



The Science of Fat Loss

Day 3: Calories OUT



A quick recap: (click the link below)

Day 1 - [Energy Balance & your Metabolism](#)

Day 2 - [Calories IN](#)

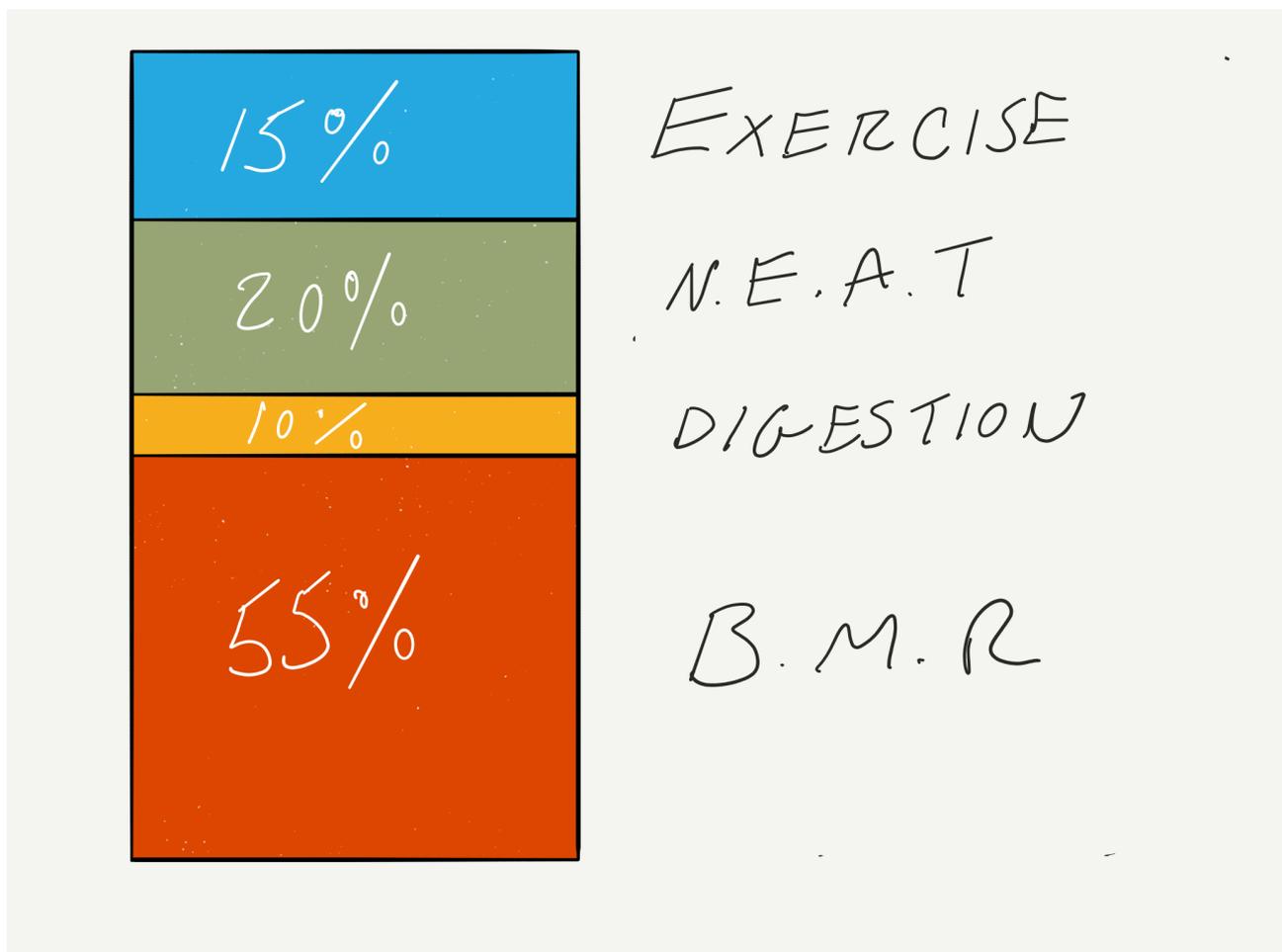
Energy Output (aka burning calories)

Very quickly, we need to remind ourselves of what our "energy output" consists of.

Remember this picture from lesson 1?

The pic below is a reminder of what our daily "metabolism " consists of.

aka our **T.D.E.E** (Total **D**aily **E**nergy **E**xpenditure)



The total amount of energy we expend on a daily basis consists of these 4 parts:

1) BMR (breathing, living, bodily functions)

We can influence this a little bit - which we cover in the 'exercise' section of this lesson, and also tomorrow's lesson on 'Fat Loss Vs Weight Loss

2) Digestion (breaking down food in our body)

We can't really influence this

3) N.E.A.T (aka walking, housework, general low level activity)

Believe it or not, this might be the key to you creating an energy (calorie) deficit) and starting to lose weight steadily and consistently!

4) Exercise (fitness and sport)

This is where most people focus.

And it IS a focus for us.

But not for the reason most people think (which is sheer brute force of trying to burn calories)

N.E.A.T

aka **N**one **E**xercise **A**ctivity **T**hermogenesis
aka daily activities of living
aka walking etc



Most people discount this area, as a means of expending calories.

The belief is firmly that if we're not going "balls out" at something, working up a sweat or making ourselves hurt in the process, then we're not really being that active.

The modern rise in stupid "motivational" memes is testament to this.

Crap like "sweat is just fat crying"

No, sweat is the body's physiological response to getting warm, and is an attempt to cool it down;-)

Anyway.....

Whilst we DO expend less calories per hour, when we compare say, walking to running.....

The chart below gives an approximate calorie burn per minute of various forms of activity.

Note that it differs dependent on your weight - the more of you there is, the more energy you will burn, doing something!

Activity	Calories/min.	120 lb.	140 lb.	160 lb.	180 lb.
Basketball	7.5	8.8	10.0	11.3	
Bowling	1.2	1.4	1.6	1.9	
Cycling (10 MPH)	5.5	6.4	7.3	8.2	
Dancing (aerobic)	7.4	8.6	9.8	11.1	
Dancing (social)	2.9	3.3	3.7	4.2	
Gardening	5.0	5.9	6.7	7.5	
Golf (pull/carry clubs)	4.6	5.4	6.2	7.0	
Golf (power cart)	2.1	2.5	2.8	3.2	
Hiking	4.5	5.2	6.0	6.7	
Jogging	9.3	10.8	12.4	13.9	
Running	11.4	13.2	15.1	17.0	
Sitting, quietly	1.2	1.3	1.5	1.7	
Skating (ice and roller)	5.9	6.9	7.9	8.8	
Skiing (cross country)	7.5	8.8	10.0	11.3	
Skiing (water and downhill)	5.7	6.6	7.6	8.5	
Swimming (crawl, moderate pace)	7.8	9.0	10.3	11.6	
Tennis	6.0	6.9	7.9	8.9	
Walking	6.5	7.6	8.7	9.7	
Weight Training	6.6	7.6	8.7	9.8	

So taking a 180lb person doing 60 mins of walking, they'd expend around 582 calories doing that (60mins x 9.7)

If the same person did 60 mins of running, they'd expend 1,020 calories (60 mins x 17)

But consider this.....

Running for an hour is tough.

In fact most people wouldn't be able to run for that long.

They wouldn't have the fitness or muscle endurance.

And most people certainly don't have enough **TIME** to devote to going for say 3 x 60min runs a week.

Walking on the other hand....

Yes, you'll get tired eventually, but even a very unfit person can walk for several hours without collapsing.

And the opportunity to walk can be found in many different ways in day to day life.

Now consider this:
WARNING: lightbulb moment incoming!

Let's say going for 3 x 30min runs a week is more realistic for someone.

And let's say that someone weighs 180lbs, so from their 3 x 30min runs, they burn a total of 1,530 calories (using the chart from the number above)

To burn the same amount of calories through walking , they'd need to walk a total of 157 minutes.

Across an entire WEEK!

Which is just **22 minutes a day !**

If that person walked for 44 minutes per day (20 mins in the morning and 20 mins in the evening), they would have burnt TWICE AS MANY CALORIES from this activity, as the person who goes for 3 x 30min runs.

We are not suggesting that you replace running with walking, or that one is "better than the other".

You still need to do some 'proper' exercise too, to build strength, mobility and muscle tone (and increase your metabolism....)

We're simply demonstrating that our N.E.A.T is usually the easiest form of energy expenditure to manipulate, because we can build in small, frequent amounts into our daily lives.

Exercise (fitness)

The primary goal (in relation to changing your body) of exercise (defined as working out in the gym) in relation to losing weight is to preserve muscle mass - or maybe even gain a small amount - whilst at the same time losing body fat.

We cover this important topic in more detail in the next lesson (Fat-Loss vs Weight-Loss).

In the context of losing weight/fat, there are two main components:

1) Resistance training (lifting weights)

2) Interval training

Resistance training aka lifting weights



For a lot of women, when they hear terms like "muscle" and "lifting weights", the immediate thoughts is "but I don't want to get big and bulky"

It's one of the biggest myths in Fitness, and just won't seem to die - which is a shame.

RULE 1 - *It is incredibly difficult to build significant amounts of muscle, without lots of testosterone (you know, the hormone that women only have a small amount of)*

RULE 2 - *it is virtually impossible to add any real muscle to your body, when you're in a calorie deficit.*

Bodybuilders consume way more calories than they expend, because they want as many of the excess calories as possible, to go towards laying down new slabs of muscle.

They will also add some fat in the process, which is why they go through what's known as a "cutting phase" in the weeks before their competitions, where they go back into a calorie deficit.

If you're in a calorie deficit (which is the aim of this course), then **if you lift weights, you'll struggle to do anything to your muscles other than make them stronger and more toned.** (<<<<< which is generally a good thing, right ?)

7 Benefits of lifting weights for women

1) You will lose fat

Muscles have these little fat burning powerhouses called mitochondria.

It's in the mitochondria that fat is 'metabolized', and there is a positive correlation between the amount of muscle you have and the number of mitochondria. It stands to reason that the more mitochondria you have, the more the potential to efficiently burn fat.

2) You will get strong and lean without getting bulky

For the reasons outlined above :-)

3) You will get strong stronger bones

Fighting of things like Osteoporosis that happens to many people as they age.

When you get into your later years, you'll be glad you've got strong muscles and strong bones

4) You will get better at life

ALL daily activities become easier.

Picking the kids up (and maybe throwing them a short distance).

Carrying the shopping.

Moving random, heavy stuff around from one place to the next.

5) You will improve your health health

You'll improve how your body pumps blood (and thus oxygen) around the body.

The heart itself is a muscle and it gets a workout when you give your other muscles a workout.

6) You will develop a stronger mindset

Feeling physically strong ALWAYS leaves your feeling mentally stronger. Trust me, it does.

Knowing that you are physically capable and can rely on your body - it does things for your mental resilience.

The endorphins you get from a decent session of lifting the weights is also pleasant.

7) Did we mention that you'll get stronger AND more toned, with getting big and bulky?

Because, like we keep saying, you don't have enough testosterone and you're in a calorie deficit - therefore you are incapable of growing big muscles.

Interval Training

aka HiiT (High Intensity Interval Training)

INTERVAL TRAINING

HiiT has become incredibly popular the last 5 years or so.

It aligns with the common belief that "if it feels hard, and leaves you in a heap on the floor, then it must be working".

Side note: NEVER, EVER, EVER judge the effectiveness of a workout, by how much of a mess it leaves you in.

A 90 year old woman on the street could tell you to jump around like a maniac and leave you hot & sweaty.

The main benefit of interval training is that it can create something called: E.P.O.C
(what is it about fitness and all these acronyms !??!?!)

EPOC stands for **Exercise Post Oxygen Consumption**

In simple terms, interval training creates an effect on the body whereby your body is trying to "catch up" for many hours afterwards.

Meaning it raises your BMR slightly for several hours after exercise.

Meaning **you burn more calories AFTER exercise.**

This is often referred to as "the afterburn" effect.

Or as we call it, the "metabolic effect".

In our training sessions at Innovate, we've developed and refined a method that incorporates both of these to essential forms of exercise.

Something we've dubbed **Metabolic Resistance Training** [™]



Summary

You understand that to increase energy expenditure (calories out) the focus is on the N.E.A.T and exercise portions of our total daily energy expenditure (our T.D.E.E).

You understand just how important it is, not to underestimate N.E.A.T activities such as walking, as we have far more hours in the week to build them in, than we do traditional exercise.

(And we also looked at how 22 minutes walking a day would burn the same number of calories as 3 x 30min runs a week)

You understand the importance of resistance training for getting stronger and leaner, and how it's impossible to get big and bulky when your goal is fat loss.

And you understand what the real benefit of interval training is (the "afterburn" effect, NOT how many calories you burn during the session).

Coming up in part 4:

Fat-Loss vs Weight-Loss

How you can weigh the same, but be upto two clothes smaller, depending on your muscle-to-fat ratio (<<< you NEED to see this)

The many downsides to losing weight too quickly
How to preserve muscle whilst losing fat.

7 reasons why Fat-loss is better than Weight-Loss

See you in part 4 :-)

Chris Lupton

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#BeMore

www.innovatefitness.co.uk