QUICKSILVER SCIENTIFIC

INSIDE A CLEANER-BURNING METABOLISM

When your metabolism is undergoing a transformation, dynamic changes are taking place at the cellular level. As ancient pathways and processes are activated, cells are rejuvenated and your metabolism profits from new efficiencies. Let's take a closer look at what to expect as your body shifts toward a cleaner-burning metabolism:

Unhealthy Vs. Healthy Metabolism

Research shows that nearly 80 percent of U.S. adults are metabolically unhealthy; these individuals suffer from blood sugar imbalances, excess body fat, and imbalanced blood lipids like cholesterol and triglycerides. One of the critical features of poor metabolic health is the cells' inability to efficiently take up blood sugar and utilize it for cellular energy production. Poor metabolic health also makes it hard to efficiently use fat for fuel.

Conversely, a person with a healthy metabolism has cells that are highly sensitive to sugar, efficiently soaking it up from blood circulation and using it as a fuel for cellular energy production. Individuals with optimal metabolic health are able to shift between the "fasted" and "fed" states and can burn glucose or fat for fuel. The ability to shift from sugar burning to fat burning is what Quicksilver Scientific's very own Dr. Shade calls "metabolic flexibility."

Many phytocompounds, including quercetin, resveratrol, berberine, DIM, cinnamon bark oil, and milk thistle all help your body work toward this improved metabolic state by engaging key pathways and processes. These include APMK activation, mTOR blocking, lipolysis, and fat oxidation.

Activate AMPK and Block mTOR

AMPK is an ancient cellular pathway that regulates metabolism and the use of stored energy. It is activated when the body is "fasted" or in a low-energy state and engages ATP production. As discussed in the guidebook, AMPK also triggers cellular changes that support metabolic well-being, including healthy blood sugar levels, inflammatory balance, healthy weight, and fat burning.

Working in opposition to AMPK, mTOR is a central regulatory pathway that orchestrates cellular growth and homeostasis. It is activated by food intake or the "fed" state. Many of us in the modern world live in a chronic state of mTOR activation, missing out on the beneficial effects of AMPK. Fasting and specific phytochemicals like quercetin and resveratrol support the blocking of mTOR, allowing you to experience the metabolic health benefits of AMPK activity.

Become a Fat Burner

As your metabolic health shifts this month, you may become better adapted to utilizing fat for fuel.

Lipolysis happens when fats are broken down into fatty acids, which can then be used for energy production via a process called fat oxidation. AMPK activates lipolysis and fat oxidation, helping you use fat for fuel. As you become more fat-adapted, you'll begin to burn your own body fat for energy and may see a positive shift in your body composition and weight.

The fat-adaptation process also promotes the production of ketones, small molecules that your mitochondria can use to generate energy. When ketones are used for energy, far fewer reactive oxygen species are produced as metabolic byproducts compared to when glucose is used for fuel. This leads to a cleaner-burning metabolism.

Fascinatingly, ketones aren't just used for energy — they also have a host of other beneficial effects on your body. Beta-hydroxybutyrate (BHB), one of the ketones produced during fat-adaptation, has been found to support healthy gene expression. BHB also modulates the inflammatory response and may support a healthy brain and heart.

Did You Know...

Did you know that engaging in low-intensity exercise in a fasted state may accelerate the fat-adaptation process by increasing fat oxidation, or the burning of fat for fuel? In the morning, try going on a 30-minute walk or a gentle jog or bike ride before eating breakfast, while you are still in a fasted state (at least 12 hours of fasting overnight before engaging in fasted exercise may be ideal). Research suggests that this practice activates fat oxidation, supporting healthy weight management and metabolism.