Not an Obesity Cure-All

When active brown fat was first discovered in adults, many proclaimed it was the long-awaited answer to our obesity problem. It was the Holy Grail everyone had been searching for. No longer would we have to exercise or worry about what we ate. All we needed to do was get the body to produce more

Helpful Tips from Readers

Unusual Uses for Coconut Oil

In addition to all the normal uses for coconut oil (substitute for butter, oil pulling, moisturizing, etc.), I wanted to share a couple unusual ways I use coconut oil. My son came home from school last year with head lice. It was a nightmare, but I rinsed his hair with apple cider vinegar that afternoon, then thoroughly coated his scalp with coconut oil and left it in overnight. It worked! I also use it as a makeup remover.

— Robbie M., Newport Beach, CA

Avocado Instead of Mayo

I recently stopped using mayonnaise on my sandwiches and substituted avocado instead. It tastes great with a little salt and pepper and it has the same mouth feel as mayo.

— Mark K., Lawton, OK

That's a good idea, Mark. I do the same thing. Avocados are a great fruit and one of my favorite foods. Over 75 percent of the fat in avocados is monounsaturated—the same type of fat as olive oil. Avocados also raise HDL (beneficial) cholesterol and drop levels of the LDL (bad) form. They are loaded with phytonutrients, with the highest concentration right next to the peel (usually the darkest portion of the flesh). One avocado can contain as many as 300 calories, but eating one a day has been shown to lower LDL cholesterol by 14 points. Even more importantly, avocado consumption can help in both the prevention and treatment of prostate, breast, and oral cancers.

brown fat or ramp up the activity of existing brown fat.

But it hasn't been that simple. The workings of the human body are very complex and interconnected. Dr. George Goodheart, the father of applied kinesiology, probably summed it up best when he stated, "The body is simply intricate and intricately simple."

Brown fat is not the Holy Grail of defeating obesity. But along with a clean diet and exercise, it can

definitely be an effective weight loss aid.

Unfortunately, the general public doesn't have a clue about brown fat, and most of the mainstream medical community couldn't care less. And although the pharmaceutical industry is keenly aware of brown fat, they also understand there's far more profit in "managing" health problems than in curing them. ■



Alternatives MAILBOX

Foods for Estrogen Dominance

Question: I read your May 2014 article on estrogen dominance and have started to implement your suggestions. It has only been a couple of months but I can already tell a huge positive difference in the way I feel. I realize that your article was very detailed, but I want to do everything possible to correct this problem. Do you have any additional suggestions you can provide? — Clare J., Waco, TX

Answer: I am so happy the information in that article helped you. There are tens of thousands of women needlessly suffering from estrogen dominance and it's a shame they never receive the right help.

I can share a few other suggestions that many women seem to overlook when trying to lower their estrogen exposure.

Flaxseed

It's really important that your body has the ability to bind securely to excess estrogen so it can be removed from the body. If it "breaks free" during transit through the colon, it will re-enter the bloodstream.

Flaxseed hulls are particularly good at increasing sex hormone binding globulin (SHBG), which binds to estrogen and keeps it from attaching to cellular receptors throughout the body. Flaxseed also tends to inhibit the enzyme aromatase, which turns

testosterone into estrogen. Make sure you start with whole flaxseed and grind it fresh each day prior to use to avoid rancidity.

Cruciferous Vegetables

Other foods that act as aromatase inhibitors include the cruciferous vegetables (cabbage, broccoli, bok choy, Brussels sprouts, cauliflower, cress, kale, mustard greens, radish, horseradish, turnips, rutabaga, and kohlrabi), oysters (thanks to their zinc content), parsley, button mushrooms (these work even better when consumed with green tea), and olive oil. The cruciferous vegetables also contain DIM, a compound known to block estrogen activity.

Red Wine

While alcohol typically increases estrogen levels in both men and women, certain red wines have particular antioxidants that can help remove excess estrogen.

It seems most women opt for white wine, but Pinot, Merlot, and the Spanish and Italian Sardinian red wines are actually better choices if lowering estrogen levels is your goal.

Fermented Foods

Finally, be sure to include fermented foods and a good daily probiotic in your program. Having the wrong bacteria in your intestine cleaves (or separates) bound estrogen and allows it to re-enter circulation.

Enjoy the rest of your summer!
Until next month,

This Month Online



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