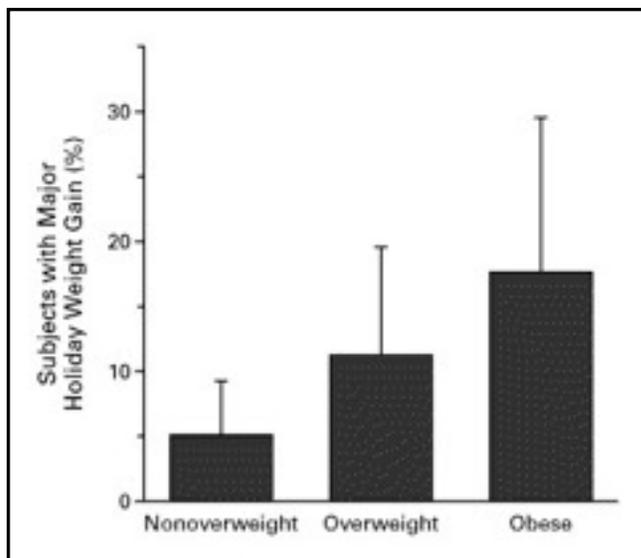


ISAGENIXSCIENCE

Health During the Holidays

Celebrate the season and beat weight gain with protein and fiber



Percentage of subjects (101 nonoverweight, 54 overweight, and 40 obese) with major holiday weight gain. Ref: Yanovski et al., 2000.

Between mid-November and early January is a wonderful time of year when holidays bring families together to enjoy traditions, festivities, and feasting.

Unfortunately, studies suggest that it may also be the time of year that contributes a significant amount to total annual weight gain, which is not lost later. In fact, one study showed that the higher BMI folks are, the higher the likelihood of gaining even more holiday weight gain (1).

Recent research offers suggestions on how to make the most of the holiday season while still maintaining a healthy weight. Eating meals and snacks with a higher percent of calories from

protein, especially at breakfast, may be all it takes to help control appetite and keep us from diving into pie and other holiday goodies. Plus, eating the right type of protein at the right time can stave off hunger and overeating. Lastly, getting daily requirements for dietary fiber can prevent accumulation of visceral fat (intra-abdominal adipose tissue) linked to chronic disease.

Researchers from the University of Sydney in Australia, Cambridge University in the United Kingdom, and Massey University in New Zealand tested the "protein leverage hypothesis" (1) on lean men and women by feeding them

Suk's Letter

It's estimated that a large amount of annual weight gain occurs from mid-November to January. Winter also brings greater risk of vitamin deficiencies and compromised immunity that may jeopardize health. Isagenix can assist you in staying well this season:

- IsaLean Shake helps optimize body composition
- FiberSnacks! and SlimCakes as healthy snacks with fiber
- Isamune Plus with Zinc provides immunity support
- Ageless Actives (vitamin D and resveratrol) adds metabolic support
- Cleanse Days compensate for overeating calories

Live well and adventurously!
- Suk Cho, Ph.D.

foods with similar palatability but with macronutrient composition disguised under *ad libitum* (all you can eat) conditions. They studied the subjects over four-day periods with fixed menus containing either 10, 15, or 25 percent calories from protein.

This hypothesis proposes that when faced with a foods lacking sufficient protein—a more hunger-satisfying nutrient—people compensate by overeating.

The scientists noted that subjects on a 10 percent protein diet consumed 12 percent more calories over the four days, mostly in form of savory snack foods. The increase in calories was evident from the first day of the trials and persisted throughout the study.

If the subjects on the 10 percent protein diet kept at it, without an increase in energy expenditure from increased activity, they'd likely put on about 2 pounds of weight per month, the scientists report.

The study also found that the subjects fed the lower protein (10 percent) diet reported they were hungrier after breakfast in comparison to those fed a higher (25 percent) protein diet (1).

“In our study population a change in the nutritional environment that dilutes dietary protein with carbohydrate and fat promotes overconsumption, enhancing the risk for potential weight gain,” the authors wrote.

“Protein Leverage Hypothesis”

When placing blame on contributors to the increasing obesity epidemic in the United States, the usual suspects that come to mind are easy access to highly palatable, calorie-rich foods and too little time spent exercising. This study adds to evidence that a reduced percentage of quality protein in processed foods may also contribute to overeating and weight gain including over the holiday season.

The protein leverage hypothesis is not far-fetched—studies in other species including non-human primates, pigs, rodents, birds, fish, and insects all consistently show that when the percentage of protein is reduced in the foods they eat, they compensate by eating more calories from non-protein sources (carbohydrate and fats).

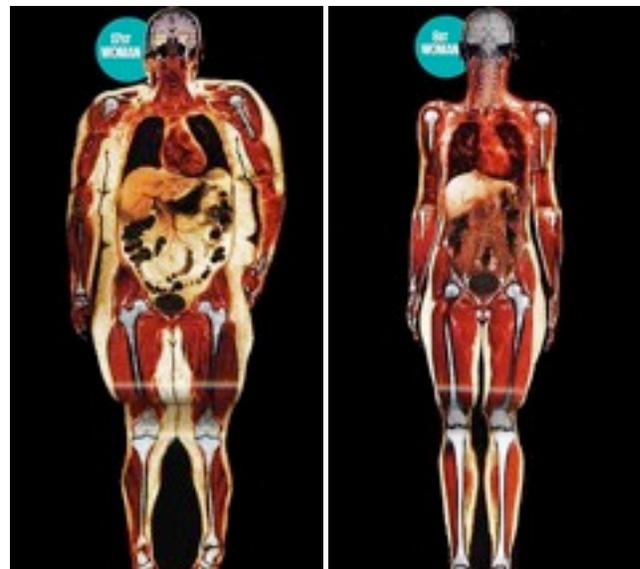
Between 1961 and 2000, the protein percentage in Americans’ diets declined from 14 percent to 12.5 percent. Although it’s less than a 2 percent drop, it was paired alongside a 14 percent increase in total caloric intake from fat and carbohydrate.

Fiber for Fighting Visceral Fat

Just getting enough fiber from foods can help curb overeating. Recent research (3) shows that an association exists not only between increased intake of fiber and reduced body fat, but also between increased dietary intake of soluble fiber and reduced accumulation of visceral fat.

Published in the journal *Obesity*, researchers at Wake Forest University School of Medicine reported that for every 10 gram increase in soluble fiber intake there is an association with a 3.7 percent decrease in visceral fat.

The study explored the effects of lifestyle factors—diet, physical activity and smoking—on fat that builds around the midsection. Over the course of five years, the researchers collected data from 1,114 African-American and Hispanic men and women. Of the factors observed, the two that reduced belly fat the most were engaging in vigorous physical activity and increasing soluble fiber intake from beans, vegetables, and fruits.



Magnetic resonance images of two women, one with obesity on the left and one with a normal weight on the right, clearly show how excess body fat (in yellow), especially visceral fat (around the middle), puts strain on internal organs such as the heart. Ref: Nat Geo 2004

Why Be Concerned about Visceral Fat?

Fat around the midsection builds up fatty deposits around internal organs and has been shown to promote chronic diseases such as heart disease. Subcutaneous fat, the other type of fat that accumulates in the body deposited just under the skin does not create the same health concerns that visceral fat does.

As people struggle with holiday weight gain and find themselves building that “ring” of fat around the

middle, researchers from this study conclude that “increasing the intake of dietary fiber may be a possible approach for prevention.”

Isagenix Products

Isagenix products offer a convenient way to enjoy hunger-satisfying protein and fight disease-causing belly fat with filling fiber—and, during the festivities, they can make a difference in helping control appetite and combat the urge to overeat.

IsaLean Shake is a complete meal replacement that contains only 240 calories, of which more than 35 percent comes from high-quality protein. The high-protein shake is clinically shown to promote healthy weight loss, help maintain or build muscle when combined with exercise, and help keep blood sugar at healthy levels. The nutrition provided by IsaLean Shake is also available in IsaLean Bars and Soups. To help bust stubborn weight-loss plateaus, add one scoop of Vanilla IsaPro whey protein to one and a half scoops of IsaLean Shake, or mix it into recipes. Whey protein is ideal for boosting fat burning and maintaining lean muscle.

In addition, Isagenix seeks to change the way people think of high-fiber products from the typical opinion that they taste like wood or cardboard. SlimCakes, for example, make it hard to believe that the cookie-like products provide 5

grams of fiber each. FiberSnacks! provide 6 grams of fiber each and could easily compete with any candy bar in terms of flavor. With choices like these, getting enough fiber is a cinch.

Carefully watching percent of protein and fiber in foods while combining use of these products is a powerful strategy for avoiding holiday and overall weight gain.

Tips to Avoid Overeating During the Holiday Season

- Make sure protein represents 15-25% of calories of every meal.
- Get the right type of protein (whey), at the right dose (20-30g), at the right time of day (breakfast and lunch).
- Meet recommendations of 20 to 35 grams of fiber daily.

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TIME TO DOSE UP ON “D”

Thought about your vitamin D status lately? Now that winter is here and the days are shorter in the Northern Hemisphere, the sun’s UV rays weaken to a point that they’re not strong enough to activate vitamin D production in skin. Because of the sun being too high and the angle too oblique during some of the winter months for certain places, it becomes impossible to glean any vitamin D benefit.

It’s about this time when vitamin D levels begin to plummet for many of us. Michael Holick, MD, PhD, of Boston University Medical Center has been studying vitamin D for more than 35 years and defines this principle even more in his book *The Vitamin D Solution*. He writes that “where you live” can indeed determine whether or not you can make vitamin D from sun exposure. For example,



Those living at latitudes above 37 degrees north in the U.S. make little if any vitamin D during winter months. Credit: Harvard Health Letter.

people living at mid-latitudes (about 30 to 50 degrees) in San Francisco or New York City make

virtually no vitamin D from November to February. Similarly, people living in high latitudes (about 50 to 75 degrees), or as north as Anchorage, Alaska or Stockholm, Sweden, can't make any vitamin D from October to March.

Vitamin D levels can be dangerously low for many in northern countries. Fortified foods such as milk boost intake; however, recent research suggests dietary sources are insufficient for maintaining blood concentrations of active circulating vitamin D (25-hydroxy(OH)₂D) above the recommended 30 ng/mL.

Earlier this year, the Endocrine Society issued a "Task Force" led by Dr. Holick to release new clinical practice guidelines intended to help curtail widespread vitamin D deficiency with extra focus on care for populations who are most at risk. The guidelines follow on the coattails of last November's updated vitamin D recommendations by the Institute of Medicine (IOM), which several experts have condemned as conservative and inadequate. In response, the "Task Force" led by Dr. Holick reexamined the evidence and compiled new recommendations with a more therapeutic emphasis. The guidelines call for screening populations at risk for vitamin D deficiency and correcting deficiencies with supplementation at levels high enough to maximize effects on calcium, bone, and muscle metabolism.

The Task Force recommends maintaining blood concentrations of 25(OH)₂D (the active circulating form of vitamin D) consistently above 30 ng/mL. Circulating blood levels below 30 ng/mL are regarded as "insufficient" and below 20 ng/mL as "deficient". To assist at-risk individuals with meeting blood levels above 30 ng/mL of circulating vitamin D, the Task Force issued new dietary intake recommendations that differ significantly from those given by the IOM:

- Infants ages 0-1: 400-1,000 IU/day
- Children ages 1-18: 600-1,000 IU/day
- Adults ages 18+: 1,500-2,000 IU/day
- Pregnant or nursing women under 18: 600-1,000 IU/day; 18+: 1,500-2,000 IU/day
- Children and adults with obesity: at least 2-3 times the recommendation for their age group

The Task Force also increased Tolerable Upper Limits for vitamin D to substantially higher levels than what the IOM recommended last fall. They recommend higher dosages of vitamin D as clinical strategies for patients with vitamin D deficiency, malabsorption syndromes, and patients on medications that may affect vitamin D metabolism. Patients with these conditions should work with their personal physicians to determine what dosage is right for them.

"If a normal adult isn't taking at least 1,500 IU to 2,000 IU... then we know you're vitamin D deficient." — Dr. Holick

During an online news conference, Dr. Holick asserted that 30ng/mL should only be regarded as a minimum for maintaining a healthy body. The ideal range for circulating blood levels of vitamin D in both children and adults, he said, should be between 40 to 60 ng/mL.

In July 2010, Dr. Holick told Isagenix in an interview, "If a normal adult isn't taking at least 1,500 to 2,000 IU from supplements and diet—and you can't really get it from your diet—then we know you're vitamin D deficient."

Winter is a long time to go without a vitamin-like hormone as critical as vitamin D, which the scientific literature consistently shows has a heavy hand in bone modeling, muscle function, immune health, heart health and overall healthy aging. The good news is that if you're already taking Ageless Actives™ or Essentials for Men or Women™, then you will get the 2,000 IU per day that is recommended to keep vitamin D at concentrations high enough for optimal health.

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JUST IN TIME FOR WINTER... ISAMUNE PLUS WITH ZINC

One in five Americans loses a day or more of work or school during the winter season — the risk of which is increased when stress, poor diet and lack of sleep enter the picture. Worried that feeling miserable is becoming an annual tradition?

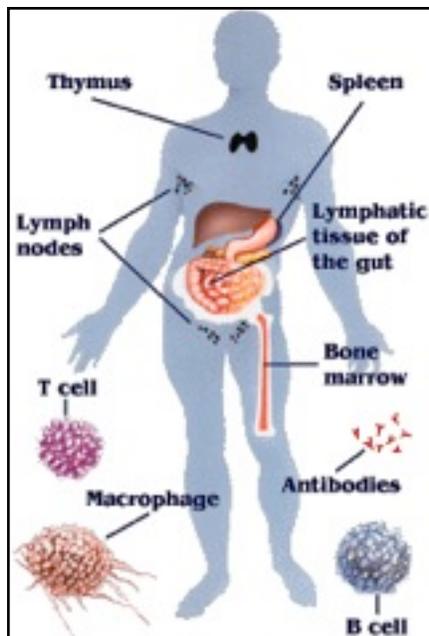
New Isamune® Plus with Zinc is one way to help keep immune cells up to the task. Our new formulation combines zinc with bovine colostrum, Echinacea and Reishi mushrooms. Together, these ingredients work synergistically to guard against and help fight off “foreign invaders” in the body.

The human immune system is a remarkably complex network of cells, tissues, and organs that act as the body’s defense against infection and disease. As a whole, the immune system comprises the skin, thymus, spleen, bone marrow, white blood cells, complement system, cytokines, and hormones. Each individual component plays an integral part in protecting us against microbes, toxins, and viruses. Many different cell types are involved in the immune system including B and T cells, macrophages, granulocytes, and hematopoietic stem cells.

In particular, white blood cells (macrophages) can engulf invading bacteria or viruses, or they can secrete cytokines to regulate the intensity and duration of an immune response—all designed to protect us from illness. T cells have a special role in the attack on these “foreign invaders” or “antigens” by turning on the production of specific antibodies,

those Y-shaped proteins that bind specifically to antigens present on the bacterial or viral surface. Next, complement proteins are activated to “complement” the action of antibodies. Together, they signal the targeting and destruction of these pathogens by digesting their cellular components.

To maintain the proper function and integrity of this immunological defense, the



The immune system is a complex network of cells, tissues and organs requiring essential nutrients such as zinc to function properly.

immune system’s complexity requires a healthy diet containing numerous essential vitamins and minerals that act in concert. Staying healthy can also use a little help from a few supplements in Isamune Plus with Zinc to keep the immune system primed to fight against foreign invaders on a daily basis.

Zinc

Zinc is a mineral involved directly in host defense. Zinc acts on thymulin, a hormone that promotes T-cell function and differentiation. A compromised immune response and increased oxidative stress is observed in humans and other animals deficient in zinc (1-7). A mild zinc deficiency causes an imbalance in T-helper cells and interferes with activities of interleukins, which are signaling proteins that regulate the immune response (3). Isamune Plus with Zinc contains zinc shown to help maintain reserves to guard against a compromised immune system (2).

Colostrum

Bovine colostrum is the first milk produced by a cow after giving birth and has a distinct composition from the regular milk produced afterwards. Colostrum provides the mother an immediate ability to transfer immune-protecting substances to the newborn. Colostrum contains several “immune factors” including: immunoglobulins, growth factors, cytokines, proline-rich polypeptides and lactoferrin (8-17). Studies suggest that supplementation with colostrum may strengthen the immune system in humans (8-10). Isamune Plus with Zinc provides each of the important components in colostrum: immunoglobulins, PRPs and lactoferrin.

Echinacea

Echinacea (*Echinacea purpurea*) is a flowering plant from the daisy family, Asteraceae, and is endemic to North America. The perennial

plant's roots and leaves are traditionally used by Native Americans for their medicinal qualities. In recent randomized controlled trials, scientists found that a beneficial effect on the immune system was attributable to echinacea (21-23).

Reishi Mushroom

Reishi Mushroom (*Ganoderma lucidum*) is a woody mushroom highly regarded in traditional medicine and long consumed for its immune-modulating and overall health benefits. It's unique in being consumed for its medicinal, rather than its nutritional, value (20-27).

In Japan, reishi mushroom is consumed either as a tea or powder, and is reputed to increase youthful vigor and vitality. One study showed significant beneficial changes in immune cells when given the mushroom extract for 12 weeks (24). Similarly, another study found that reishi mushroom stimulated immune system regulation (27).

Why a Spray Formula?

Isamune Plus with Zinc is scientifically advanced to deliver immune-building compounds in a convenient spray (now optimized) to instantly go to work on guarding the body against foreign invaders. The spray allows for easy-and-quick administration and immediate delivery of immune-supporting ingredients. Isamune Plus with Zinc is recommended in the amount of five sprays per day to maintain a functioning and healthy immune system.

Isamune Plus with Zinc

- Supplies critical zinc. Even a mild deficiency of zinc can compromise the immune system.
- Supplies ingredients that work synergistically to bolster the immune system.
- Comes in a convenient spray

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RESVERATROL MAY PROVIDE EFFECTS SIMILAR TO EXERCISE AND EATING LESS



Wouldn't it be nice if you could enjoy the health benefits of losing weight without even trying? While an unlikely scenario, researchers continue to work to discover how to make it reality. According to a new study published in the November issue of *Cell Metabolism*, (1), a daily dose of resveratrol could offer similar benefits of hitting the gym or cutting calories.

"Here, we show that resveratrol supplementation in humans exerted favorable metabolic adaptations that in many aspects mimic the effects of calorie restriction and/or endurance training," wrote the researchers led by Prof Patrick Schrauwen of Maastricht University in the Netherlands.

The study followed 11 obese but otherwise healthy men for two 30-day trials separated by a four-week washout period. One trial involved one group of participants receiving a daily dietary supplement containing 150 milligrams of resveratrol and the other receiving a daily placebo. Then the groups switched so that those taking resveratrol were then taking the placebo and vice versa.

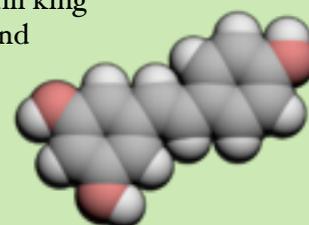
To evaluate changes in metabolism, the researchers measured metabolic rate, blood sugar levels, blood pressure, fat storage, and fat burning. Results showed resveratrol improved insulin sensitivity and helped maintain lower blood sugar and triglyceride (fat) levels. Both resting and sleeping metabolic rate were reduced by resveratrol, indicating improved metabolism.

Previous research in animals and humans has indicated that the substance present in grape skin might "soften" the effects of aging and support

longevity as calorie-restriction has shown to do (2-4). The researchers wrote that this is the first, randomized, double-blind, crossover study that examined overall metabolic effects of resveratrol in humans.

How resveratrol and calorie restriction are believed to work similarly is that they both stimulate genetic expression of SIRT1, a protein that improves metabolic function and also keeps cells healthy when under stress. This was confirmed in the study by the researchers who took muscle biopsies and found that those taking resveratrol did have increased SIRT1 levels.

As promising as these results are, and as nice as it would be to lose weight without trying, taking resveratrol does not mean giving up an exercise routine or healthy-eating habits. These two lifestyle factors are still king when it comes to losing and maintaining weight and staying healthy. But it's nice to know you might be able to boost the effects even more by simply including resveratrol (found in Ageless Actives) in your daily routine.



Resveratrol is well-known as a molecule for activation of SIRT1.

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CLEANSE DAYS VERSUS HOLIDAY WEIGHT GAIN



Worried you might eat too much during the holiday season? Following the festivities with one or two Cleanse Days is an effective way to get back on track by compensating for the extra calories eaten. Results from a recent study show just that.

In a recent randomized trial on 107 middle-aged women who were overweight or obese, researchers compared intermittent calorie restriction—similar to Cleanse Days—with continuous calorie restriction (dieting). It was one of the first human trials to ever compare the two weight-management strategies. At the end of the six months, the researchers found that both groups were comparable in total weight loss and improvements in several risk markers for type 2 diabetes, cardiovascular disease, and several cancers. However, *the intermittent calorie restriction group appeared to have greater improvements in insulin sensitivity and oxidative stress markers.*

The study assigned the women to consume either a continuous calorie-restricted diet (25 percent below estimated requirements daily) or a diet that restricted calories by 75 percent for two days a week. The other five days followed the estimated

requirements for weight maintenance.

The women in the calorie-restricted group followed a Mediterranean-type diet. The diet contained 30 percent calories from fat (most being monounsaturated fat like olive oil, as found in IsaLean Shake), 45 percent calories from low-glycemic carbohydrates, and 25 percent calories from protein. The intermittent calorie-restriction group followed the same diet, but for two days consumed only about 492 to 541 calories each day—that’s not quite as low in calories as the average Cleanse Day of about 150 calories daily, but it’s pretty close.

Cleanse Day in 3 Easy Steps

1. Drink 4 oz of Cleanse for Life (liquid or powder) four times daily with or followed by purified water.
2. Drink at least eight 8 oz glasses of purified water
3. Take 2 Natural Accelerators and up to 6 *Isagenix Snacks!* per day to curb cravings and boost fat burning.

Optional: Drink 1-2 oz Ionix Supreme and take Ageless Essentials Daily Pack for extra benefits.

The increased insulin sensitivity from intermittent calorie restriction may be related to the significant decrease of insulin in the body during a one-or-two-day reduced intake in calories, which was followed by regular calorie intake.

The authors wrote that intermittent calorie restriction

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“may be offered as an equivalent alternative to” dieting “for weight loss and reducing disease risk.”

For those on an Isagenix system, these findings support the importance of Cleanse Days. They may offer similar if not more benefits than regular dieting and weight loss. Unlike normal fasting or intermittent calorie restriction, drinking Cleanse for Life also supports nutritional, antioxidant protection, and detoxification to the body in form of its herbs, vitamins, and minerals.

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