

The Difference Between HIIT AND STEADY STATE PROTOCOL

You've probably heard various terms for different types of exercise protocol. In particular, the term **HIIT** programming is prolific, yet, many don't really understand what it is.

And, there's some confusion as to how it compares to regular aerobic "**steady state**" protocol.

Let's take a look at some of the scientific information as well as some "**real world**" application in comparing these two key types of exercise protocol:

▶ **High Intensity Interval Training (HIIT)** – which involves short bouts of intense exercise interspersed with recovery periods.

▶ **Moderate Intensity Continuous Training (MICT)** – which involves a sustained effort of medium intensity exercise that is not broken up by recovery periods. This is sometimes also known as **steady-state exercise**.

NOTE: As with any kind of big "broad brush" description, most of the information will be cast as "generalities" with the assumption that almost any protocol can be broken out and designed to be more specific to your particular circumstances, physical attributes and current conditioning.

WHAT IS HIIT?

You've probably already heard of **HIIT** (High Intensity Interval Training).

It involves short (typically less than 4-min) spurts of highly intense exercise which are separated by periods of complete rest or less-intense active recovery.

A **HIIT** workout protocol using a stationary bike, for example, might include :30-second intervals of high intensity (fast cadence and high resistance) spinning, each followed by 1 minute of easy (low resistance) cycling.

But, what exactly do we mean by "**high intensity**" exercise?

Generally speaking, **HIIT** intervals involve "near maximal" efforts that we perform at **over 80-85% of our maximum heart rate (HRmax)**.

Another way of classifying the intensity of exercise is by comparing it to our body's maximum rate of oxygen consumption (or **VO2 max**). High intensity intervals generally push us to over **75-80%** of our **VO2max**.





WHAT IS MICT?

Moderate-Intensity Continuous Training (MICT)(steady state) involves a sustained effort, with no intervening rest periods.

An example may be cycling on a stationary bike continuously at a constant pace for 20 minutes.

In contrast to HIIT, MICT workouts are much less intense, with exercise performed at a moderate intensity. This typically corresponds to **55-75% of maximum heart rate (HRmax)** or **40-65%** of maximal oxygen consumption (**VO2max**).

WEIGHT GAIN DURING INACTIVITY

During the Covid-19 lockdown, you may have gained a bit of weight. And, unfortunately it wasn't lean muscle mass!

A **reduction** in total daily energy expenditure (through less movement) coupled with **increased** energy intake (as a result of prolonged close proximity to the fridge and snacking out of boredom) will invariably lead to **fat deposition** and an **increase** in **body-fat percentage**.

So, what type of workout is better for burning this newly accumulated fat: **HIIT** or **MICT**?

First things first: both **HIIT** and **MICT** are shown to elicit **significant reductions** in total body-fat percentages. It's an obvious point, but if you're looking to shed fat and improve your body composition, doing any exercise (either HIIT or MICT) is better than doing nothing at all (or relying on dietary changes alone).



BOTH ARE GOOD SOLUTIONS

A meta-analysis published in the [British Journal of Sports Medicine](#) (BJSM), which analyzed the data from 1,012 subjects across 36 studies, found that **HIIT** was associated with a **28.5% greater reduction** in **absolute fat mass** compared to **MICT**.

People enrolled in **HIIT** programs lost 1.58 kg (3.5 lbs) of body fat on average, whereas those participating in **MICT** programs lost 1.13 kg (2.5 lbs)

Despite this finding, the meta-analysis found that, while both **HIIT** and **MICT** produce **significant reductions** in total **body fat percentage**, there was **no significant difference** between the groups.

When viewed in **overall percentages**, those performing **HIIT** dropped their body-fat percentage by **1.50%** percentage points, which was similar to the **1.44%** drop in those performing **MICT**

Several other studies of overweight and obese subjects also report **no significant difference** between **HIIT** and **MICT** in terms of improving body composition.

For example, a meta-analysis published in [Obesity Reviews](#) reported a **3 cm** reduction in **waist circumference** in both HIIT and MICT groups, with exercise programs involving **3 days per week** of exercise and lasting for **10 weeks on average**.

BUT, HIIT IS THE “TIME-EFFICIENT” WINNER

Interestingly, however, the evidence seems to be clear that despite similar outcomes on body composition, **HIIT requires less time.**

For instance, one meta-analysis of 22 studies found that **MICT** sessions lasted **40 minutes** on average, compared to just **30 minutes** for **HIIT**.

The **BJSM** meta-analysis crunched the numbers and concluded that while **MICT** gives you a **0.0026%** reduction in body fat percentage per a minute of exercise, the equivalent figure for **HIIT** is **0.0050%** per minute

In other words, **HIIT** is a more **time-efficient** way of shedding fat.

Such processes include the removal of lactate and H⁺ ions, rebuilding muscle glycogen stores and oxidation of fat for fuel for a longer period of time.

All in all, then, if you’ve only got a limited opportunity for exercise, say 30 minutes, and burning fat is your **top priority**, then **HIIT** represents a much better investment of your time.

Bear in mind, however, that by virtue of including high intensity, near-maximal efforts, **HIIT workouts** place more **stress** on your body.

As such, the **risk of injury** is **higher** and you may require greater recovery time between **HIIT** workouts.

There are good **physiological reasons** for this.

Higher intensity exercise generally stimulates greater production of **hormones** such as **adrenaline**, **noradrenaline** and **growth hormone** -- all of which promote **fat-burning** or fat **oxidation**.

Furthermore, **HIIT** causes more of something known as **excess post-exercise oxygen consumption (EPOC)**. More commonly referred to as “**afterburn**,” EPOC occurs during recovery after exercise when oxygen consumption is **elevated above baseline resting levels** as the body restores various metabolic processes back to normal.

HIIT OR STEADY STATE? CONSULT A TRAINER!

Regardless of whether you prefer HIIT or MICT (steady state), it is worth hiring a trainer or coach to be certain that you are moving in a **safe** and **effective** manner.

Taking the time to learn proper exercise technique can **improve your results** and help **prevent injuries**.

Plus, you’re **unique**. Your body’s physical attributes, current conditioning, body mechanics, experience, and goals are unique to YOU.

As a fitness professional, I can create a plan that is specific to you -- and your requirements. With a program that fits, you are much more likely to achieve the results you seek.