Training articles by Joseph Ralph

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TRAINING THRESHOLDS

Most likely, the first thing you do when you jump into something new is ask yourself what it is you want to achieve from this environment, and work out a plan on how to achieve your objective.

- Do you want to improve your cardiovascular system and get fitter?
- Do you want to get leaner?
- Do you want to put on mass?
- Do you want all of the above?

When it comes to health and fitness, most people lack the education they require to be able to make the informed choices that will enable them to achieve their health and fitness goals.

There are a few different training thresholds that we can access to move in the right direction, towards achieving the desired effect from our direct training efforts.

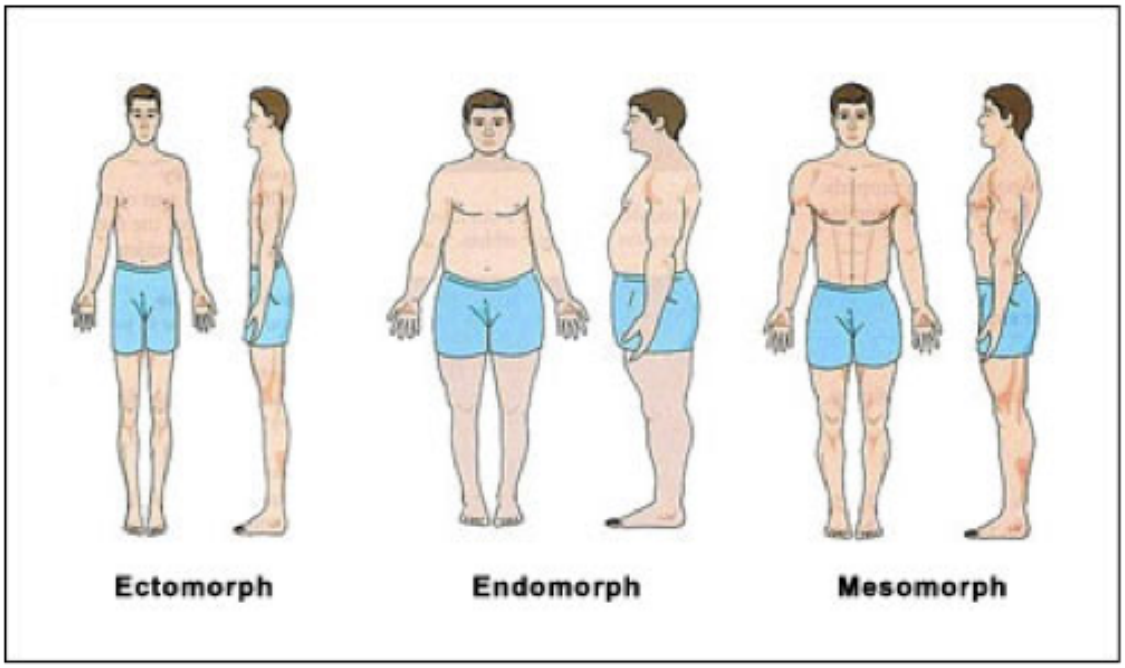
ZERO IN AND ACHIEVE YOUR GOALS

Sheldon's "somatotypes" and their supposed associated physical traits can be summarised as follows:

- Ectomorphic: characterised by long and thin muscles/limbs and low fat storage; usually referred to as slim. Ectomorphs are not predisposed to storing fat or building muscle.

- Mesomorphic: characterised by medium bones, solid torso, low fat levels, wide shoulders and a narrow waist; usually referred to as muscular. Mesomorphs are predisposed to build muscle but not store fat.

- Endomorphic: characterised by increased fat storage, a wide waist and a large bone structure; usually referred to as fat. Endomorphs are predisposed to storing fat.



Everybody has different body types, handed down genetically. The body type you have will determine the type of work set intensity that you will hit your muscles with. The thicker the muscle, the more "work sets" you will be able to utilise throughout your training regimen. This has everything to do with the potential for how big your response will be to everything, from size to strength and even how lean one will get.

On account of the diversity of human reproduction, we must always take into consideration that most of us are hybrids of two body types. One of your parents might be short and thick, while the other might be tall and thin.

BASIC ANATOMICAL ADAPTATION

If one is a beginner, this should be the very first training phase one should approach. It is a basic high repetition, low weight approach. This gives your tendons and ligaments time to adapt to the training and get stronger before you start putting more weight load on them.

It's also good practice to use this anatomical adaptation phase in your routine even if you are advanced in your training. What this does is allow the body to recover from the heavy weight loaded training regimens, so that when you do actually get back to the hypertrophic response repetition ranges, your body has had a well-deserved rest. And it also gets a well-deserved shock back into a fresh approach. Not only is it good for your body to change your training thresholds, but it's also good for your head not doing the same old stuff all the time.

For the beginner, during the anatomical adaptation phase, you should perform your sets around the 20 repetition max range on all of your movements. We would advise sticking to big, compound movements. However, for someone who is just throwing it in their training to mix things up, you can certainly do both compound and isolation movements. What you will find is that when doing the high repetitions, it really gets the blood volume into the muscles... feel the burn!

HYPERTROPHY

Hypertrophy is muscle growth. This is the second stage of progression for a beginner. You will have to start putting heavy loads and isolation movements into split routines (we shall cover split routines later).

For hypertrophy repetitions, change from upper body to lower body.
Ok, let's say we are doing a bench press. Pyramiding is as follows:

UPPER BODY	LOWER BODY
Set 1. 10kg – 16 rep max (warm up set)	20rep max
Set 2. 20kg - 12 rep max (warm up set)	16rep max
Set 3. 30kg - 6-8 rep max	10-12 rep max

Set #3 is your first target 'work set'. One might do 1-3 work sets before moving on to a different movement and starting the pyramid process again.

STRENGTH/POWER

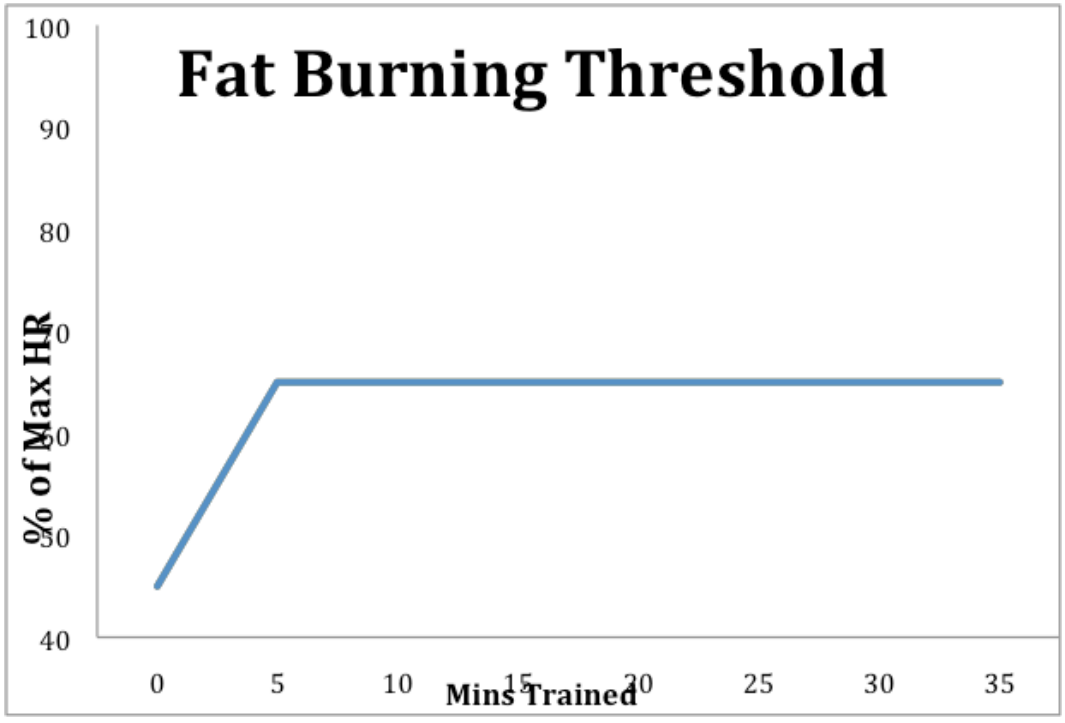
We need to be advanced for this type of training. What we mean by this is that you need a basic foundation of muscle; these power/strength training moves are big compound movements, such as squats and deadlifts, done in low repetitions of three and four. It's very important that you use a pyramid system to get yourself into your target sets (work sets).
Set 1. 20kg – 16 reps, warm up set
Set 2. 40kg – 10 reps, warm up set
Set 3. 60kg – 4 reps
Set #3 is your first target 'work set'. One might do 1-3 work sets before moving on to a different movement and starting the pyramid process again.

CARDIOVASCULAR THRESHOLDS

There are a few bits and pieces about which we should educate ourselves when getting involved in the cardiovascular side of training.
The difference between aerobic and anaerobic cardiovascular training thresholds is as follows:

AEROBIC THRESHOLD

This is a very specific threshold indeed and is very often misunderstood, with most people just not getting what it's all about. The aerobic threshold's biggest energy source is fatty acid. Speaking from years of experience in coaching, for some reason, no matter how much an individual wants to lose body fat, usually the only thing stopping them is the fact that they don't stay in their aerobic threshold and focus on the low intensity stuff, where the direct energy source is fat.



What usually happens is that they get the idea that harder is better, so they end up leaving their aerobic threshold and moving into their anaerobic threshold, which is going off course and starting to use carbohydrates as energy, not fat. It's that simple. To identify the heart rate that will guarantee that you are in your aerobic threshold, find your maximum heart rate, which is done in the following way:

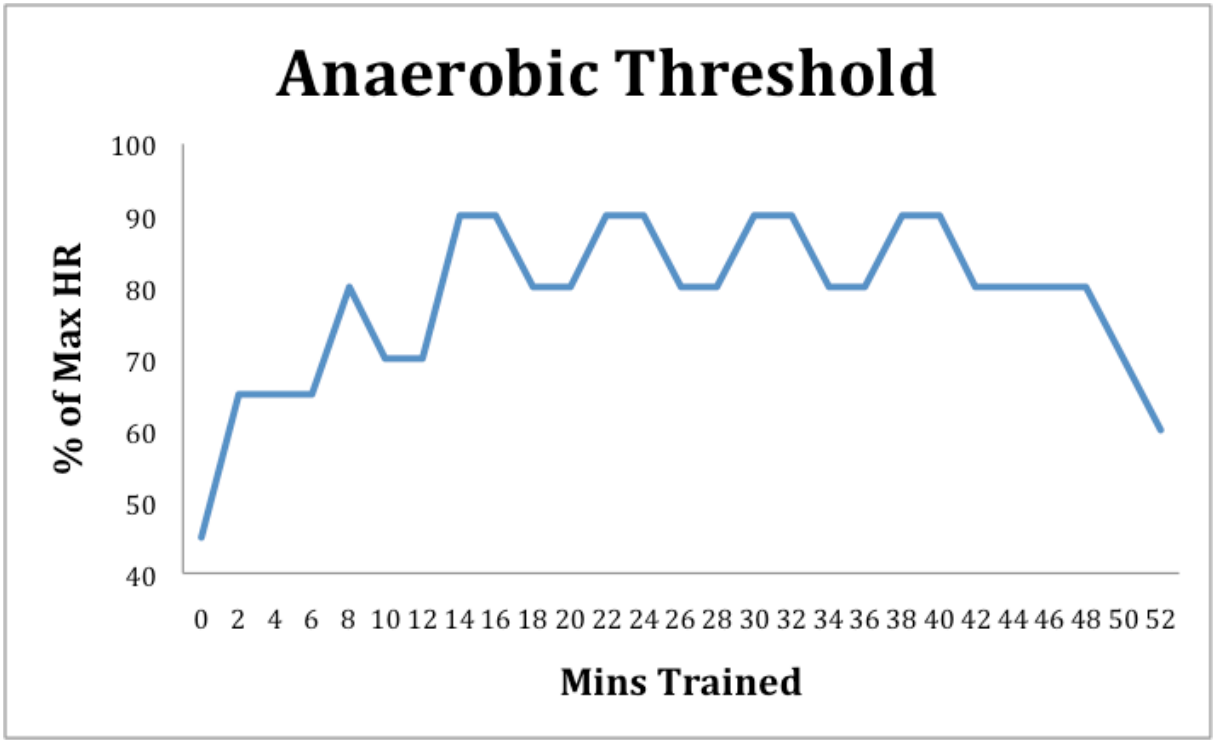
Women = (220 - your age)
Men = (224 - your age)

You should aim to be at around 60-70% of your maximum heart rate (unless you are extremely fit). Generally speaking, if you go above this mark, you are going to start tapping into your anaerobic threshold, therefore burning carbohydrate stores from the muscle cells.

ANAEROBIC THRESHOLD

So let's say that the aim of your workout is to get fit. Fantastic! This is a great thing for everyone to get involved in. The anaerobic threshold is the place you want to be. For the average individual, the anaerobic threshold is around 70% of max HR and above. This is where you start to push the heart and lungs, and physical fitness levels go up as your body gets used to the levels at which you push it. You will find that within two or three sessions at a certain resistance or speed or incline, your body will start to feel like it isn't such a challenge, and that's the key moment when you follow your instinct to increase the speed, duration, incline or resistance. DO IT!

As soon as you start going above the 70% MHR, your body also starts to use a different energy source from within. ATP is what becomes of carbohydrates when they are consumed. Unlike fats, it's not quite in such abundance. As you eat, it stores in the muscle cells and in the blood, however as you train, it will quickly disappear, becoming the energy source that moves you.



INTERVAL TRAINING

Interval training is a great way to get fit; spiking your heart rate up around the 90% mark, taking it down for as short a rest as you can afford, then getting it back up there. The idea is to do this over 40 minutes to an hour, so that you build up time in those high anaerobic thresholds. There is a bit of science flooding the market suggesting that intervals are the best thing to get you lean. Losing fat this way is achievable if you are mesomorphic or ectomorphic. However, if you are endomorphic, you would have very little chance of losing weight this way, with high odds of injuring yourself.

SUMMARY

Ok, so when we are at 110-140 bpm, we are using fats as energy from around the body's fat stores. When we are at around 140bpm and beyond, we are using glycogen/carbohydrates from within the muscles' energy ATP stores.

GUIDELINES ON LOSING FAT FROM THE DIRECT EFFECT OF AEROBIC TRAINING ALONE:

You may not be aware that 1kg of fat tissue equals 3500 calories. Furthermore, 1 hour of aerobic threshold cardiovascular training is going to burn around 600 calories. Therefore, 6 days of aerobic training in this threshold (training 1 hour per day) will give you around the 3600 calorie deficit mark that you are looking for. BINGO! There you have the key to weight management through cardiovascular threshold training. And if you are combining this practice with proper nutrition, then even better. There should be no excuse for you to be out of condition and overweight.

So move your body for one hour a day, simple as that. It's not astrophysics, however you do need to know where your optimal range for fat burning is. As a reminder, it's between 110-140bpm, depending on your age. For women, maximum heart rate = 220 minus your age. And the fat burning threshold is 70% of the maximum heart rate. For men, maximum heart rate = 224 minus your age. And once again, the fat burning threshold is 70% of the maximum heart rate.

If you are just looking to get a bit leaner, then a few cardio sessions per week should cut you up pretty quickly. If you have a lot of work to do, then get on with it. An hour a day six days a week is definitely required. Six days out of seven is not bad, and be sure to give yourself a day off in the middle. You should definitely be getting your weight management sorted out through a double pronged attack, with proper nutrition as well as cardio aerobic threshold training.