TriVita's Weekly Wellness Report

by Brazos Minshew, TriVita's Chief Science Officer

Exercise: An Unexpected Source of Energy

OK, this may seem a little weird. It is definitely unexpected. But I recently read about a newly discovered process for turning the food we eat into energy: exercise. I found this pathway in two medical journals: one for children and the other for seniors – two groups at opposite ends of the energy-production spectrum.

Normally, humans turn food into energy through metabolism *– a Greek word that describes how heat and light are created by burning wood in a fire. Metabolism is an example of controlled inflammation: the "fire" inside you that turns food into energy. We burn some of that energy at rest, but we burn more of it when we exercise.*

Chicken or egg?

We need energy to exercise. But now it seems that exercise is itself a source of energy. So, the question becomes, do fitness fanatics exercise because they have a lot of energy? Or, does exercise give our "health nut" friends the energy we envy?

As it turns out, the answers to both questions is yes!

We create energy as we burn sugars (carbohydrates), protein and fats. These are called macronutrients. Each has a burn-rate that supplies us with fuel: sugar burns quickly, protein takes longer to burn but the undisputed champion of stamina is healthy dietary fat.

Dietary fats burn slowly. The fats that we don't harvest as fuel for energy production are used in creating certain structures inside our body. For example, brain cells are made mostly of fats. The healthier the fats are in our diet, the healthier our brain may become. Hormones are made mostly of fats. The healthier the fats are in our diet, the better our hormones will balance. Cholesterol is made of fat. The healthier the fats are in our diet – you guessed it! – the healthier our cholesterol levels will be.

For stamina, a healthy brain, balanced hormones and optimum cholesterol, we need healthy fats.

Energy from exercise

Fats recycle in our body when we exercise. For example, fats may become cholesterol. Some of our healthy cholesterol may end up in our skin where hormones interact with sunlight to produce Vitamin D. Vitamin D then transports unused fats and cholesterol from our skin into our muscles. In this way, fats are recycled and cholesterol is kept low. That's why people with low Vitamin D levels often have high cholesterol levels: Vitamin D transports fats so they may be burned in the fires of metabolism.

Vitamin D recycles minerals. That's why people with low Vitamin D levels also have low bone mineral density – a condition leading to osteoporosis. Vitamin D recycles hormones as well. That's why people with low levels of Vitamin D have the highest risk of Metabolic Syndrome, a disorder characterized by insulin resistance (insulin is a hormone) and other hormone imbalances.

As it turns out, our body recycles fats with Vitamin D and it recycles Vitamin D through strenuous muscle exertion – exercise! Even spending appropriate time in the sun and taking Vitamin D-rich supplements will not recycle Vitamin D unless you also exercise. To recap:

1. Strenuous exercise activates Vitamin D.
2. Vitamin D activates the hormone insulin to start the fires of metabolism.
3. Then, Vitamin D recycles fat from the blood and skin to burn in those fires as fuel for more activity.

So it seems that expending energy activates the pathway to give us more energy. It reminds me of an old saying: *The less you move, the less you want to move and the less you are able to move; the more you move, the more you want to move and the more you are able to move!*

Conclusion

The journal articles concluded that the more Vitamin D children had in their growing bodies, the less likely they were to suffer a muscle or bone injury. Also, the more Vitamin D a senior had in their body, the less likely they

were to fall and suffer an injury. Finally, at any age, energy levels and activity levels were bound together by Vitamin D levels.

For healthy energy, we need a balanced diet and supplements that support healthy levels of fat and Vitamin D. And we need activity because energy, it seems, begets more energy!

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Take Control of Your Health

- Eat a rainbow of fruit and vegetables: 5 servings for children, 7 for women and 9 for men
- Eat healthy fats including olive oil, peanut oil, avocados, nuts, seeds and cold-water fish (salmon, trout, herring, etc.)
- Take Omega-3 supplements every day
- Take Vitamin D according to your need:
  - VitaCal-Mag D (under 30 years old with no bone-health issues)
  - Bone Growth Factor (over 30 or any age if you have risk factors)
  - Leanology Capsules (those with low Vitamin D and high body fat)
- Exercise at least ½ hour daily, most days of the week
- Include both aerobic and resistance exercise

Learn more!

- Exercise and Bone Health
- Exercise After 50

Upcoming Weekly Wellness Reports...

- Sun Damage
- Test Yourself: Body Mass Index

New! - Wellness Talks With Brazos Minshew

Listen to TriVita's Chief Science Officer, Brazos Minshew, speak on a range of vital health topics. These talks will help you learn more about the science behind different TriVita products, as well as how they can help you and others with different health problems.

Date	Topic
7/20/2010	Active Ingredients in Nopalea
7/21//2010	Vitamin D & Energy
7/22/2010	Questions on Nopalea
7/23/2010	Nopalea & Stem Cells
7/24/2010	Nopalea & Toxins

Join the live call, it's easy, just dial in!
Date: Tuesdays - Saturdays
Start Time: 7:00 a.m. PT / 10:00 a.m. ET
Length of Call: Approximately 15 minutes