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Just In

FDA Cracks Down on Food Labeling

In an unprecedented move, the FDA issued 17 warnings to food companies for misleading labels. The companies include POM Wonderful, Beech-Nut, Spectrum Organic Products, Pbm Products, Redco Foods, First Juice, Sun-sweet Growers, Dreyer's Ice Cream, Diamond Food and Gerber. Some offending product labels conveyed nutrient content claims that did not meet the FDA requirements. For example, the term "cholesterol-free" was used even though the product contained higher levels of saturated fat than allowed when this claim is made. Other food labels referred to websites that made claims establishing the product as a "drug" that might cure, mitigate, treat or prevent disease. In some cases, websites referred to scientific studies that reported benefits linked with the food, such as lowering cholesterol or blood pressure. The crackdown sends a message to the food industry that they need to adhere to the established rules for food labeling.

U.S. Food and Drug Administration

A Sensitive Issue: Salt Restriction

Does everyone need to reduce their sodium levels, or only those who are sensitive to this mineral? This long simmering controversy rages on. While the U.S. Dietary Guidelines, National Heart, Lung and Blood Institute, National High Blood Pressure Education Program and most medical organizations say we should all reduce the sodium in our diets, some researchers pooh-pooh that idea. It's their contention that only those who are "salt sensitive" need be concerned.

What is salt sensitivity? Salt sensitivity means that your blood pressure will respond when you change your dietary salt intake, explains Paul W. Sanders, M.D., F.A.C.P., director of the Nephrology Research and Training Center at the University of Alabama at Birmingham. It appears that some of us have salt sensitivity and react directly to salt intake, while others do not.

Are you salt sensitive? So, how do you know if you're sensitive to salt? Unfortunately, a practical, reliable test for salt sensitivity has yet to be developed, although researchers are currently seeking to establish one. While scientists have

much to learn about the mechanisms of salt sensitivity, they have identified various factors that can place you at higher risk for it, such as increased age, genetic variations, how well your kidneys excrete waste, and even race—salt sensitivity rates are higher among African-Americans. According to a 1996 article in the journal *Hypertension*, 26 percent of people with normal blood pressure and 51 percent of people with high blood pressure were found to be salt sensitive. "About a quarter of otherwise healthy adults are salt sensitive and likely are unaware that they respond to increases in dietary salt intake with an increase in blood pressure," says Sanders.

Research is uncovering new information that indicates salt sensitivity carries its own risks that go beyond high blood pressure. One study reported in the 2001 issue of *Hypertension* found that salt-sensitive subjects with normal blood pressure had similar death rates as people with high blood pressure. Salt sensitivity has also been linked recently with increased risk for cardiovascular events and metabolic syndrome (a cluster of conditions that

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A Natural Approach to Sweet Slumber

Do you have trouble getting a good night's sleep? If you do, you're not alone. About one-third of Americans complain of sleep disorders—meaning any disorder that affects, disrupts or involves sleep. Insomnia (from the Latin *insomnis*, meaning sleepless) is the most common kind of sleep disorder. If you're unlucky enough to suffer from a sleep disorder, you know how debilitating it can be; it can cause fatigue, moodiness, impaired function, higher risk of injury, and anxiety during your waking hours. In fact, inadequate sleep is even connected with a higher risk of health conditions like high blood pressure, heart attack, stroke and obesity.

Prescription sleep medications are a common, effective approach to treat-

ing sleep disorders, but many people experience unpleasant side effects from them, such as prolonged drowsiness or headaches. So, it's no big surprise that a growing number of people turn to alternative therapies like herbal supplements. In a scientific survey of more than 2,500 adults published in the January 16, 2002 issue of the *Journal of the American Medication Association*, it was reported that three percent of herbal supplement consumers use them as a sleep aid.

Natural approaches for sleep. From acupuncture and Tai Chi to biofeedback and herbal supplements, a wide range of *(continued on page 6)*



The Power of Persuasion: Food Marketing Really Does Work

After a long day, you've finally settled down to a quiet evening in front of the television. A fast food commercial pops up and you feast your eyes on a glistening cheeseburger. The next thing you know, you're hungry and you've got a hankering for a burger. Is this mere coincidence or do food ads really hold the power to change the way you eat? The answer is right before your eyes; multi-million dollar advertising campaigns would not exist if they didn't work.

Food marketing success. "There's no question; marketing of food affects eating behavior. It's not just exposure to one ad; it's the cumulative exposure of many ads over time that produces a desire for a product. The foods advertised the most are the foods people say they like the most and buy the most," says

Push Back Against Food Ads

Try these tips to avoid being influenced:

1. **Don't be gullible.** Advertising will influence you, if you let it. Don't accept all marketing claims as truth.
2. **Stay on Track.** Put your vision of a healthy diet—rich in whole, unprocessed lean meats, whole grains, legumes, low-fat dairy, fruits and vegetables—on a pedestal and don't let food ads knock it down.
3. **Turn off the TV.** Avoid food triggers by leaving the room during commercial breaks and by limiting TV time.
4. **Watch out for Internet temptations.** The Internet is fertile ground for food marketing in unexpected places, from Facebook to your favorite blog.
5. **Be a Good Citizen.** Support healthy food marketing initiatives like CSPI's "Guidelines for Responsible Food Marketing".

Jennifer Harris, Ph.D., M.B.A., Director of Marketing Initiatives and Associate Research Scientist at the Rudd Center for Food Policy and Obesity at Yale University, which conducts research on the effects of food marketing.

Researchers have uncovered disturbing findings linked with food marketing, according to Harris.

- Advertising can affect a person's preference for categories of food.
- People who see more fast food commercials want to eat more fast food than those people who see fewer commercials.
- When people are exposed to food ads, they eat more food overall.
- If people see an ad before they taste a food, they like the taste of that food more.

Food marketing can also affect what you think is typical behavior. For example, people who see more fast food ads think that their neighbors eat fast food more often. "Advertising has psychological effects on what you think is normal. TV advertising has strong affects that are visual and emotional, with stories and music. When you're tired and relaxed in front of the TV, you have less ability to control your impulses," adds Harris.

The wrong kind of message. The power that food marketers wield wouldn't be so problematic if they were advertising healthy food, like fruits and vegetables. "The vast majority of ads are for unhealthy products such as fast food, drinks and snack foods," stresses Harris. And it's not just the unhealthy products being portrayed; it's an entire eating message. Recent food ads promote the message that young men should "eat like a man" with big portions of meat, and that it's a great idea to

enjoy a "fourth meal" of the day. To see samples of unwholesome food ads, visit the Yale Rudd Center's website (www.yaleruddcenter.org) and view the Worst Food Marketing Practices.

Targeting kids. Food marketing packs its most powerful punch on the young. The average kid sees 15 food commercials a day, and all it takes is one commercial to make a young person desire a particular food. Marketing also takes place in the grocery store, with TV characters on packages and shelf displays at children's eye level. Let's not forget the Internet, which is brimming with food marketing on children's websites, social media websites and advergames (online games that feature food products as active components of the game.) In fact, viewing and childhood obesity is directly related to children's exposure to commercials that advertise unhealthy foods, according to a study published in the *American Journal of Public Health* in February 2010.

The Interagency Working Group on Food Marketed to Children, a taskforce that includes the U.S. Department of Agriculture, Centers for Disease Control and Prevention, Food and Drug Administration and Federal Trade Commission, will make food marketing recommendations to Congress this summer. And the Center for Science in the Public Interest (CSPI) has developed "Guidelines for Responsible Food Marketing to Children" (available at www.cspinet.org), which include criteria for food marketing that doesn't undermine the health of children. Maybe someday the whole family will be able to enjoy a quiet hour of TV without being barged by food temptations.

—Sharon Palmer, R.D.

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The Soda Tax: Potential Weapon in America's War against Obesity

The soda tax debate has garnered big headlines in newspapers. It's only fitting that the attention surrounding America's obesity epidemic might come to rest on sugar-sweetened beverages (SSBs.) The nation's penchant for soft drinks is on the rise; we now drink on average 50 gallons per person per year, about double the amount we drank in 1977.

Sugary beverages and weight. With SSBs—from sodas and sports drinks to waters and fruit-flavored drinks—on the rise, researchers are exploring their connection with weight. It's a fact that if you drink a 12-ounce soft drink containing 150 calories every day on top of your normal diet, you'll gain weight (about 15 pounds per year.) Soft drinks are the single largest contributor of calories in the U.S., according to a 2004 study published in *Journal of Food Consumption and Analysis*.

It also makes sense that you tend to feel less full when you drink your calories rather than eat them, which can lead you to consume more calories. In one 2000 study published in the *Inter-*

national Journal of Obesity, researchers found that people don't cut back on the calories they consume when they drink soda; suggesting that you don't gain the same sense of fullness from drinking beverages than you do with eating the same amount of calories in solid food. Two systematic reviews (*American Journal of Public Health*, 2007; *American Journal of Clinical Nutrition*, 2006) that included studies investigating the effects of SSBs on health found that greater consumption of SSBs is linked with increased calorie intake, weight gain, diabetes and obesity. In 2009, the California Center for Public Health Advocacy released study findings that Californian adults who drink one or more sodas per day are 27 percent more likely to be overweight or obese than those who do not drink soda.

Taking sugary beverages to tax. In today's political climate of health prevention, policy-makers are considering a number of measures to improve public health, including taxing SSBs. Several states have already implemented soft drink sales taxes. Health

advocacy groups compare the potential of soda tax initiatives with the success of cigarette taxes. According to the Robert Wood Johnson Foundation, a New Jersey-based organization devoted to public health, research shows that relatively large increases in taxes on tobacco products are the single most effective policy approach to reducing tobacco use.

The Rudd Center for Food Policy and Obesity at Yale University reports that taxes on soft drinks can achieve two goals: raise revenue for health and nutrition programs such as healthy foods for schools, and decrease the sales of relatively unhealthy beverages. The public advocacy group, Centers for Science in the Public Interest, claims that taxing SSBs would help trim state budget deficits, consumers' bulging waistlines and health care costs. A 2008 poll found that 72 percent of New Yorkers supported a tax on SSBs when they learned that it would raise funds to combat obesity in children and adults. The debate over soda taxes is still bubbling, but one thing's for sure: it's time to cut back on sugary beverages.

You Should Know

Looking Beyond Organics to Sustainability, a Growing Food Movement

When you're shopping for tomatoes in the supermarket, which should you choose: The rock-hard, organic tomatoes from another country miles away or the conventionally grown, pesticide-sprayed tomatoes from the U.S.? These are the conundrums many consumers face when they go grocery shopping. Is organic *always* better?

Enter sustainability. Consider, in addition to organic, the concept of sustainability—the idea that a food system should maintain the health of the land, water, plants, animals, humans and natural resources for generations to come. There is a growing food movement, dubbed “beyond organic,” that's pushing for organic foods to be more closely aligned to these principles. Purchasing produce shipped long distances, albeit organic produce, belies the idea of the sustainability concept.

Back to organic basics. Keep in mind that there are many documented benefits to eating organic. Organic meat, poultry, eggs and dairy products come from animals that are given no synthetic antibiotics or growth hormones. Organic food is also produced without the use of most conventional pesticides. There are positive environmental impacts associated with organic production, which include building soil quality and lowering energy inputs to produce crops. Nutritional benefits can also be gained by going organic. In a March 2008 State of Science review commissioned by the Organic Center (a non-profit organization funded by private donors providing scientific information on organic production), researchers reviewed all scientific studies that compared the nutritional quality of organic vs. conventional crops since 1980. They discovered that organic foods were nu-

tritionally superior for 11 nutrients in 61 percent of the comparisons. These nutrients included four measures of antioxidants (total phenolics, total antioxidant capacity, quercetin and kaempferol), three precursors of key vitamins (vitamins A, C and E), two minerals (potassium and phosphorous), nitrates (higher levels are a nutritional disadvantage), and protein.

Moving beyond organics. The beyond organics ideal doesn't take away from the notion that organic production in general is better for people, communities and the environment, but it does ask consumers to look past organic labels to how foods are produced. The perfect example of moving beyond organics? Skip the long distance organic tomatoes in lieu of vine-ripened tomatoes from a local, organic farm. They'll taste a lot better, too.

Salt Restriction—Is It Only for the Salt Sensitive?

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increase risk for heart disease and diabetes.) As we wait to more fully understand this emerging field of science, experts suggest that salt-sensitive people can take practical approaches to managing their condition, such as limiting sodium and monitoring blood pressure levels.

Cutting back sodium brings benefits for all. Whether you're salt sensitive or not, you've probably heard that you should limit your dietary sodium to 2,300 milligrams (mg) per day. Yet, as many as 75 percent of Americans consume more than the suggested maximum, according to Thomas Frieden, M.D., M.P.H., director of the Centers for Disease Control and Prevention. Even more compelling, the American Heart Association published new guidelines this year calling for all Americans to reduce their daily intake of sodium to just 1,500 mg. This was previously the recommended limit for people at higher risk for cardiovascular disease.

A wealth of information suggests that lower sodium intakes benefit health. If Americans, as a whole, cut a modest amount of salt from their daily diet, there would be an estimated 155,000 fewer heart attacks and strokes annually, according to a study published on January 20, 2010 in the *New England Journal of Medicine*. This could be as beneficial to your health as quitting smoking, losing weight, and using medications to reduce elevated cholesterol and hypertension.

According to another study published in April 2009 in *PloS Medicine*, overall sodium reduction may be as effective in preventing death as dietary

Salt Skimming Tips

- ▶ Read food labels to compare sodium levels in packaged and prepared foods.
- ▶ Cut back on eating out.
- ▶ When you do dine out, take advantage of restaurant websites and posted nutrition information to avoid high-sodium menu items.
- ▶ At restaurants, ask that your food be prepared with as little salt as possible, asking for sauces and dressings to be served on the side.
- ▶ Cook at home from scratch as much as possible, cutting back on salt added to dishes and at the table.
- ▶ Limit processed foods such as snack foods.
- ▶ Reduce the use of condiments like soy sauce, dressings, mustards and sauces like bar-beque and tartar sauce.
- ▶ Limit the use of cured, processed meats like ham and salami.
- ▶ Look for reduced-sodium versions of canned goods such as soups and tomato products.
- ▶ Be aware of the amount of sodium in packaged mixes such as rice mixes and baking mixes.

strategies like eliminating trans fats and increasing fruit and vegetable consumption. And reducing sodium to about 2,000 – 2,600 mg per day improved cardiovascular health and reduced the rate of heart attacks and stroke by 25 percent, despite only small reductions in blood pressure, as was reported in a 2007 study in the *British Medical Journal*. Research even suggests that lowering your salt intake can

reduce the risk of gastric cancer, end-stage kidney disease, left ventricular hypertrophy, congestive heart failure, osteoporosis, and bloating.

But sodium restriction for all still sparks controversy in the research world. “This is still a highly contentious field. There has been suggestion that the salt-resistant individual might not benefit from salt reduction, since his/her blood pressure can sometimes increase on a low salt diet,” says Sanders. “But when considering dietary salt intake, it’s not just about the blood pressure. There are direct effects of salt intake on vascular function that are independent of blood pressure and might contribute to the excess mortality observed with increased salt intake.”

EN’s bottom line on sodium intake.

Until there is a simple diagnostic test developed for salt sensitivity, the weight of evidence leans in favor of reducing your sodium intake as much as possible. As Sanders suggests, “The days of ignoring the beneficial effects of reduced salt intake should be behind us. Salt is an acquired taste that can be modified, and the health of Americans will benefit from even modest reductions in salt intake.”

There are two complementary ways you can lower your sodium intake: Select and prepare foods with little or no salt, and reduce the amount of sodium you get from processed and prepared foods. With about 75 percent of our dietary sodium intake coming from processed and prepared foods, try our tips to skim salt from your diet (see “Salt Skimming Tips”).

—Christine M. Palumbo, M.B.A., R.D.

Unexpected Sources of Sodium

Some foods are surprisingly high in sodium, here's a sample.

Food	Sodium (mg)
French Bread, 2 ounces (1 slice)	416
Creamy Italian Salad Dressing, 2 Tbsp	250
Ready-to-eat Cereal, ¾ to 1 cup	190-230
Rice Pilaf, mix, prepared, 1 cup	780
Picante Salsa, medium, bottled, ¼ cup	310
Lite Soy Sauce, 1 Tbsp	550
Swanson Lower Sodium Beef Broth, 1 cup	440

Sources: Manufacturers labels, ESHA Food Processor SQL 10.6

Foods Surprisingly Low in Sodium

Thanks to myths and assumptions, it's easy to think of some foods as high in sodium that don't deserve that distinction. Here are a few examples.

Food	Sodium (mg)
Club Soda, 8 ounces	80
Celery, 1 medium stalk	32
Matzo crackers, plain, 1 cracker (1 ounce)	1
Health Valley Organic Potato Leek Soup, 1 cup	230
Orville Redenbacher's Smart Pop Popcorn, 1 cup	35
Cedarlane Garden Vegetable Lasagna, 5 ounces	390

Sources: Manufacturers labels, ESHA Food Processor SQL 10.6

Supermarket Italian Dishes: Ciao Healthy Meals!

Nutrition Comparison of Supermarket Italian Meals

As with all EN comparisons, this is only a sampling of what's available. Products are listed alphabetically. ✓ = EN's Picks. Selections contain no more than 400 calories (20% DV), 12 grams of fat (18% DV), 4 grams of saturated fat (18% DV), and 600 milligrams of sodium (26% DV), as well as at least 9 grams of protein (9% DV), and 2 or fewer ingredients you can't find in your grocery store.

Italian Meals	Serving Size	Calories	Fat (g)	Sat Fat (g)	Carb (g)	Sodium (mg)	Protein (g)
BOXED AND CANNED							
365 Organic Cheese Ravioli in Tomato Sauce	1 cup	180	3.5	1.5	31	730	6
Campbell's Spaghettios Meatballs	1 cup	240	8	3.5	32	600	11
Campbell's Spaghettios Original	1 cup	180	1	0	37	630	6
Chef Boyardee 99% Fat Free Beef Ravioli	1 cup	170	1.5	0.5	33	880	7
Chef Boyardee Beef Ravioli	1 cup	240	8	3	35	900	8
Chef Boyardee Jumbo Spaghetti & Jumbo Meatballs	1 cup	270	12	5	28	980	12
Hamburger Helper Italian Lasagna	1 cup*	280	11	4	27	900	19
Hamburger Helper Italian Tomato Basil Penne	1 cup**	300	11	4	31	710	20
✓ Healthy Choice Fresh Mixers Rotini & Zesty Marinara	1 pkg (197g)	300	4	1	56	600	10
✓ Healthy Choice Fresh Mixers Ziti & Meat Sauce	1 pkg (197 g)	340	6	2	56	600	15
Marie Callender Homestyle Creations Meatball Lasagna	1 pkg (183 g)	310	9	3	43	760	14
FROZEN							
✓ Amy's Bowls Baked Ziti	1 (269 g)	390	12	2	62	590	9
Amy's Bowls Pesto Tortellini	1 (269 g)	430	19	8	45	640	20
Amy's Cheese Lasagna	1 (291 g)	380	14	8	44	680	20
✓ Amy's Light in Sodium Vegetable Lasagna	1 (269 g)	290	8	3.5	41	340	15
Amy's Roasted Vegetable Lasagna	1 (278 g)	350	11	3.5	47	680	16
Bertolli Chicken alla Vodka & Farfalle	1/2 pkg (340 g)	500	25	11	40	1360	21
Bertolli Ovenbake Meals Stuffed Shells in Scampi Sauce	1/2 pkg (340 g)	600	34	19	41	1200	21
Bird's Eye Voila Chicken Parmesan	1 cup	240	8	2	31	580	10
✓ Contessa Microsteam Spaghetti Bolognese	1 cup	250	11	3.5	27	530	12
Healthy Choice Chicken Alfredo Florentine	1 (241 g)	220	4.5	2	28	560	16
Kashi Pesto Pasta Primavera	1 (283 g)	290	11	2	37	750	11
Kashi Tuscan Veggie Bake	1 (283 g)	260	9	1.5	42	700	7
Marie Callender's Grilled Chicken Alfredo Bake	1 (369 g)	500	26	14	34	1230	31
Marie Callender's Pasta al Dente Chicken Carbonara	1 (283 g)	390	13	5	45	780	22
Marie Callender's Pasta al Dente Penne Garlic Chicken	1 (312 g)	410	17	4.5	43	950	21
Marie Callender's Pasta al Dente Tortellini Romano	1 (283 g)	430	14	7	59	840	17
✓ Michael Angelo's Eggplant Parmesan	3/4 cup	160	7	3.5	14	500	11
Moosewood Broccoli & Pasta Parmesan	1 pkg (284 g)	380	13	6	52	380	14
✓ Moosewood Pasta e Fagioli	1 pkg (284 g)	230	3	0	39	180	9
Moosewood Spicy Penne Puttanesca	1 pkg (284 g)	300	10	1.5	45	300	8
Putney Pasta Chicken Alfredo Skillet	1/2 pkg (255 g)	410	19	11	35	360	22
✓ Stouffer's Lean Cuisine Cheese Lasagna & Chicken	1 (283 g)	270	8	2	33	590	17
Stouffer's Restaurant Classics Fettuccini Alfredo	1 (326 g)	630	35	12	63	840	15
Trader Giotto's Eggplant Parmesan	1 pkg (276 g)	270	16	9	18	790	16
Trader Giotto's Gnocchi Alla Sorrentina	1 cup	170	2.5	0.5	30	500	6
Trader Giotto's Penne Arrabbiata	1 cup	200	6	1	29	470	7
Trader Joe's Penne Pepperonata	1 cup	200	4.5	2	35	190	7
Trader Joe's Pesto Tortellini Bowl	1 bowl	470	23	8	58	630	18
Trader Joe's Spinach Lasagna	1 pkg (298 g)	340	18	10	26	620	20
✓ Weight Watchers Classic Favorites Lasagna Florentine	1 pkg (297 g)	290	6	2.5	44	580	15
Weight Watchers Smart Ones Bistro Chicken Parmesan	1 pkg (311 g)	290	5	1.5	35	630	26

*As prepared with 1 pound lean ground beef and 1/2 cup milk.**As prepared with 1 pound lean ground beef. Note: pkg=package, g=gram, mg=milligram, carb=carbohydrate, DV=Daily Value (daily requirement based on 2,000 calorie/day diet). Source: food manufacturer labels.

Ooey, gooey cheese, sweet tomato sauce, pasta—what's not to love? But, when you get a little help from the grocery store by buying pre-made Italian food, do you end up with more than you bargained for? We scoured the grocery store to get the down-low on more than 40 Italian meals to help you make the best choices when it comes to calorie and sodium content—and more.

Helpful Hints

For those times when nothing but a big bowl of steaming pasta will calm your cravings, consider our tips to keep your healthy eating efforts in check.

- **Keep an eye on protein.** Since many Italian dishes are pasta based, they may be low in protein. For a meal that will satisfy you now and not leave you feeling hungry in an hour, choose one containing nine or more grams of protein. But if you're dying to eat a dish that doesn't contain that level of protein, try pairing the meal with nonfat milk and a large garden salad for extra protein and fiber.
- **Watch out for your heart.** With all that cheese, it's easy for the artery-clogging saturated fat levels of these meals to climb; in fact, some meals provide half a day's worth of saturated fat. Aim for four or fewer grams of saturated fat per meal.
- **That darn salt.** Overall, many of these Italian meals aren't extremely high in sodium as are many processed foods. However, if you're not careful you can end up with more than a half teaspoon of salt—about 1,200 milligrams—in one meal (about half the recommended amount for an entire day.)
- **Watch your serving size.** Going overboard on comfort foods like these is easy, but try to control yourself. While many of the foods in our list are single serving, there are several that aren't. So if you eat the whole dish, it can result in a meal with 1000 calories, 50-plus grams of fat, and more than a day's worth of sodium.

—Heidi McIndoo, M.S., R.D.

Bedtime Story: Herbal Remedies and a Good Night's Sleep

(continued from page 1)

alternative therapies claim to help you sleep the “natural” way. Herbal supplements that claim sleep benefits include GABA (gamma-aminobutyric acid), St. John’s wort, chamomile, and the sleep aid superstars melatonin and valerian. Unfortunately, there is not a lot of science that proves they really work. In 2006, the American Academy of Sleep Medicine (AASM) issued a position statement on the treatment of insomnia with herbal supplements, concluding that there is only limited scientific evidence that they are effective sleep aids and should be taken only if approved by a physician.

Let’s take a closer look at the popular sleep aid supplements, valerian and melatonin.

Getting to the root of valerian. Valerian (*Valeriana officinalis*) is not a newcomer to the natural sleep aid movement; it’s been used as a sleep remedy for more than a thousand years. A crowning bouquet of pink-white flowers is the signature for the valerian plant, which tends to grow in marshy areas throughout Europe and Asia. But the medicinal power of valerian hides below the ground in its roots, which produce a disagreeable odor that can only be compared to stinky feet. Scientists don’t completely understand how valerian works, although some evidence suggests that it may affect the neurotransmitter GABA in the central nervous system, which is the same way many prescribed sleep aids work.

Following its historical use in ancient medicine, valerian is still commonly used as an over-the-counter treatment for insomnia in Europe. Yet, the science does not yet definitively prove valerian’s role in treating insomnia. In a June 2007 systematic review published in *Sleep Medicine Reviews*, researchers concluded that valerian is safe, but probably not effective for treating insomnia. The field of valerian research is a complicated stew of conflicting results. In one well-designed study published in *Psychopharmacotherapie* in 1996, participants taking 600 milligrams of valerian one hour before bedtime did not report sleep improvements immediately, but by the 28th day, 66 percent of study subjects rated its effectiveness as good or very good.

Yet, other less well-designed studies found immediate sleep benefits for

EN’s Expert Tips for a Natural Night’s Sleep

EN’s sleep expert, Donna Arand, Ph.D., offers these tips for peaceful sleep the natural way.

- ▶ **Establish Routines.** Go to sleep and wake up at regular times.
- ▶ **Exercise Daily.** It’s good for your overall health and it can improve your sleep quality.
- ▶ **Catch Some Rays.** Get about 20 minutes of natural sunlight every day to reinforce your circadian rhythm so that you can be alert during the day and rest at night.
- ▶ **Watch What You Drink.** Ban caffeine and alcohol at night.

valerian, and four more recent studies found no sleep benefits at all. In a web-based, randomized 2007 trial of valerian in *PLoS ONE*, researchers found modest sleep benefits linked with valerian. “AASM has done a thorough review on all of the literature, and their conclusion is that there is limited evidence that valerian may be effective in treating insomnia. The valerian research studies aren’t strong, but there is some support that it seems to help some people,” says Donna Arand, Ph.D., who is board certified in sleep medicine, a fellow of AASM, Clinical Director of Kettering & Sycamore Sleep Center, and Research Associate Professor at Wright State University Boonshoft School of Medicine in Ohio. On the positive side, few adverse effects have ever been reported for valerian, though studies have not evaluated any potential long-term health risks.

Melatonin and the sleep cycle. Melatonin doesn’t come from an herb or plant—it’s a hormone that’s naturally produced by the pineal gland in your brain. Your body uses melatonin as part of its normal control of the sleep-wake cycle, also known as circadian rhythm. The pineal gland makes serotonin and then turns it into melatonin when your exposure to light decreases. When you’re in a completely dark room your body produces more melatonin, but when the light increases the melatonin levels drop.

The science on melatonin and sleep disorders is replete with conflicting research. In a 2004 USDA Agency for

Health Care Research and Quality report on melatonin for treatment of sleep disorders, the scientists concluded that current evidence suggests it is not effective in treating most primary sleep disorders with short-term use. “The studies on the effectiveness of melatonin in treating insomnia are contradictory at times. It appears that melatonin may be more helpful in treating circadian rhythm problems,” summarizes Arand.

A 2001 *Cochrane Database of Systematic Reviews* found that melatonin supplements were helpful for those with insomnia related to jet lag. In addition, sleep improvements have been seen in specific conditions, such as sleep disorders in the blind, people withdrawing from sleeping medications, children with developmental disabilities or chronic sleep problems, and people with diabetes, schizophrenia, Alzheimer’s or Parkinson’s diseases, or who are hospitalized. Arand reports that short-term melatonin appears to be safe, although long-term trials are needed to determine if there are any health risks for longer periods of use.

At the end of the day. The science on herbs for sleep looks a little gloomy, but that doesn’t mean it’s a complete wash. Arand stresses that there is a dearth of good quality studies for sleep supplements. It could be that future research will paint a more positive picture for such natural remedies. And what about the countless people who swear by herbal sleep remedies? Even though benefits could be attributed to the “placebo effect” (about 30 percent of people report benefits when they take a placebo [an inert medication]), Arand suggests that people continue to use their supplements if they feel that they work for them.

Keep in mind, however, that the sale of herbal supplements is a multi-million dollar industry and that the safety and accuracy of the information that appears on these products is not as tightly regulated as it is for drugs. Supplements may be marketed and sold without prior approval from the Food and Drug Administration. Before you try herbal sleep remedies, check with your physician and try “EN’s Expert Tips for a Natural Night’s Sleep” first.

—Sharon Palmer, R.D.

Sample a Semi-vegetarian Lifestyle with a Flexitarian Diet

Q What does it mean to be a flexitarian, and is it a good thing?

A Today's buzzword is flexibility, which also applies to eating styles. A flexitarian is someone who is a flexible vegetarian or a semi-vegetarian, one who limits animal protein intake without giving it up completely. This lifestyle is becoming more popular as people become more health-conscious, as well as eco-conscious, considering that livestock production is responsible for an estimated 18 percent of greenhouse gas emissions.

The best of both worlds. The debate about whether the vegetarian way is the healthiest way to live rages on. In a study published in the April 2006 issue of *Nutrition Reviews*, vegetarians were found to have a lower body weight, and also reduced risk of hypertension, cancer and diabetes. In contrast, some evidence suggests that vegetarianism may be linked with increased risk of osteoporosis. Vegetarians, especially vegans, were found to have lower bone mineral density than non-vegetarians, according to a study in

the October 2009 *American Journal of Clinical Nutrition*. It can be challenging for vegetarians and vegans to get important nutrients such as protein, iron, zinc, vitamin B12 and omega-3 fatty acids. The flexitarian diet is one way to marry the benefits of eating less meat and more plant-based foods.

Sampling flexitarianism. If you'd like to give this lifestyle a try, take the advice of Dawn Jackson Blatner, R.D., L.D.N., dietitian and author of *The Flexitarian Diet* (McGraw-Hill, 2008.) Start by going for your own flexible eating level. If you're a beginner, you might want to go meatless only two days per week; more advanced flexitarians might enjoy up to four meatless days per week. The key to flexitarian success is to consider meat as a condiment in your dishes, not as the main event. And it's not just about what you don't eat, it's about what you do eat—a variety of healthy plant foods such as whole grains, seeds, nuts, fruits and vegetables. Blatner's book also includes delicious vegetarian recipes to put flavor and appeal into meatless meals.

Remember, whatever diet you decide to follow—whether it's vegetarian, flexitarian or omnivorous—make sure that it's well-balanced and provides good sources from all of the major food groups: protein (meat, legumes, nuts, seeds, soy foods), dairy (or high-calcium foods), whole grains, fruits and vegetables.

EN's Tips for Flexitarian Eating

- ▶ Plan your menu, determining which days you'll go vegetarian.
- ▶ Don't get bored; discover delicious recipes in vegetarian cookbooks, websites and magazines.
- ▶ Plan your meals around seasonal produce. For example, if the fresh spinach looks lovely, cook up a spinach-feta pie.
- ▶ Include wholesome whole grains on your table, such as brown rice, spelt and quinoa.
- ▶ Make the most of ethnic vegetarian cuisine, from Mexican meatless fajita to Indian vegetable curry.

Heirloom Vegetables: Historically and Nutritiously Precious

Q What are heirloom vegetables?

A Heirloom vegetables, also known as heritage vegetables, have taken off in popularity. These timeless varieties, often found in quirky shapes, sizes and colors, are readily found in farmers' markets, backyard gardens and upscale restaurants. Robust flavor is only one reason for the rekindled interest in heirlooms. Whether you're a foodie or not, it's hard to resist heirlooms' one-of-a-kind charm, rich nutrients and colorful histories.

The best hand-me-downs. Heirlooms are vegetable varieties introduced before 1951, when the first hybrids were commercialized (though many varieties are much older, with centuries-old provenance from Europe, Asia and Africa). Passed down through the generations, the seeds were saved by families much like great-grandmother's vintage wedding gown. There are over 25,000 heirloom vegetable varieties known today.

Most every modern vegetable crop has an heirloom predecessor. Truly, you

don't know beans, lettuce or corn until you've experienced the heirloom varieties. Unlike the typical hybrid vegetables from the supermarket, heirlooms are open-pollinated cultivars, meaning they grow from seed and come back just the same, or "true to type." Hybrids, on the other hand, are the result of two or more varieties of cross-pollinated plants that can't continue to reproduce on their own. They are bred to maximize consistency, yield, and such traits as a tough skin to resist mechanical picking, long distance shipping and pesticide application. The repeated reproduction of these traits leads to modern monoculture farming (growing only one crop variety over a large area), which limits biodiversity and has led to soil-mineral depletion that can affect the nutrient quality of crops.

Preserving powerful nutrition. Not only are heirlooms rich in flavor and history, some studies suggest they may be nutritionally superior to hybrids, possibly due to the shift in focus to large-scale production of hybrids. In a study at the

University of Texas at Austin (published in the December 2004 issue of the *Journal of the American College of Nutrition*) researchers studied 43 crops from 1950-1999 and found significant declines in six nutrients, including protein, calcium, phosphorus, iron, riboflavin and ascorbic acid during that period.

Plant your own heirloom tomatoes, squash and eggplant and enjoy them ripe from the vine, warm from the sun and naturally aromatic. A walk through the farmers' market can recreate this experience. Eaten raw in a salad, roasted on the grill, or pureed in a soup, the array of colors, flavors, and textures of our treasured heirloom vegetables cannot be matched.

Write to us if you have a question. We'll answer those of most interest to our readers. We regret, however, that we cannot personally respond. Send to:
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Microgreens Become a Macro Trend to Follow

The Folklore. A relative newcomer to the produce scene, microgreens have sprouted into quite the culinary trend. Like many young stars, microgreens got their start in Southern California in the mid 1990s. What began as a few basic microgreen varieties like arugula, basil, beets, and cilantro, has burgeoned into dozens of varieties.

The Facts. Thin and delicate, microgreens are the tiniest form of edible greens, micro-versions of salad greens, herbs, vegetables and edible flowers. Though short on height (at a mere one to two inches), microgreens are tall in flavor. Don't confuse them with sprouts, which are harvested just after a seed's germination; microgreens are the second phase of a seed's development. They have established roots and are harvested at the opening of the first leaves, from 10 to 21 days after the seeds are sown. Their rainbow hues—shades of green to fuchsia—denote their cache of health-protective plant pigments. Depending on the microgreen variety, they provide varying amounts of vitamins A and C, minerals and fiber.

The Findings. Microgreens are such a new culinary trend, that the science has yet to catch up with their health benefits, according to Gene Lester, Ph.D., USDA plant physiologist. Many varieties are immature versions of leafy greens, but others are the young leaves of vegetables like radishes or broccoli, thus their nutrition profile does not necessarily match that of the mature vegetable. For example, the nutritional value of microgreen radishes, which consist of young radish top leaves, doesn't equal the nutritional value of the mature radish root. However, there is some evidence that young leafy greens may be higher in nutritional quality than mature leaves. Lester points to a recent study he conducted on spinach, in which he discovered that younger leaves generally have higher levels of vitamins C, B9 and K1, and the carotenoids (plant pigments with antioxidant action) lutein, violaxanthin, zeaxanthin and beta-carotene than more mature leaves (*Journal of Agriculture and Food Chemistry*, January 2010.)

The Finer Points. Microgreens are all the rage in restaurants, and are becoming

more available in specialty markets. They are easily grown at home in a backyard or windowsill. Experiment with an array of flavors, textures, and colors of micros like fennel, arugula or chrysanthemum. Then enjoy them in a salad, sandwich, burger or pizza, and definitely use them as a garnish or topping on most any dish. Whatever the mix, microgreens deliver plenty of healthy nutrients with refreshing punch and pizzazz.

—Sharon Palmer, R.D.

Notable Nutrients

1 cup microgreens*

Calories: 5

Vitamin A: 3000 International Units (60% DV)

Vitamin C: 9 milligrams (15% DV)

Calcium: 40 milligrams (4% DV)

Iron: 4 milligrams (2% DV)

Dietary Fiber: 1 gram (4% DV)

(DV=Daily Value)

*Based on Trader Joe's Organic Microgreens, containing organic mizuna, tatsoi, red mustard, purple kohlrabi, red cabbage, radish, kale, broccoli, collards, celery, arugula, beet tops, amaranth, bok choy.

EN's Own Roasted Pepper Bruschetta with Microgreens

2 large red bell peppers

2 Tbsp extra virgin olive oil

Pepper, freshly ground, as needed

10 ½-inch slices Italian bread or baguette

2 large cloves garlic, peeled, cut in half

3 ounces soft goat cheese

1 cup microgreens

1. Preheat broiler to 400 F. Roast whole peppers on a baking sheet until blackened (15 minutes.) Cool, peel, cut into thin strips and toss with ½ Tbsp olive oil and pepper. Place bread on baking sheet and toast lightly under broiler until golden brown.
2. Rub each bread slice with cut garlic clove, drizzle with remaining olive oil, spread with goat cheese, top with roasted peppers and garnish with microgreens. Makes 10 servings.

Nutritional information per Serving: 79 calories, 3 grams (g) protein, 5 g fat, 7 g carbohydrate, 1 g fiber, 92 milligrams sodium.

- **Soy linked with lower risk of lung cancer in men.** While plenty of research has explored soy's connections with women, a recent Japanese population-based study also included 36,177 men along with 40,484 women aged 45-74 years. Participants had no history of cancer at the beginning of the study, and researchers found that during 11 years of follow-up soy isoflavone intake was associated with a lower risk of lung cancer in non-smoking men, as well as women.

American Journal of Clinical Nutrition, January 2010

- **Art imitates life in portion sizes.** Cornell University researchers analyzed the portion sizes depicted in 52 paintings over the past millennium of the most famous meal ever painted, "The Last Supper". They discovered that over the past thousand years the main dish increased by 69.2 percent, bread increased by 23.1 percent and plate size increased by 65.6 percent.

International Journal of Obesity, online March 2010

- **Orange juice reduces oxidative stress after a high-fat, high-carb breakfast.** In this study, normal-weight adults ate a breakfast of an egg muffin sandwich with hash browns that contained 900 calories, 81 grams (g) of carbohydrates, 51 g of fat and 32 g of protein. One group added orange juice, a second group added a glucose drink and a third group added water. Orange juice reduced the levels of oxidative stress produced as a result of the meal.

American Journal of Clinical Nutrition, March 2010

In Coming Issues

- **The Science behind Speeding Metabolism.** Can you eat your way to a faster metabolism? We'll give you the latest research.
- **Working Out Sports Drinks.** Discover which drinks won't derail your fitness plan.
- **The Best of the Farmers' Market.** EN dishes out healthy, delicious tips for making the most of your local farmers' market.