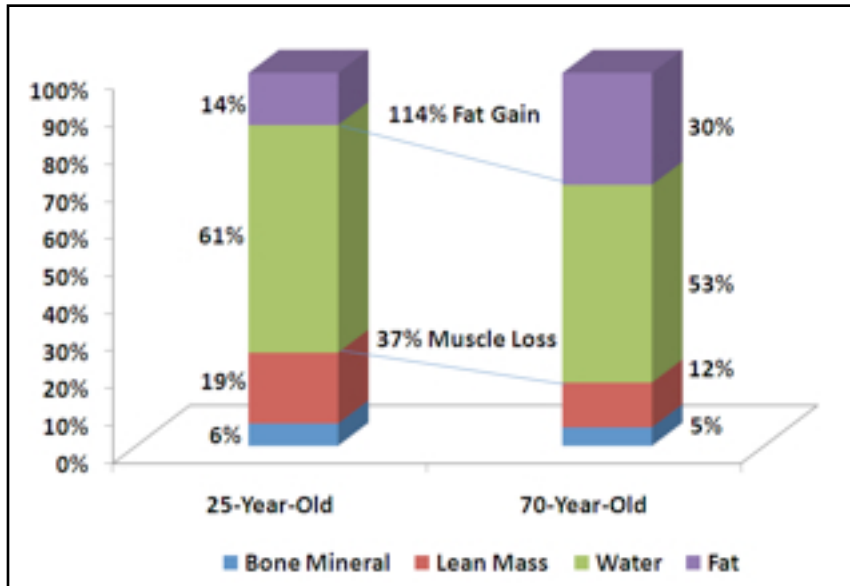


ISAGENIX SCIENCE

The Power of Protein

Why health and anti-aging starts with a serving of IsaLean Shake



The effect of age on body composition. (Adapted from Schock et al. 1984)

Did you know that how much protein you get *and when you get it* are vital for keeping and building lean body mass while slowing down the aging process?

New research shows that eating protein at the right times, particularly at breakfast, is primary for sparking protein synthesis and maintaining or gaining lean body mass. Combined with calorie control, it is also needed to avoid obesity and accelerated aging. Plus, the effect of protein on muscle synthesis, satiety and fat burning can depend largely on the protein's quality.

Isagenix, for one, has been advising its Associates about the benefits of higher intake of quality protein sources like IsaLean Shake for breakfast for more than eight years.

Aging is associated with an increasing body fat mass while simultaneously losing lean muscle tissue. This progressive process is characterized by 3 to 8 percent reduction in lean muscle mass each decade after age 30 and can be more than 50 percent loss of tissue in those over 80 years of age.

The change to gains of more fat and loss of lean mass impacts

Suk's Letter

Isagenix products are not another "fad diet," they are nutrient-dense products based on the latest that science has to offer. In this issue of *Isagenix Science*, we seek to give you the latest knowledge on several aspects:

- Why high-protein IsaLean Shake taken in the morning slows aging (pg. 1)
- Why we use only New Zealand protein (pg. 3)
- The longevity benefits of dietary fiber, including telomere protection (pg. 3)
- A new fiber strategy (pg. 4)
- Vitamin K2, critical for bones and arteries (pg. 5)
- Spotlight on International Regulatory (pg. 6)

We hope you enjoy each of the articles.

Live well and adventurously!

-Suk Cho, Ph.D.

health in a way that leads to frailty, loss of strength, and decline in function and ability to care for oneself. The loss of muscle mass with age, called *sarcopenia*, is estimated to lead to socioeconomic and health care spending costs exceeding \$18.5 million.

Most people don't know they are losing muscle. It often

PUTTING A STOP TO SARCOPENIA WITH ISALEAN SHAKE

goes undetected by the medical field because fat gain masks the sarcopenia. However, the muscle loss, like osteoporosis, reduces quality of life and increases risk of disease and mortality.

Building and maintaining muscle is the most effective way to stave off the negative impact of sarcopenia and resulting risk of chronic disease.

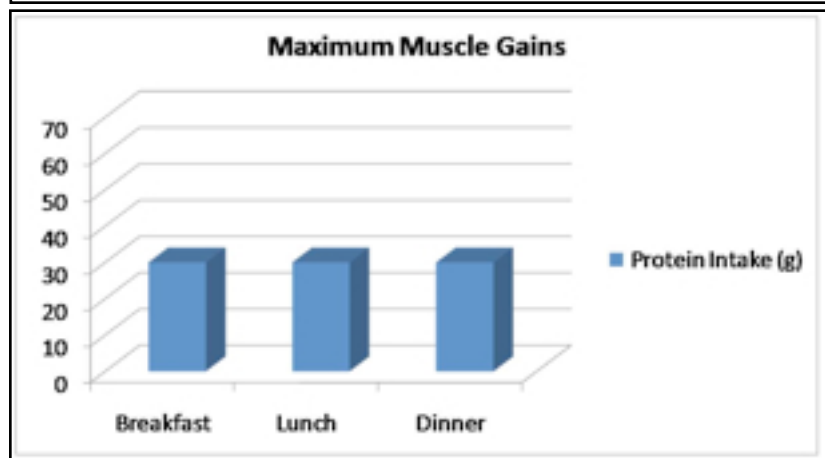
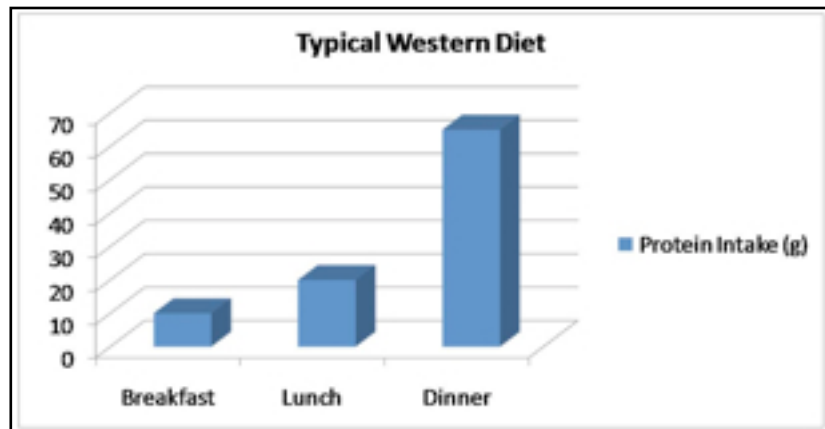
The leading factors of observed sarcopenia are insufficient protein intake along with the lack of regular exercise. Maximizing muscle protein synthesis while watching total caloric intake in a dietary plan amounts to between 25 and 30 grams of high-quality protein per meal (see figures on right).

This is contrary to the current RDA, which is woefully inadequate! The RDA does little to promote optimal health in the elderly.

Surprisingly, 15 to 41 percent of adults have dietary protein intakes below the current RDAs, which further suggests a need to push for higher intakes of protein.

Clearly, maximal protein synthesis happens with adequate protein distribution throughout the day, starting with 25 to 30 grams of protein at breakfast. This is probably the single most effective way to help people to stay healthier within their lifetimes!

Giving people a beverage with quality protein such as from whey, which is rich in branched-chain amino acids, alone will trigger



Lean body mass gains are greatest when protein intake reaches 25 to 30 grams of protein at meals throughout the day. Reference: Layman et al. Nutr & Metab 2009, 6:12

protein synthesis in muscles with or without exercise.

The beauty of protein is that intake affects short-term and long-term mechanisms for body weight, beyond just muscle mass anabolism.

The quality protein in IsaLean Shake taken every morning also increases satiety more than either fat or carbohydrate do, keeping people fuller longer, and inducing thermogenesis when it is 25 percent of dietary energy intake.


The end result is weight loss combined with maintained

muscle, and a better quality of life.

References:

Hochstenbach-Waelen et al. *AJCN* 2009.

Heaney RP. *AJCN* 2001.

Janssen et al. *J Am Geriatr Soc* 2004. 

Protein at Breakfast

The single most effective way to help people stay healthier, longer is providing them with a beverage high in quality protein such as IsaLean Shake.


WHY ISAGENIX CHOOSES NEW ZEALAND

Because of its sparse population, New Zealand is one of the few places in the world to maintain a rich natural beauty in a temperate climate with abundant rainfall. Its pristine environment and warmth is a seeming paradise with richly diverse fauna, clean lakes and rivers, and beautiful beaches.

The country is home to more than four million dairy cows. This is about the same amount as there are people on the island, many of whom depend on the dairy industry for their livelihoods.

One of these dairy plants is where Isagenix collects its proteins for IsaLean products (shake, soups and bars) and IsaPro whey protein. The plant is a relatively small operation, producing exclusively for Isagenix, with a focus on sustainability by sourcing only from small family farms with free-grazing cows that are never given artificial hormones (rBST free).



Dairy farming in this way ensures consistency of high quality—which cannot be guaranteed from sourcing in the United States or elsewhere—and the proof is found in the superior nutritional benefits and flavor of the dairy protein. 

IS THERE A LINK BETWEEN FIBER AND TELOMERES?



New evidence published in *Archives of Internal Medicine* has it that eating more dietary fiber could lead to a longer life. The large study found a high-fiber diet reduced risk of heart disease and cancer, as well as infectious and respiratory illnesses.

What's also interesting is that another reason why dietary fiber is protective to health is because of its influence on telomeres. The length of these protective caps at the end of chromosomes are the closest way to measure lifespan in humans.

As reported in a prospective cohort study published in the

March 2010 issue of *American Journal of Clinical Nutrition* (AJCN), telomere length is positively associated with higher fiber intake in women.

Dietary fiber that was insoluble appeared to provide the strongest benefit to telomeres.

In addition, in the AJCN study, the researchers found telomere length was negatively associated with increased waist circumference and higher intake of omega-6 fatty acids in the diet.

Because the study was only observational, the authors reported that further investigation is necessary to illuminate the link between dietary fiber and telomere length.

The AJCN study was among the first to document the relationship between diet and telomere length.


“Telomere shortening is accelerated by oxidative stress and inflammation, and diet affects

both of these processes,” the authors report.

Studies have also found that the following changes in diet and lifestyle are all positively associated with telomere length:

- not smoking
- exercising regularly
- healthy management of stress
- consuming sufficient long-chain omega-3 fatty acids from fish weekly
- maintaining a healthy vitamin D status year-round
- consuming a multivitamin with antioxidant vitamins daily
- consuming antioxidants such as CoQ10 and green tea

References:

Park et al. *Arch Intern Med* 2011.
Cassidy et al. *AJCN* 2010. 

IS IT TIME TO RETHINK FIBER STRATEGY?

The average intake of dietary fiber in the United States is not even close to the recommended 20 to 38 grams of dietary fiber needed per day to avoid chronic diseases such as diabetes, heart disease, and cancers.

This is according to data from the National Health and Nutrition Examination Survey (NHANES), a program of studies designed to assess the health and nutritional status of adults and children in the nation.

Why are people still not receiving sufficient dietary fiber to meet amounts recommended daily by the Institute of Medicine? The National Fiber Council reports these findings from a survey conducted in 2005:

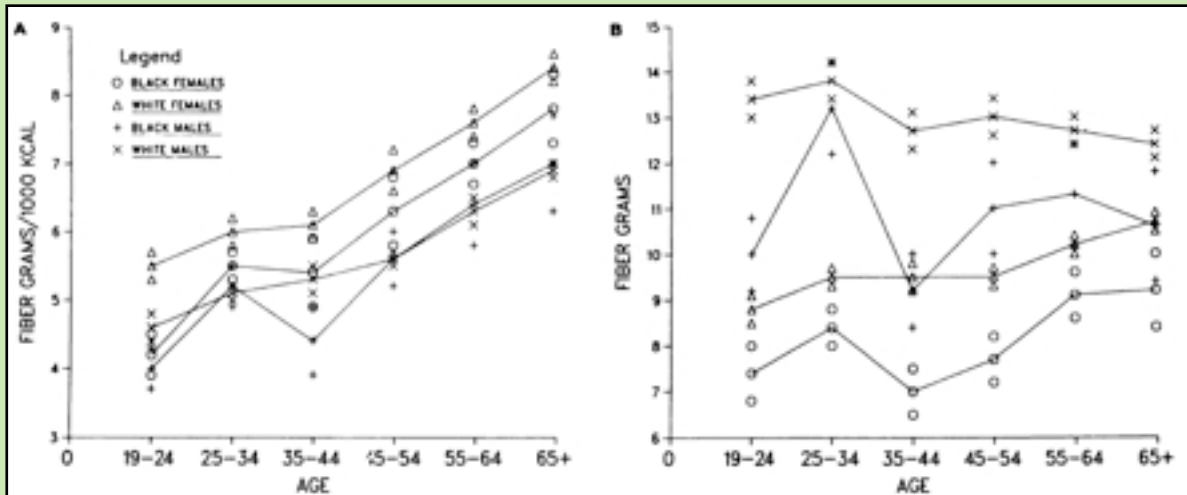
Only slightly more than half of respondents correctly identified fiber as being able to lower blood cholesterol, prevent heart disease and manage weight

60 percent of respondents never talk with their health care provider about fiber

One in five has no idea how much fiber they consume on a daily basis

Only 22 percent know the daily recommended amount of fiber

Unfortunately, these statistics have come at a cost to people's health. *Isagenix is determined to change the way people think about fiber and enjoy it with the launch of new fiber products in the future.*



Reference: Lanza et al. Dietary fiber intake in the U.S. population. AJCN. 1987.

SPOTLIGHT ON SLIMCAKES



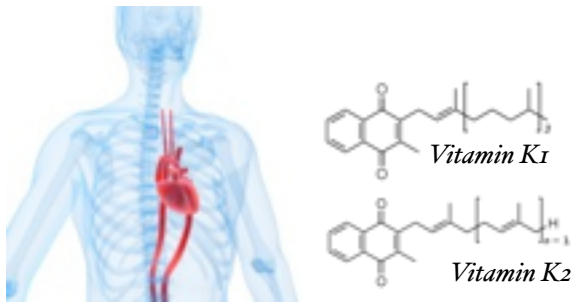
With Isagenix Oatmeal-Berry SlimCakes, getting enough fiber is made easier without sacrificing flavor. These low-fat, delicious treats are designed principally

with health of the consumer in mind. Each offers 5 grams of fiber each (at least 3 grams of soluble fiber), is less than 100 calories each, and even qualifies to bear four Food and Drug Administration-supported health claims on its label:

- Excellent source of fiber
- Heart healthy
- Diets low in saturated fat and cholesterol may reduce the risk of heart disease.

- Low-fat diets rich in fiber-containing grain products, fruits and vegetables may reduce the risk of some types of cancer, a disease associated with many factors.

SlimCakes are made by combining wholesome ingredients, such as unbleached flour, rolled oats, oat bran, and ground flax seed, and are naturally sweetened with evaporated cane juice, cranberries and blueberries.



Once only known for its role as a “koagulation” factor in blood clotting, vitamin K₂ is emerging as another fundamental anti-aging nutrient. While vitamins D and E have garnered the majority of interest in the last decade, the impact of vitamin K₂ on aging bones and hearts demands that we give it equal attention.

Whereas most vitamin and mineral supplements use vitamin K in its form of K₁ (phylloquinone sourced from plants) because it is easily available and cheap, it is the natural form of K₂ (menaquinone sourced from friendly bacteria) that is the most biologically active and shown to enhance both bone formation and vascular health.

The full compilation of recent research underscores the idea that K₁ and K₂ should be appreciated as separate nutrients with distinct physiological actions and benefits. K₁ is the more familiar vitamin known for its key role in directing blood-clotting in the body and the one given as a shot at birth (a common practice in many countries to curtail hemorrhage incidents in newborns.) The picture for K₂ seems to be a bit more varied and is key in regulating calcium balance.

Vitamin K₂ acts by activating the bone-building hormone (carboxylating osteocalcin) to clear calcium from the arteries and use it in bone mineralization. It effectively removes calcium that would otherwise end up deposited in arterial plaques. Since protecting arteries and soft tissues from calcification is one of the most important ways to stave off the ravages of

aging on the body, consuming enough vitamin K₂ daily is key for a long, healthy life.

Because vitamin K₂ is synthesized by friendly bacteria in the intestine, nutrition scientists have long assumed that deficiencies were rare. However, new data are showing that intestinally-synthesized vitamin K is not absorbed as easily as previously thought. Vitamin K also preferentially accumulates in the liver where it does have a clotting factor role.

In fact, once overlooked because “time to clot” was the test for vitamin K status, it is here where we are now seeing new signs of vitamin K deficiency previously only seen with vitamin D deficiency—fragile, brittle bones and increased fractures—even with adequate calcium and vitamin D.

Most people in North America should increase amounts consumed daily. The evidence finds that only with much higher intake do bone cells get their share and the same holds true for removal of calcium in arteries.

People can obtain enough vitamin K₂ by eating plenty of fermented foods such as cheese, sauerkraut, and natto (a traditional Japanese soy-based food). Supplementation is another viable option as achieved with a quality multivitamin such as Isagenix Essentials for Men and Women, which also comes with calcium and vitamin D.

Regardless of how one gets it, it’s important not to underestimate value of this under-discussed nutrient and to understand that most people are not getting enough. Consuming sufficient amounts of K₂ along with a healthy diet will increase odds of a healthier life with clear arteries and stronger bones.

References:

McCann et al. *Am J Clin Nutr* 2009.

Koitaya et al. *J Nutr Sci Vitaminol* 2009.

Gast et al. *Nutr Metab Cardiovas Dis* 2009.

She et al. *Am J Clin Nutr* 2009. 



THREE CRITICAL NUTRIENTS FOR STRONGER BONES

Keeping bones strong is important at any age, but especially for women and the elderly. Bones provide the framework to support the body, protect organs, anchor muscles, and act as a reservoir for minerals. Stronger bones depend on weight-bearing exercise, along with sufficient intake of calcium, vitamins D and K₂ (found in Essentials for Men and Women).

SPOTLIGHT ON THE INTERNATIONAL REGULATORY TEAM

One of the most challenging tasks of taking a company to a global level is working with consultants and governmental bodies to meet international regulations that are unique for each country.

Leading the charge is David Rowden, who has more than a decade of experience in working with product development in international markets. He is supported by his capable staff consisting of Jessica and Jazmin Agredano (who happen to be sisters).

A typical day for this International Regulatory Team may consist of communicating with relevant consultants, ministries of health, or departments of agriculture; or ensuring that strategic-partnering manufacturers comply with correct format for allowing products to pass through customs in a country.

“It gives us significant variety as we learn about different cultures, languages and documentation,” Rowden says.

Adds Jessica: “We get to touch every aspect of each product from beginning stages of development, to claims substantiation, and to quality assurance.”

Some of the challenges the team currently faces are in launching new products in Canada, Mexico and Asia Pacific Markets (Hong Kong, Australia, New Zealand, and Taiwan).

In Canada, the new “Unprocessed Product License Application Regulations” (UPLAR) that have gone into effect has required




Left to right: Jessica Agredano, David Rowden, Jazmin Agredano

products to undergo a lengthy assessment of safety and efficacy based on dosage of each ingredient. For this reason, within the next year, Isagenix customers may see formatting changes on all Canada labeling.

“We are still in transition period and UPLAR has not been fully enforced,” Rowden said. “We are planning as if the regulations were taking place yesterday—going full force on compliance and we are way ahead of target.”

Proactive preparation is what the team credits for the smooth launch of Isagenix in Mexico, which happened just recently. The team spent much time dealing with import permits and applications for some 10 products and counting.

“It continues to be an education,” Rowden says, “not to mention learning Spanish.”

What’s remained consistent is the high quality of the products that continue to make an impact worldwide. 

Editorial

Managing Editor

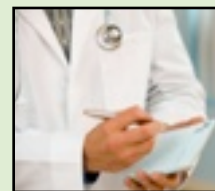
David Despain, MS
Sr. Mgr. of Science Communications

Contributions and Copyediting

- Suk Cho, PhD
Chief Science Officer
- Pierre Teissier, PhD
VP of Global Product Development
- Susie Rockway, PhD
Director of Research and Science
- Dalia Blunt, MS
- Amanda Jensen
- Leigh Flynn

www.isagenixhealth.net

ASK A NUTRITIONIST



Have a question?

Did you know that many of the most frequently asked questions are answered on our blog at *IsagenixHealth.net*?

You can also now submit questions on the Web site via the new “Ask a Nutritionist” form (located in the bottom right corner labeled “Questions and Comments”). The form is intended to help streamline questions and get them answered more efficiently.

Moving forward, the QRTS department will be giving priority to inquiries submitted via this online form over those sent via e-mail. 