

UNLOCK THE POWER OF EXERKINES WITH HIIT

by Karlie Intlekofer, Ph.D.

Many of the people at your facility probably started their fitness journey with high hopes of making transformative changes to their bodies. While low-intensity workouts have their benefits for stress management, they may not yield the rapid, noticeable results that many people crave. As a fitness professional, you can help them understand the advantages of higher intensity workouts by letting them know about exerkines.

Amazing Exerkines

Exercise sets in motion a series of physical adaptations driven by a group of remarkable molecules known as exerkines. These molecules, predominantly released by bone, fat, muscle and the liver, are the catalysts for several positive changes in the body. They build stronger muscles and bones while reducing body fat. They also extend their influence to the brain, enhancing our thinking capabilities and improving mental energy. The catch? These amazing molecules are intensity-dependent, with low-intensity workouts releasing a minimal amount of exerkines. When it comes to motivated facility members eager to see noticeable progress, it may be time to introduce them to HIIT and the amplified exerkine release it fosters.

Lactate, the Misunderstood Exerkine

Among exerkines, lactate stands out as both the most well-known and the most misunderstood. Initially labeled a waste product or even the culprit behind muscle fatigue, it's now recognized as a valuable signaling molecule and an essential source of fuel for the body. That's because during a workout, lactate is used to fuel brain cells. As "a preferred fuel for the brain," lactate powers your ability to think and even contributes to the memory improvements that occur after aerobic exercise.

Yet lactate isn't just beneficial for the brain; it's also a major energy source for heart muscles. At rest, the heart generates about 13% of its energy by metabolizing lactate. However, during exercise, lactate becomes the heart's primary fuel source. In fact, as much as 56% of the heart's energy comes from breaking down lactate as the intensity of exercise increases.

FACTS ON LACTATE

- *The term lactic acid is often used instead of lactate, a more accurate term.*
- *Lactate is released and used constantly in the body, but circulating lactate is highest during vigorous exercise.*
- *Lactate release is highest in response to sprint intensity intervals (supramaximal, all-out effort), with less lactate in response to HIIT (~85% heart rate maximum) and far less during moderate-intensity workouts (~65% heart rate maximum).*
- *Lactate does not build up; it rapidly circulates through the body to fuel muscle tissue and trigger exercise adaptations.*
- *Lactate does not directly cause the burning sensation during a workout or muscle soreness.*

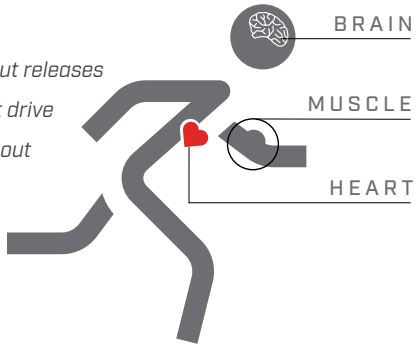
Maximizing Exerkines With HIIT

Researchers reviewed hundreds of studies on thousands of participants to pinpoint the most effective workout protocol for releasing lactate and boosting brain performance. Their results revealed that the most effective way to enhance exerkine release was through short, repeated, maximum-intensity intervals. The ideal regimen includes eight 30-second, sprint-intensity intervals with 90-second recovery periods. This scientifically validated protocol is consistent with Sprint 8, an evidence-based interval training program available at the touch of a button on Matrix cardio equipment.

Exerkines Are Worth the Effort

The next time you're working with someone who's chasing a physical transformation, encourage them to step outside their comfort zone and try HIIT by educating them about exerkines. Highlight HIIT options at your facility, and let them know that Sprint 8 on Matrix cardio equipment makes it easy to start training at higher intensities. Additionally, remind them that higher intensities don't have to be high-impact thanks to low-impact cardio options like ellipticals and indoor cycles that are easy on the joints. As a fitness professional, you can help all the people you work with achieve their goals by letting them know that the effort required to release exerkines will be worth it.

***EXERKINES**: Every workout releases exerkines, molecules that drive positive changes throughout the body. Lactate is an exerkine that benefits many tissues, including the heart and brain.*



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Karlie Intlekofer, Ph.D.
GLOBAL WELLNESS RESEARCHER

Dr. Karlie Intlekofer is a neuroscientist who focuses on the benefits of exercise for brain health and well-being. She has a background in research and teaching at the university level and focuses on exercise motivation and brain areas involved in stress, learning and memory. Her passion in this field is bolstered by experience working with a wide range of ages and abilities as a personal trainer and group exercise instructor. As the Global Wellness Researcher at Matrix Fitness, Karlie integrates evidence-based practices into exercise programming and develops initiatives that support an enduring habit of physical activity.