

## **OPERATION: METABOLISM**

### *7 KEYS TO A METABOLIC BREAKTHROUGH*

What follows is a culmination of years of research and trial and error to produce rapid and lasting weight loss through cutting-edge metabolic training that only requires a 90-minute commitment each week.

This is the exact system I use for my own personal metabolic workouts and I still follow these guidelines today to maintain single-digit body fat percentage year round.

Alright here it is...OPERATION: METABOLISM!

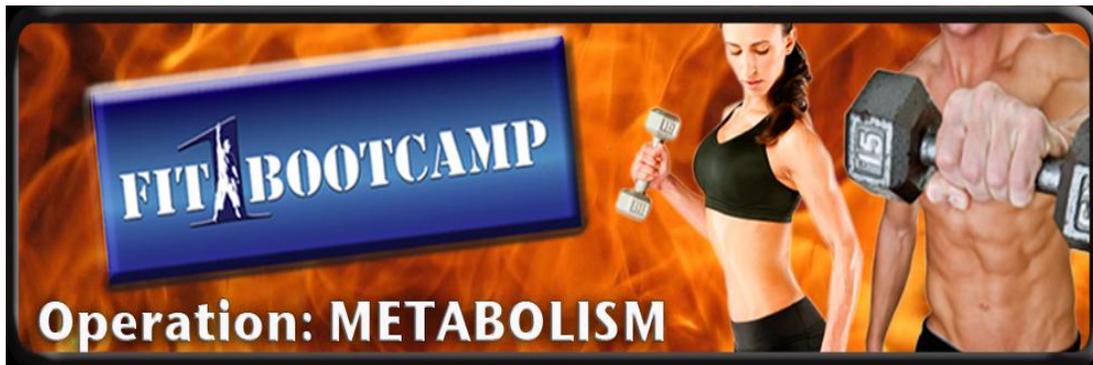
### **What is metabolism?**

Metabolism is the sum of all chemical processes that take place in the human body to sustain life. Though metabolic rate is largely determined by genetics, there are various ways to increase metabolic rate (the speed of your metabolism) through exercise, nutrition, and supplementation.

### **Metabolic Rut #1- Performing daily body part workouts**

We can thank the drug-abusing bodybuilding world for the concept of training one body part per day for best results. The reality is that training your whole body more frequently will result in bigger strength and muscle gain, greater fat loss, and more metabolic boosts than training each muscle group once per week— and the science supports this.

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*I think it's safe to say that most people do NOT want to look like this...*

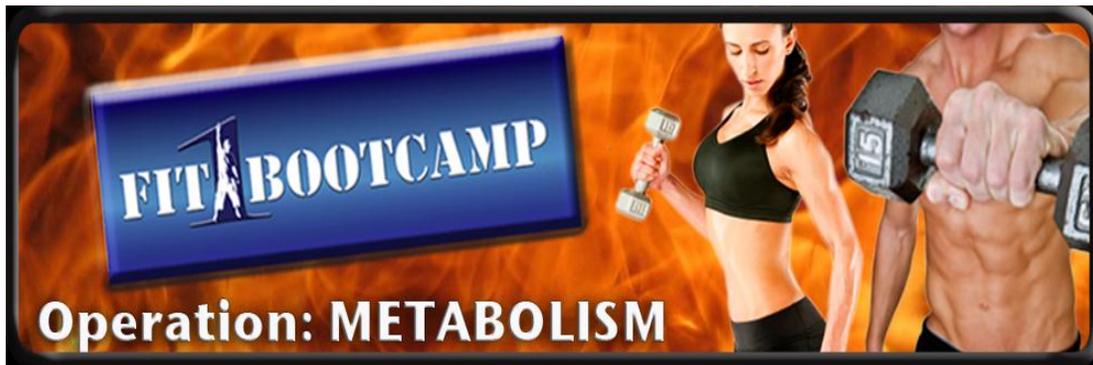
It's critical to understand that the more muscle you have the greater your resting metabolic rate (RMR). Your RMR is the total number of calories you burn every day regardless of activity and adding several pounds of lean muscle mass will result in an additional daily calorie burn of up to several hundred extra calories per day. This translates into an awesome fat-smashing snowball effect over the course of weeks, months, and years.

Another benefit of having more muscle is that your body's carbohydrate tank gets bigger. The human body has a limited ability to store glycogen (sugar) in both your muscles and liver before it spills over and leads to unwanted fat gain. However, by building more muscle through high-intensity training your body can subsequently store more sugar, you can consume more total carbohydrates before you begin to gain fat and smooth out and your body will revert to using more fat for fuel.

**Metabolic Rut #2-** Performing marathon workouts lasting 60 minutes or longer

I'm not sure what it is about our society that thinks it's cool to do things for an incredibly long period of time. The best example of this is the typical college student who brags friends about pulling an all-nighter to cram for an exam. In

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reality, best results would have been achieved by spreading out that studying over the course of the semester.

Fitness is no different. What do most people who want to lose fat do? They either sign up to run a marathon and/or join a gym to do endless hours of cardio on a treadmill, elliptical, bike, or step machine.

On a side note, if I ever see you “getting your cardio-on” while reading a magazine or checking your email I will unplug you. (OK if you're training for a long distance event I'll let it slide).

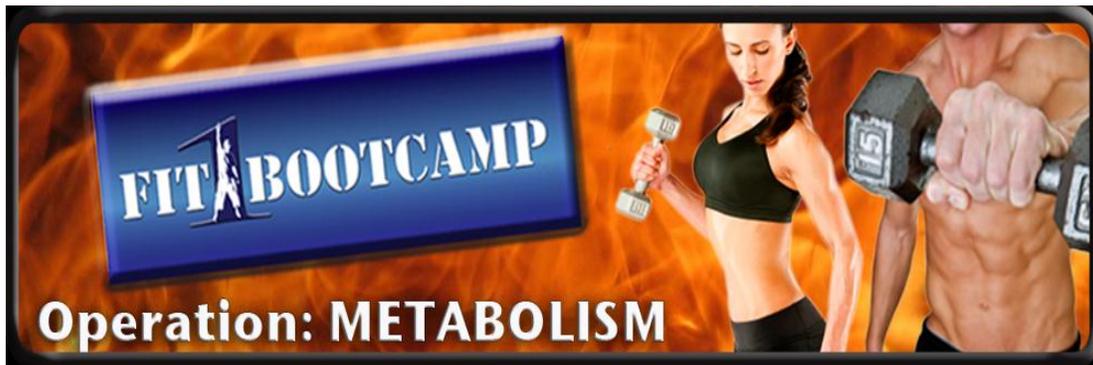
Why so harsh??

Well, a landmark aerobic training study done by the International Journal of Sports Nutrition determined that 45 minutes of steady state aerobic training 5 days per week had zero effect over dieting alone when it came to weight loss—that's 45 hours of activity for nothing! However, the lack of results wasn't solely due to the length of the workouts, but also the low-intensity nature of these workouts.



*45 hours of long, slow, boring cardio is proven to provide ZERO weight loss over dieting alone!!*

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In addition, long, drawn out workouts have diminishing returns and create a negative hormonal environment in our bodies. That's because during one-hour plus exercise bouts our body enters survival mode and releases a hormone called cortisol that both causes muscle loss and results in fat gain in trouble spot areas.

Muscle-building hormones like testosterone are maximized in about a 30-minute high-intensity workout window. It is at about the 45-minute mark that anabolic hormones begin to fall as their catabolic counterparts, mainly cortisol, simultaneously begin to rise.

The bottom line is that shorter, more focused and intense workouts produce better results than one hour plus marathon sessions. If you have to workout for longer than 30-45 minutes to feel satisfied than you probably weren't working hard enough in the first place or you were committing some form of the other deadly workout sins.

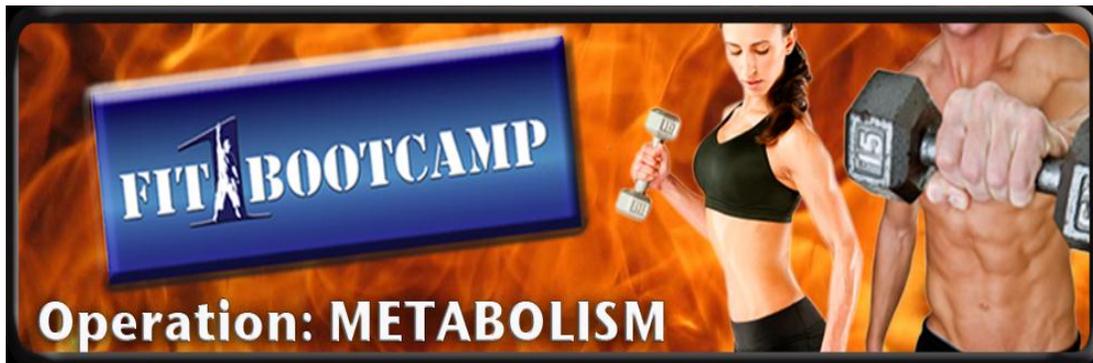
**Metabolic Rut #3-** Using single-joint isolation exercises that address only one plane of movement

Single-joint, isolation exercises involve the use of only one joint at a time. Though single-joint, isolation exercises may result in a better "burn" in a specific muscle, it doesn't mean that they are providing the optimal muscle-building stimulus when compared to their multi-joint, compound counterparts.



*How often do you find yourself doing this movement during the day?? Yep, not too functional ;)*

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Multi-joint, compound exercises involve functional movement patterns that occur in the real world across multiple joints at the same time thus resulting in greater total muscle activation, fat loss, and muscle growth. For our purposes, there are six foundational movement patterns that comprise the ultimate total body metabolic workout:

**Hip-Dominant:** Any exercise that primarily targets your posterior chain (glutes, hamstrings, and spinal erectors) including exercises like deadlift, step-up, hip extension, and swing variations.

**Push:** Any exercise that primarily targets the front side of your upper body and triceps and involves a pushing pattern in either the horizontal or vertical plane. Classic examples include push-up, chest press, dip, and overhead press variations.

**Knee-Dominant:** Any exercise that primarily targets your quadriceps including double and single-leg squat and lunge variations.

**Pull/Scapulothoracic:** Any exercise that primarily targets the backside of your upper body and your biceps and forearms and involves a pulling pattern in either the horizontal or vertical plane. Classic examples include rowing and pull-up variations.

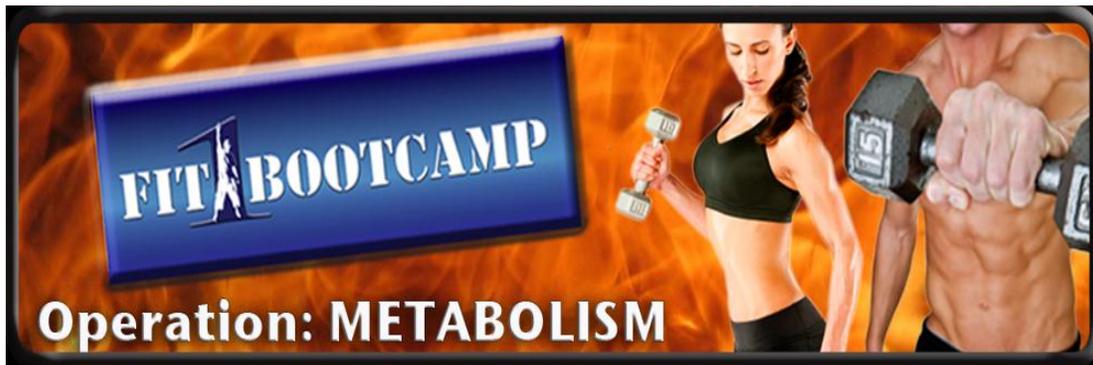
**Pillar- Integrated Shoulders, Hips, and Core:** Any exercise that primarily targets the stabilizers of your shoulders, hips, and core. Classic examples include front, side, and back pillar or plank variations.

**Total Body:** Any exercise that integrates any combination of the aforementioned movement patterns or simultaneously calls upon your upper and lower body.

So now that we know the importance of training movement patterns (not body parts) with multi-joint, compound exercises, let's not forget about the importance of incorporating exercises that occur across multiple planes of movement.

Too often people perform exercises in only one plane of movement, typically the sagittal plane that encompasses movement up and down and front to back and divides the body into left and right halves.

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However, movement in life and athletics occurs in three planes of motion: sagittal, frontal, and transverse. Frontal plane movements occur side-to-side and divide the body into front and back halves. Transverse plane movements occur in a rotational manner and divide the body into upper and lower halves.

Performing exercises in all three planes of movement best ensures optimal strength, functional carryover, muscle gain, and proper muscular balance. This in turn improves posture and injury reduction.

**Metabolic Rut #4-** Using low-intensity work periods lasting 2 minutes or longer to burn fat

Women have the relentless tendency to perform endless hours of cardio and if they do use weights they tend use loads that are so light that they might as well not even bother—so small that they can barely be seen by the naked eye.



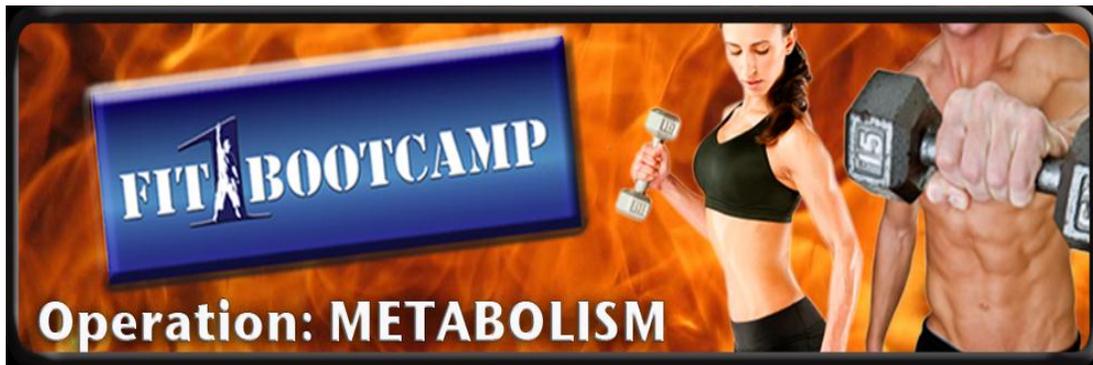
*The smaller the weights, the smaller the results!!*

To be clear, women never have to worry about gaining too much muscle. Using heavier loads and more intense efforts will just result in greater calorie burning, a faster metabolic rate, and a tighter, more toned and athletic physique.

We've already established that aerobic training has zero effect on weight loss over dieting alone, so we know that a power walk or slow jog will just not cut it.

For the best real world example of which style of training is best for lean muscle gain and fat loss, just look at the body of sprinter versus the body of an endurance athlete. Sprinters are not only more muscular but actually have a significantly lower body fat percentage than endurance athletes. Though I've

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seen lots of overweight distance runners and walkers in my day, I have never seen an overweight sprinter. That has to count for something and again the science supports this anecdotal evidence.



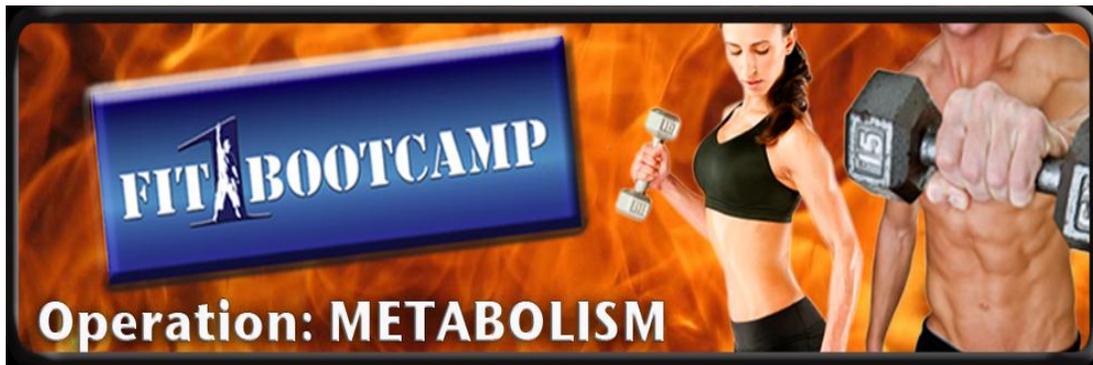
Studies show that repeat efforts of 30-second maximum effort work periods with full recovery provide the same improvements in fitness plus greater weight loss than 90-120 minutes of cardio.

30-60 second work periods are glycolytic in nature meaning that they burn the sugar stores in your muscles at optimal rates. The more sugar you burn during your workouts the more body fat you will burn in the hours and days between your workouts.

Second of all, it is generally accepted among fitness experts that maximum muscle growth occurs when performing exercises with heavy loading and a time-under-tension lasting 30-40 seconds.

Lastly, high-intensity anaerobic work periods of 30-60 seconds also create the optimal hormonal environment for fat loss by releasing hormones known as

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catecholamines (mainly adrenaline). This surge of adrenaline mobilizes body fat, particularly in the stubborn areas.

The bottom line is that intensity is the only thing that truly makes your body change. If you take one thing away from this article, I hope it is this!

**Metabolic Rut #5-** Performing straight sets of a single exercise

It takes about three to five minutes following intensive exertion for your body to completely recover and get ready for another bout of maximum effort without any significant decreases in performance. However, there is a very simple way that we can maintain peak intensity while allowing for full recovery: perform alternating sets of non-competitive exercises, ideally in a circuit format.

Previously we outlined that there are six basic movement patterns that make up any sound training plan. So let's build ourselves a killer six-exercise metabolic circuit using 30-second high-intensity work periods where we allow for about 15 seconds of rest and transition between exercises and a 60-second rest and transition at the end of the circuit:

- 1- Hip-Dominant Exercise @ 30 seconds on, 15 seconds off
- 2- Pushing Exercise @ 30 seconds on, 15 seconds off
- 3- Knee-Dominant Exercise @ 30 seconds on, 15 seconds off
- 4- Pulling Exercise @ 30 seconds on, 15 seconds off
- 5- Pillar Exercise @ 30 seconds on, 15 seconds off
- 6- Total Body Exercise @ 30 seconds on, 15 seconds off

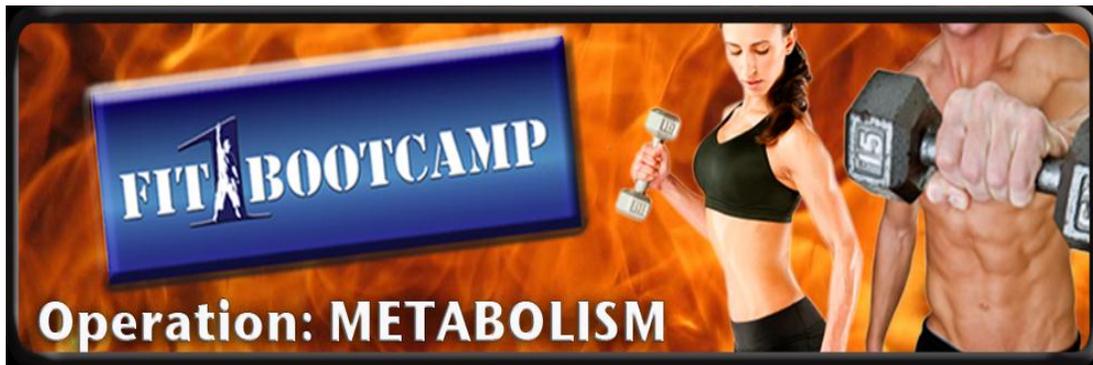
Let's examine the beauty of what we just did here:

- In approximately five minutes, the circuit format allowed us to perform all six exercises that comprise a whole body workout versus just completing one set of a single exercise.

- By alternating between non-competitive exercises in a circuit format, we are able to achieve maximum intensity while allowing for a full recovery

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-In only 20 minutes, we can complete four rounds of this whole body circuit and be done for the day while we'd just be starting our second set of the second exercise in straight set format

Clearly the circuit format is by far the most time-efficient approach. Plus studies show that circuits can burn over 500 calories in only 20 minutes and elevate metabolism up to 38 hours post-workout.

From a personal standpoint, when I was a young and stupid I used to workout for two to three hours at a time using the straight set format. It was always incredibly mentally draining to know that half of my day would be eaten up every time I worked out. Strangely enough (not strange then), I actually deconditioned myself by over training. My performance actually suffered.

Now that I'm not as young and a little less stupid (I think) and I run in home personal training, bootcamp classes and performance coaching, the only workouts I currently have time for are metabolic workouts that have me in and out in 30 minutes. Today I maintain a single-digit body fat percentage and it's all due to these circuits and a sound diet.

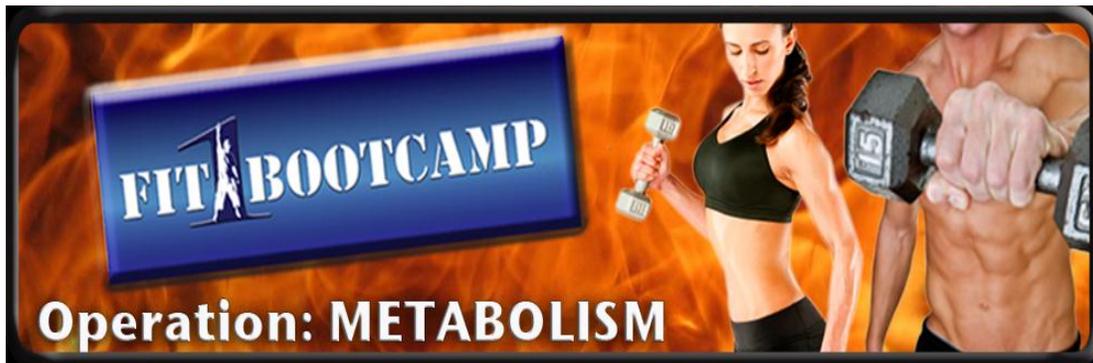
**Metabolic Rut #6-** Using long rest periods of 2 minutes or more between exercises

Most fitness enthusiasts take way too much rest time during their workouts, often in excess of five minutes. Now, if your goal is maximum strength and power, then three to five minute complete recovery periods have their place.



*Sitting and chatting make for great post-workout activities but have no place during a productive workout!!*

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But chances are, if you're like most of the general population, you could care less about how much you can bench or squat and are more focused on having the lean, muscular build of a Men's or Women's Health model.

Most people can afford to lose some fat and gain some muscle and the key to doing so is to maximize training density. Density describes the amount of work completed per unit of time. Density also happens to be the biggest primer for fat loss because the more work you can complete in the same amount of time or less the leaner and more muscular you will be.

How do we accomplish this? We do this by reducing our rest periods between exercises because rest periods lasting 30-60 seconds or less resulted in the greatest growth hormone response. Growth hormone is one of the most powerful fat-burning and muscle-building hormones in your body.

Look no further than the world famous Tabata Study for the fat-burning, metabolic-boosting benefits of high-intensity work periods combined with short rest periods. In this groundbreaking cycling study, researchers discovered that only four minutes of a 20-10 interval protocol (20 seconds of maximum effort followed by 10 seconds of rest) provided greater fat loss and conditioning than 60 minutes of steady state cardio.

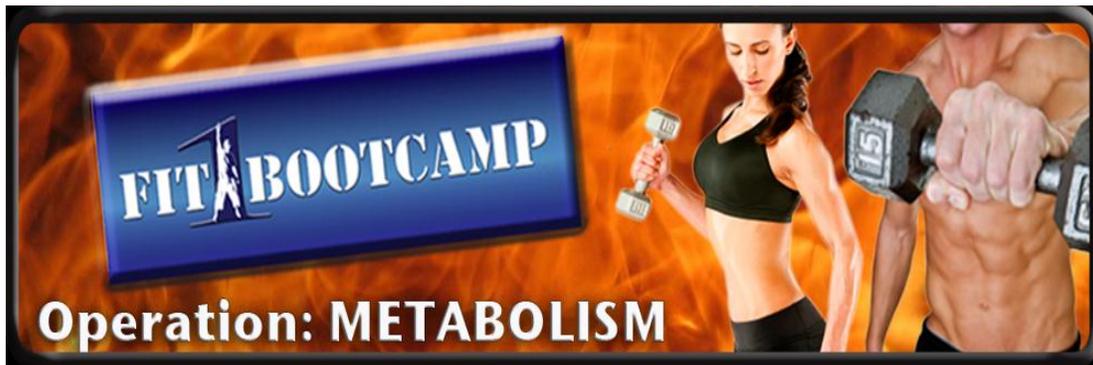
Now one of the problems with this study is that in the real world most people aren't able to perform multiple bouts of max effort for the same exercise with short rest periods.

However, by employing a circuit training format where you perform alternating sets of non-competitive exercises (back, legs, etc), we can maintain the high-intensity work periods in conjunction with the short rest periods.

**Metabolic Rut #7-** Performing the same fitness routine for six weeks or more

This one is pretty straight forward- if you perform the same workout routine day in and day out, week in and week out, your body will stop changing and you will hit a dreaded plateau.

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Now keep in mind that if you are sedentary and haven't exercised in years (if ever), absolutely anything you do in the gym will elicit a positive response.

If you exercise with heavier loads, your body will respond by gaining more muscle.

If you employ shorter rest periods between sets while maintaining the same total work output, your body will respond by improving conditioning and melting unwanted body fat.

If you perform a new exercise altogether that challenges your body in a very unique way, your nervous system will quickly figure out how to master this movement resulting in increased performance.

The human body is a smart and efficient machine and will quickly adapt to any training plan that you throw its way. Within the first two to three weeks of any new training program you will notice the biggest improvements in your performance and physique. However, the human body is constantly striving for homeostasis and efficiency and after performing the same program for about four weeks there are diminishing returns.

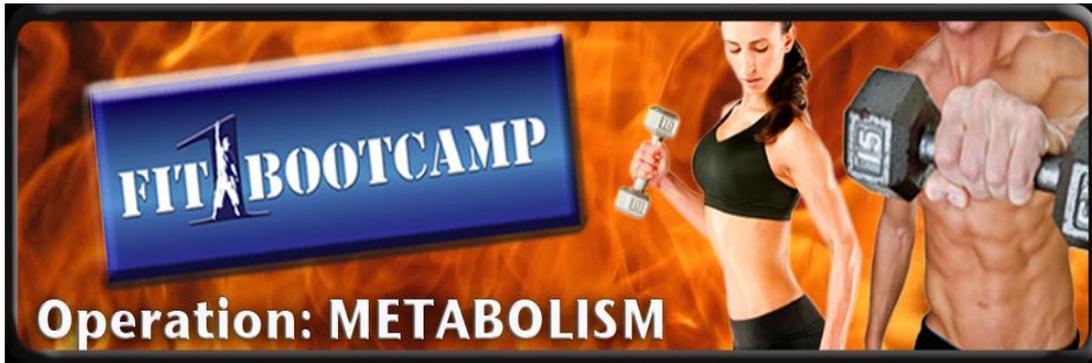
That's why I change-up your fitness routine every month. By simply tweaking a couple of variables in your training plan, like the exercise selection, exercise order, work periods and rest periods, etc., you provide a new stimulus that will force your body to change and prevent dreaded plateaus.

New exercises require more mental and physical energy to perform thus burning more calories and causing a greater metabolic disturbance and this is exactly the type of stimulus your body needs to break out of any fitness rut.

In addition, let's not forget about the mental component: The brain needs variety and performing the same routine for extended periods of time will decrease motivation.

Over the years I've discovered with my clients is that if I simply swap in new exercises and move to a different interval training protocol every three to four

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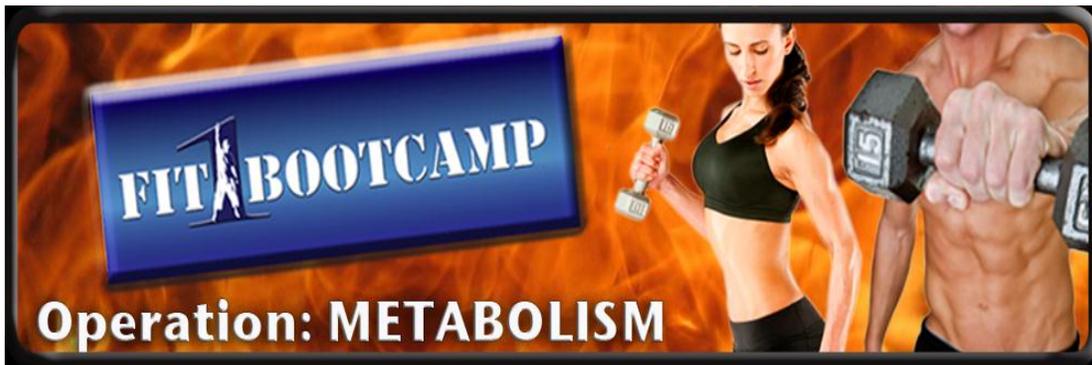


weeks I can constantly keep their bodies changing and performance continues to improve.

# How “Metabolic” is Your Workout?

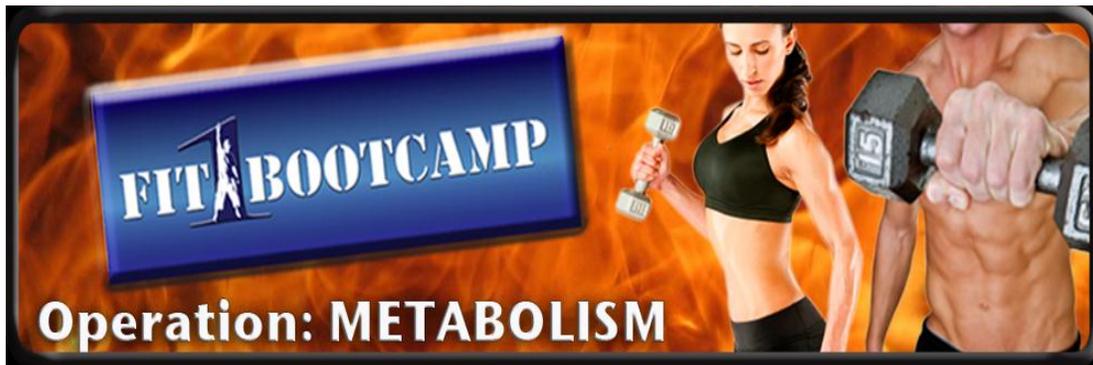
*Please reference the chart below to assess the current metabolic status of your fitness routine. If your main goal is to improve your body composition (burn body fat and build lean muscle) and revamp metabolism then you absolutely must structure your workouts to fall under the metabolic breakthrough column.*

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<b>Variables</b>	<b>Metabolic Rut</b>	<b>Metabolic Breakthrough</b>
<i>Training Split</i>	Daily body part workouts	3 total body workouts per week with ideally 48-hours between workouts
<i>Length of Workout</i>	60 minutes or more	30-45 minutes or less
<i>Exercise Selection</i>	Single-joint, isolation exercises that address only 1 plane of movement	Functional multi-joint, compound movement patterns that address all 3 planes of movement
<i>Exercise Intensity</i>	Low-intensity work periods of 2 minutes or longer to burn fat	High-intensity work periods of 30-60 seconds or less to burn sugar
<i>Rest Periods</i>	Long rest periods of 2 minutes or longer	Short rest periods of 30-60 seconds or less
<i>Exercise Order</i>	Straights sets of a single exercise	Circuit Training: Alternating sets of non-competitive exercises
<i>Periodization</i>	Perform the same fitness routine for 6 weeks or more	Progress to a new fitness routine every 3-4 weeks

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## Putting It All Together

Now that we've outlined the seven keys to metabolic breakthrough, let's put it all together in a readily usable metabolic training program so you can start cranking it today!

A **Metabolic Workout** features a total body workout that employs high-intensity work periods with short rest periods in an alternating set or circuit format that combines the muscle-building benefits of resistance training with the fat-burning benefits of interval training. The result is a killer bootcamp-style workout that will supercharge metabolism for up to 48 hours post-workout, tone and tighten your whole body, blast stubborn fat, and get you into the best shape of your life with only three 30-minute express workouts per week.

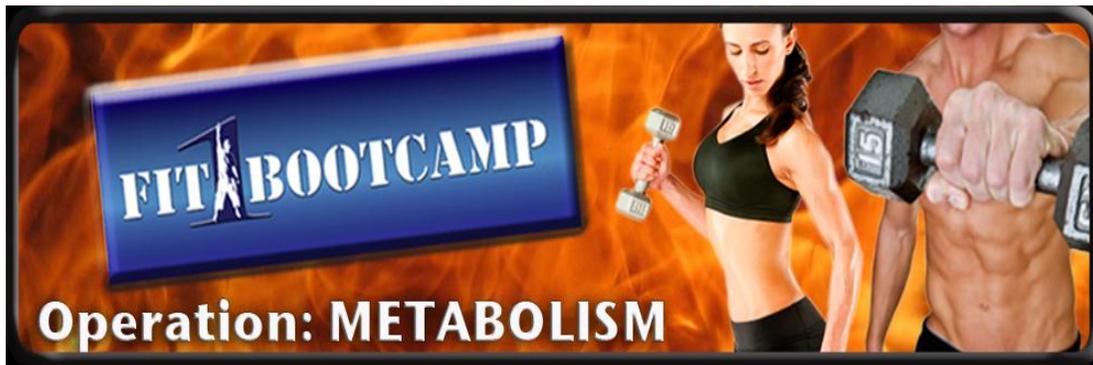
If you recall from the Gibala study, it was determined that 30-second maximum effort work periods followed by four minutes of rest for 20 straight minutes resulted in identical fitness improvements and greater weight loss than 90-120 minutes of aerobic training. By building a circuit of non-competitive exercises we can allow for this same full recovery, and thus peak intensity, by the next time we return to the original exercise.

Furthermore, we demonstrated that 30-second max effort work periods provide both a big-time metabolic boosting muscle-building stimulus plus deplete your body's sugar stores at optimal rates forcing it to burn more fat during recovery period and in the hours and days between workouts.

In addition, I outlined the Tabata study which found that a 2:1 negative work to rest ratio found in a 20-seconds on, 10-seconds four-minute high-intensity interval training protocol resulted in greater fat loss and conditioning than 60-minutes of steady state cardio. Short rest periods increase training density and produce a growth hormone response that boosts whole body fat-burning and lean muscle gain.

However, I have found that for most de-conditioned beginners, 20-second work periods do not allow for a sufficient amount of time to adequately perform enough muscular contractions for optimal results and that 30-second work periods are a

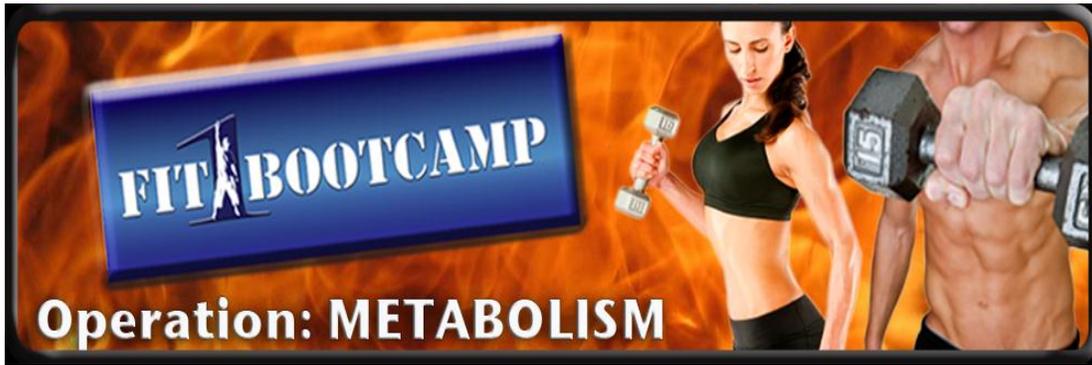
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much better time frame to best accommodate people of all fitness levels. Using this 2:1 negative work to rest ratio for 30-second work periods means that we would employ a 30-15 interval protocol with 15 seconds of rest between exercises.

Ladies and gentlemen, without further adieu, below is what I've discovered to be the ultimate metabolic experience... **30-15 Six-Exercise Metabolic Circuit- 20 Minutes:** Alternate between 30 seconds of work and 15 seconds of rest for each exercise in the following 6-exercise circuit followed by a 60-second rest and transition between circuits. Perform up to 4 total rounds for a 20-minute total body workout.

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Station#	Exercise Variation
1	Hip-Dominant Variation
2	Push Variation
3	Knee-Dominant Variation
4	Pull Variation
5	Pillar Variation
6	Total Body Variation



**About Len Benoit, CPTS:**

As a fitness professional, and student of achievement sciences Len is dedicated to helping clients take control of their bodies. His success is measured by their success.

As a martial artist and a life-long workout junkie, he discovered his calling was to empower others to forever change their bodies and lives for the better. Len has a unique ability to translate his own personal failures into remarkable successes for the people he works with.

Len is fitness boot camp owner and instructor. He owns and operates *FIT 1 METABOLIC BOOTCAMP* in Etobicoke which features 30-minute metabolic boot camp workouts coupled with 30 minutes of corrective, exercises for people looking to optimize body composition, enhance performance, and overall health. To learn more please visit:

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