

# **Complete Guide – How to Set up Your Own Muscle & Strength Program**

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The information provided in this book should be used in a pedagogical purpose only. Me as an author is not a doctor or dietitian. This book is not intended for medical treatment, nor as an alternative to medical advice. Use of the guidelines herein is at the sole choice and risk of the reader.

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## Introduction

Mainly I've chosen to write this guide because there's way too much nonsense out there in the fitness industry when it comes to training with the goal of building strength or muscle, and I genuinely feel you deserve the truth.

My goal with this guide is to teach you about the true ways of training and how to successfully program for yourself. Most of the information now a day comes from short articles, YouTube videos or "broscience". Even though that information *can* be correct, its often not displayed or laid out in the right perspective and a lot of basic information is usually lost explaining a certain subject.

Just as an example. Shorter rest intervals between sets is often thought to be what causes muscles to grow. However, that is not entirely true. The truth is that it's volume and to a lesser intent intensity which causes muscles to grow, not shorter rest intervals. However, shorter rest intervals can be an effective tool of increasing volume and intensity, but it's not what causes muscles to grow in and of itself.

I've compiled all the current research as well as knowledge of some of the top individuals both in the science based community as well as top world athletes and coaches of fitness, bodybuilding, powerlifting and weightlifting. Furthermore, I've also taken a lot of my own experience that I've learned through my 5 years of consistent strength and hypertrophy training.

With the three-core principle of training programming, being: **Specificity, overload and stimuli, recovery & adaptation** this guide will help you through the whole training progress and give you a head start when it comes to making progress in the gym.

The content is structured in an easy readable way and the guide is full of infographics to make you learn and go through it better and faster.

I hope you'll enjoy as you read through, and remember to keep this guide close at hand for future reads as a trusty ground pillar to always go back to when you feel lost.

Training and the manipulation of the human body is a complicated craft, which often causes emotions of doubt. But fear not, you now have all the basic and important knowledge up to date in one place.

# Step 1: The Principle of Specificity

Key points:

1. What is specificity and why is it the number one priority for creating a training program?
2. Why training in a nonspecific way takes you away from your goal. Something that seems obvious, yet this is where so many people end up spinning their wheels, losing out on both time and progress.
3. Learn how to identify your goals ahead of time so that you can properly set up your own training.

## What is specificity?

The principle of specificity is important when setting up a training program for one reason, which is: To achieve any goal such as speed, strength, hypertrophy, muscular endurance or cardio, training must be done with specific methods in order to reach the specific goal.

You see, exercise is a form of stress and the body will adapt to the stresses that is put on it. This is also known in exercise science as SAID – Specific Adaptation to Imposed Demands. What this principle states are that your body will get better at the exercises you chose to do.

When you exercise in a particular way, you expose your body to an increased workload to which it will adapt. Here is an example.

If you lift heavy weights regularly your body will get stronger, this happens because:

1. Your nervous system gets more efficient at recruiting motor units for prime movers, causing those muscles to contract harder while antagonist muscles relaxes.
2. You get better and more comfortable with the exercises and weights used to demonstrate strength.
3. Your myofibrillar muscle mass increases which gives the nervous system more contractile tissue to recruit resulting in more strength.

These adaptations will only take place if you're lifting with weights that are heavy enough, and they will take place faster if you can do it often. That's why specificity is so important when setting up your training, it's the principle that forms the base of the entire program.

## The danger of being to unspecific

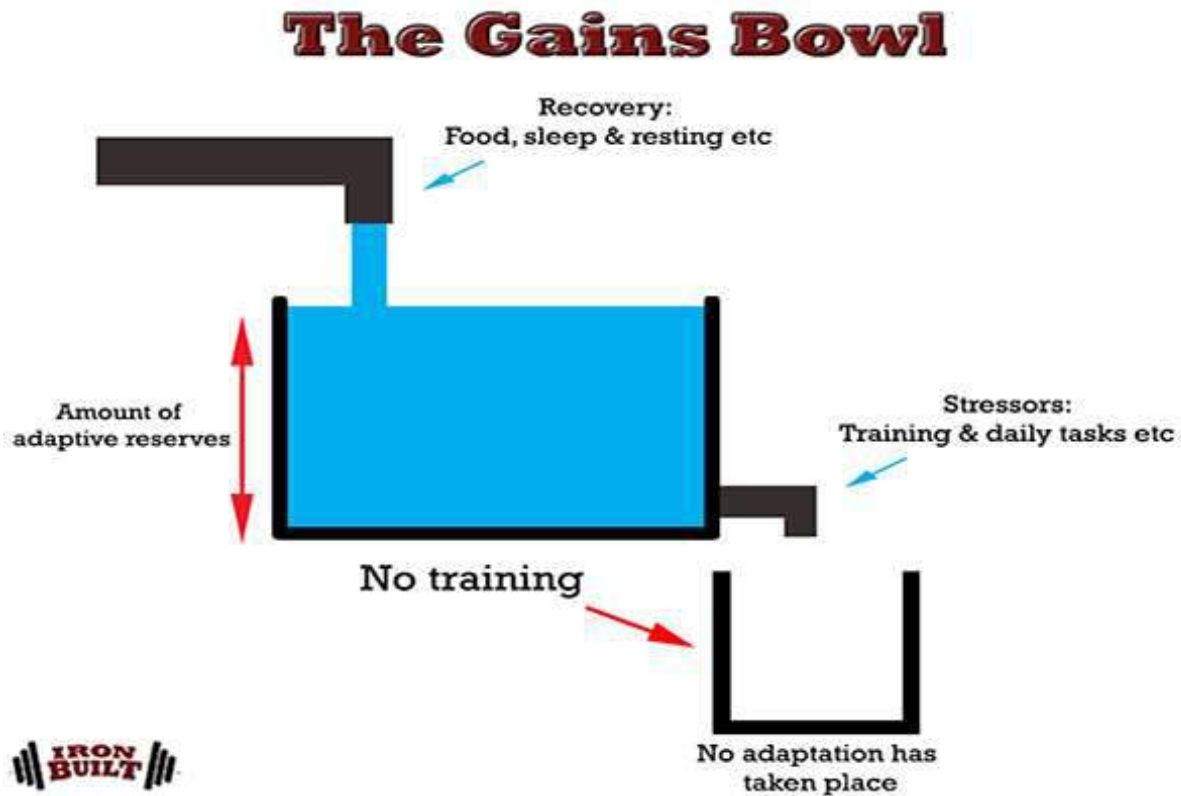
By doing something that is not in line with your goals you violate two huge key factors required for making specific progress, which are:

1. Adaptive reserves
2. Skill acquisitions

## Adaptive reserves

When you're training to get better at something whether it be lifting, endurance or any other endeavor, you dip into what I like to call your "gains bowl". Think about this bowl as it contains your adaptive reserves. When you do something that challenge you, you take a sip from the bowl, leaving you with less reserves to adapt to something else.

When you're not training, and are fully recovered, the bowl looks like this:



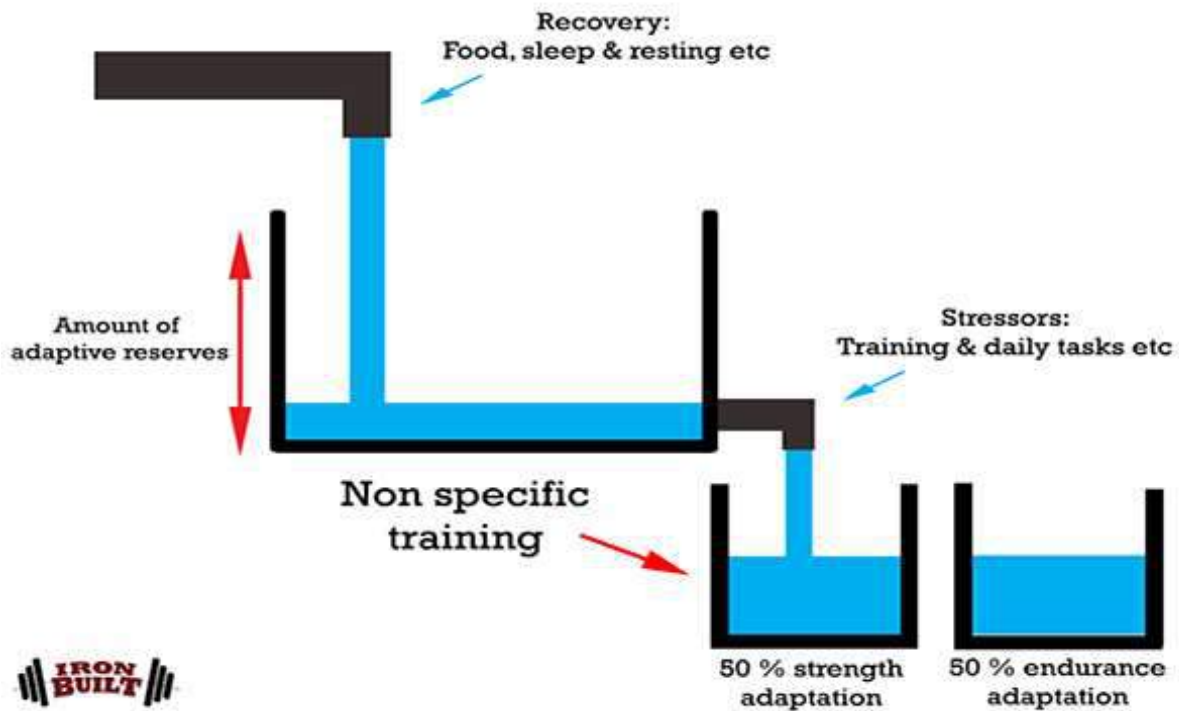
*(I chose to exclude life-stressors for simplicities sake, just to make the point of training):*

Now let's say that your main goal is to increase your strength with the powerlifting moves, i.e. Squat, bench and deadlift for an upcoming powerlifting meet.

But at the same time summer appears around the corner with a couple of awesome running races that are too good to miss out on. So, you decide to train some endurance as well.

What will happen is that two different stressors take their own share from your bowl leaving your body with less adaptive reserves to make the best adaptations for either one of these goals. The bowl now looks like this:

# The Gains Bowl



*This is just a simple illustration to get my point out. The body is a lot more complicated. For example, the recovery faucet can adapt and get bigger or smaller, the body can also adapt better to endurance than strength for some people and vice versa.*

But what's still true is that you violated the rule of specificity by doing concurrent training. You ended up with less strength coming in to your powerlifting meet, you also ended up with less endurance to set good times on the running races.

So, the takeaway is this. *If you wish to be great at one certain thing you should choose wisely what to do with your adaptive reserves.*

This doesn't just hold true when doing concurrent training like strength and endurance. Even several types of lifting cause different adaptations, to a degree.

## Skill acquisitions

### Exercise selection, rep ranges and other variables

It seems that similar exercises often stress the body in dissimilar ways. And what I mean by this is the following, let's look at an example:

Jake has a goal to bench press 3 plates, 140 kg (315 lb.) by the end of summer, which is 8 months out, with a current bench of 100 kg (225 lb.) A goal that is totally attainable by the way.

To reach this goal Jake must adapt his body to a certain workload that makes him able to do the lift. But not only that, he also must become skilled with handling big weights in the bench press. And remember, as I wrote earlier, to do so most effectively he must:

1. Train his nervous system to recruiting the most amount of muscular motor units possible.
2. Get efficient with the movement he will use to display his strength with, the bench press.
3. Increase his muscle mass, to give his nervous system more contractile tissues to work with.

The problem is that Jake's friends don't like to bench press, so instead of training alone he only does flat dumbbell presses, incline dumbbell presses and cable flyes for high repetitions.

After 8 month's this will leave Jake with, perhaps the correct amount of muscle mass to actually being able to lift the 140-kg bench press which was his goal, but missing the lift by far.

Lifting heavy weights is very much a skill that we, just as with anything else, learn by doing it a lot. Even though Jake effectively trains all the correct muscles used in the bench press he still misses out on number 1 and 2 from above, which are two key factors to rapidly increase strength.

This clearly shows that specificity is king when it comes to programing.

Not to say this is totally time wasted though. Jake have certainly increased his muscle mass with all the other types of pressing being done. So, with practicing the bench press, heavily enough for some time, Jake could find himself being able to bench press the 140 kg's.

The only thing that happened is that he reached his true goal later than he would've been able to, if he only included heavy bench pressing from the start.

So, what to do then?

## Identify the goal, and stick to it!

This will be somewhat harsh, but it will also be very true.

If your goal is to be really good at anything, you have to be specific to that certain thing.

There will be times that you can't train the same way your friends do, there will be days when you're not motivated to do what is necessary to reach your goals, and you might even get to a point during your training journey when you start questioning if the dedication necessary is even worth it.

I'm not saying this to sound negative or to let you down. But know this, if your goal is to do really well, whether it be in bodybuilding, powerlifting, running, cycling or any other sport, specificity is the way to go and you must stick to it!

With that said though, I will shine some positivity into this as well. Not all of us have the aspiration of being the very best in sports such as those above.

## What does being specific mean to you?

Maybe your goal is not to be the best in the world at something? Maybe you just want training to be fun? Or maybe you're training for health and to look a bit tighter?

That's great! Specificity is in its essence what *your* goals are with training.

You can without a doubt build a lot of muscle, strength and endurance simultaneously. This is something that has been studied a lot. (1), (2), (3)

If you want a more practical point of view just look at crossfitters, they are widely known to gain both strength and endurance simultaneously.



*(Picture of Rich Froning. Multiple times winner of the CrossFit games and the fittest man on earth, looking more jacked and muscular than ever while having great cardiovascular endurance)*

However, will it be optimal for building as much muscle, strength or endurance as possible? Most certainly not. But if your goal is to be good at different things it should not matter, because that's what specific training is to you.

Same goes for 40-year-old Julie who has 3 kids and a fulltime job to attend to, who spends 3 hours a week away from her family and job to workout. Will she have a shot of being the best at anything fitness related? It's possible but highly unlikely, unless she sales her kids, quit her job and put all her time and recovery into training for that goal. But does it matter? No, because Julies goal of training is to be a happier and healthier individual, for herself and her family. That is what specific training means to her.

I think I've made my point clear. I could make more examples, but with the courtesy of stopping before your eyes glare out of your head I end with those two.



## Specificity, the foundation of any good training program

Some of you might already understand specificity? Some of you might just want to know how to make the perfect training program right away.

But for some of you that are reading, I hope this has helped set your mind straight on what your training goals are, saved you from spinning your wheels and provided new knowledge to lay the foundation for high quality training programming to come.

Next up, we will dig deep into the nuts & bolts of programming itself and we will of course take specificity with us to build upon, as it is the number one priority.

# Step 2 – The Principle of Overload

Key points:

1. What does overload mean? What the definition are, why it's the second priority in a training program and why we need to do it to make sweet gainz! With a "z" of course.
2. How to achieve overload? Through manipulation of different training variables such as intensity, volume and frequency, while also including progression and periodization.
3. How to program? Learn how to set up an overloading strength or hypertrophy program through beginner, intermediate or advanced stages of your career.



Now that we have the knowledge of specificity with us, we've got something to base and build our program on. If you haven't read the first step about specificity, I really suggest you go do that. A lot of the upcoming information will be based on the principle of specificity.

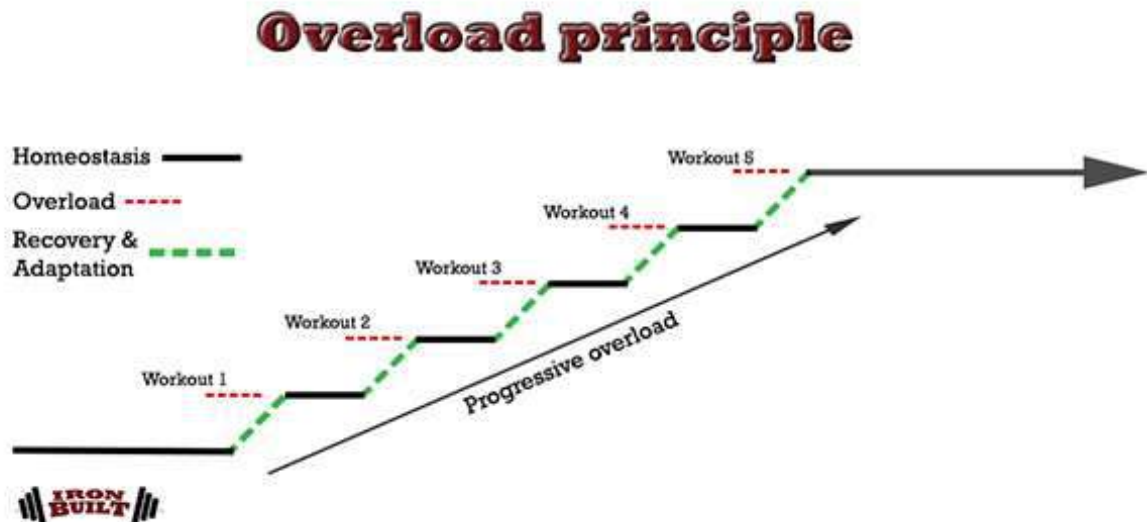
Also, as I continue with this guide I will focus solely on strength sports, primarily bodybuilding and powerlifting. That's where my interest lies, but more importantly, that's where I have most of my knowledge.

So, let's dig deep into program creation.

## What overload means and why you should do it

The principle of overload is the following: To get stronger and/or more muscular we must disrupt our physiological homeostasis with methods specific to our goal. What this means is that we must place a greater stress on the body than what it's used to, to make progress.

However, when we've adapted to that stress, we need an even greater stress to continue making adaptations. This is known as progressive overload, a concept which looks like this:



*This is a simplified graph showing you the concept of overload. Homeostasis works like a thermostat, always striving to achieve balance. When we impose an overload, we set our thermostat of course, and our bodies perceive that as a threat. This starts a bunch of recovery processes to get the body back into homeostasis. When recovery is completed the body also, during right circumstances, adapt to further handle that overload better in the future. This graph shows just how easy a beginner would be able to progress when training, i.e. from workout to workout.*

## Why is it the second priority?

This is rather self-explanatory, but heck I go with it anyway. Overload has the second place after specificity when creating a training program because it's the first step in the process of making new adaptations in line with the specific goals. In other words, without overload there will be no growth. A phenomenon that is true in all aspects of life.

Just take psychological growth, such as studying hard for a math test for example. When done right that should be very taxing and tiring, because while studying we actively overload our brain with information which it after some rest and recovery will remember and keep as its own. Same as with muscle or strength, only difference

here is that we made brain gains instead.

**“Education is important  
but big biceps are importanter”**

Well, we're not interested in intellectual gains now, are we? So, let's take it back to training.

The bottom line is that overload is necessary for making progress, no matter the goal. And fortunately, when it comes to training it's actually pretty easy to manipulate a few key factors which causes overload.

## How to achieve overload?

So, the question has been set, how do we get gainz?

As I described earlier, the bottom line is to do more over time and gains will come.

But, more of what?

Here's the thing. Every strength and hypertrophy program ever created, such as 5/3/1, Sheiko, Stronglifts 5x5, Max-OT, HST, all have one thing in common.

They manipulate **volume, intensity and frequency**.

Following cookie cutter programs online is a fine place to start. But, the quicker you learn that it's the manipulation of these three pillars that net our gains, not a fancy program that famous people in the fitness industry coined, the faster you will start to see progress.

The moment you learn how to program for yourself the amount of volume, intensity and frequency will always be more accurate for what *you need*, based on *your body*, *your genetics* and *your training experience* to make optimal progress.

*OBS. From now on I will use examples for both strength and hypertrophy, separately. It's much easier to understand the differences between those two goals when educated that way.*

## Volume

Training volume is the main driver for long term gains both when it comes to strength and hypertrophy. This has been shown in studies as well as practice, repeatedly.

Volume is the total amount of work being done and is most basically defined as sets\*reps. However, when it comes to lifting, we must take the weight we're lifting into consideration when measuring volume as well. That will make sure most of our volume is effective volume, designed to reach our specific goals. But we'll go deeper into that later, in the intensity part.

## The relationship volume has with strength and hypertrophy

### Strength

Since strength is performance based it got a neurological component, a skill component and muscular component. So, to get really strong, not only do you have to get very good at lifting heavy weights, you also have to get freakin' jacked!

Good news, volume is partly what drives all these components. More volume over time will grant more practice with the lifts, as well as increasing muscle mass, which enables us to produce more force. This is assumed however, that we train with specific exercises and specific rep-ranges to our strength goals.

## Hypertrophy

This is where volume really is key. Hypertrophy is primarily related to the total work performed and is less specific to the intensity range or the exercises performed. We can make our muscles grow using various exercises, repetition ranges and loads.

## Measuring volume

Since volume is the main key for improved performance and muscle mass in the long run, there's a good reason why you should learn how to measure it!

Making sure that volume gradually increases as you get more experienced either as strength or hypertrophy athlete is crucial for long term progress.

To do so I like to work, for the most part with these three measuring tools:

- Volume load
- Relative volume
- Number of hard sets

I will quickly break each of them down, explaining what they mean and make an overview of their advantages and drawbacks.

### Volume load (sets\*reps\*weight)

This way of measuring volume gives you a total tonnage of how much work you're doing. Let's say you do 3 sets of 10 reps with 100 kg (225 lbs). This gives you a volume load of 3000 kg (6750 lbs). This way of measuring volume has some big drawbacks, however.

One, it's not comparable between different exercises. For example, volume load created with squats will be very different from volume load created with leg press, even though they probably give the same training stimulus in terms of muscle growth.

Secondly, even within a certain rep-range, such as the very controversial "hypertrophy-range" of 8-12 reps, you'll get a substantial difference in volume load even though 3 hard sets of 8 probably would stimulate as much growth as 3 hard sets of 12.

However, volume load is still a very good measuring tool when used in the right context, like training specifically for a powerlifting meet for example. In that case training would almost exclusively be with the three-big squat, bench press and deadlift, within a small repetition range, say 2-5 reps.

Working with volume load in a strength block such as just mentioned is an accurate way of making sure progress is being made. Both within the block, but also for making sure volume goes up in future blocks.

When it comes to of-season powerlifting or strength training periods where the use of different exercises and rep-ranges are more commonly in order, and most certainly for hypertrophy specific training, there are better alternatives to measure volume.

### Relative volume

This way of measuring volume uses  $\text{sets} \times \text{reps} \times \% \text{ of 1RM}$ . This takes different exercises into consideration. Such as the example above with squat and leg press. With relative volume  $\text{sets} \times \text{reps} \times 80\% \text{ of 1RM}$  for example, will equal the same amount of volume on both squats and leg press.

Relative volume still has the second drawback from above though. That different rep-ranges will yield to much difference in volume, even though they will stimulate somewhat equal amount of gains.

That's why I like using the following volume measurement most of the time.

### Number of hard sets

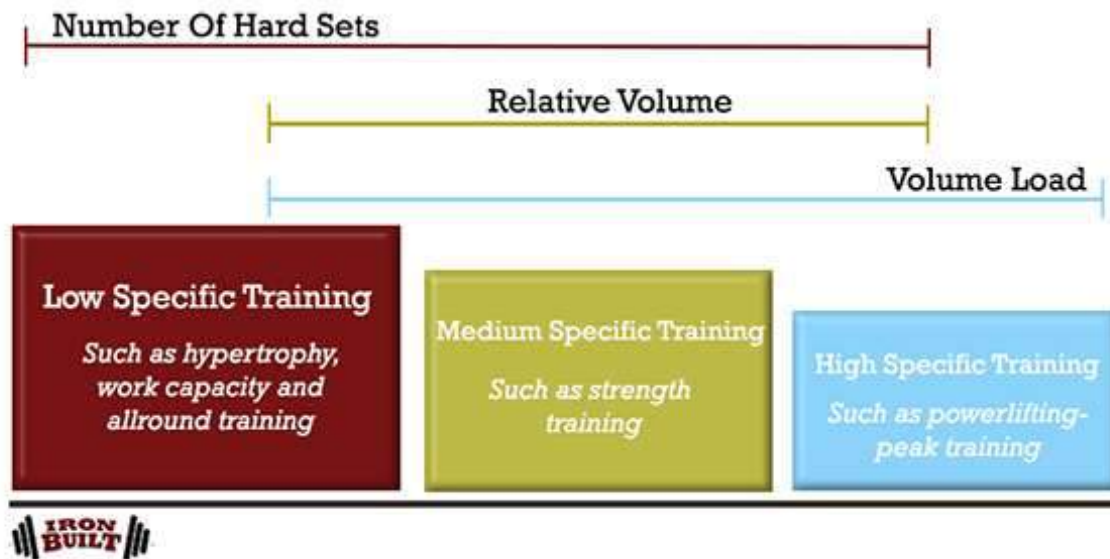
Hard sets are defined as sets taken near failure with a maximum of 1-4 reps away (depending on which repetition range that are used, more on that later). This measuring tool has the advantages that it accommodates for both volume differences between exercises as well as rep-ranges. Meaning that 1 set of squats are the same as 1 set of leg press and 1 set of 12 reps are equal to 1 set of 8 reps.

Another benefit of using number of hard sets is that it's very easy to program with. Increasing sets through a period of time is a terrific way of increasing volume without letting the intensity get to high, resulting in training to failure, which often happens when increases are being made in reps or weight instead. More about failure training later.

A drawback when using number of hard sets are that it doesn't count for volume from easier sets, such as warm-up sets.

We know from the scientific literature that sets far from failure also produce gains, just not as much as harder sets. But if training is mostly done with challenging sets with a brief and productive warm-up (not to fatiguing), the method of *number of hard sets* still stays strong.

## When to use which method

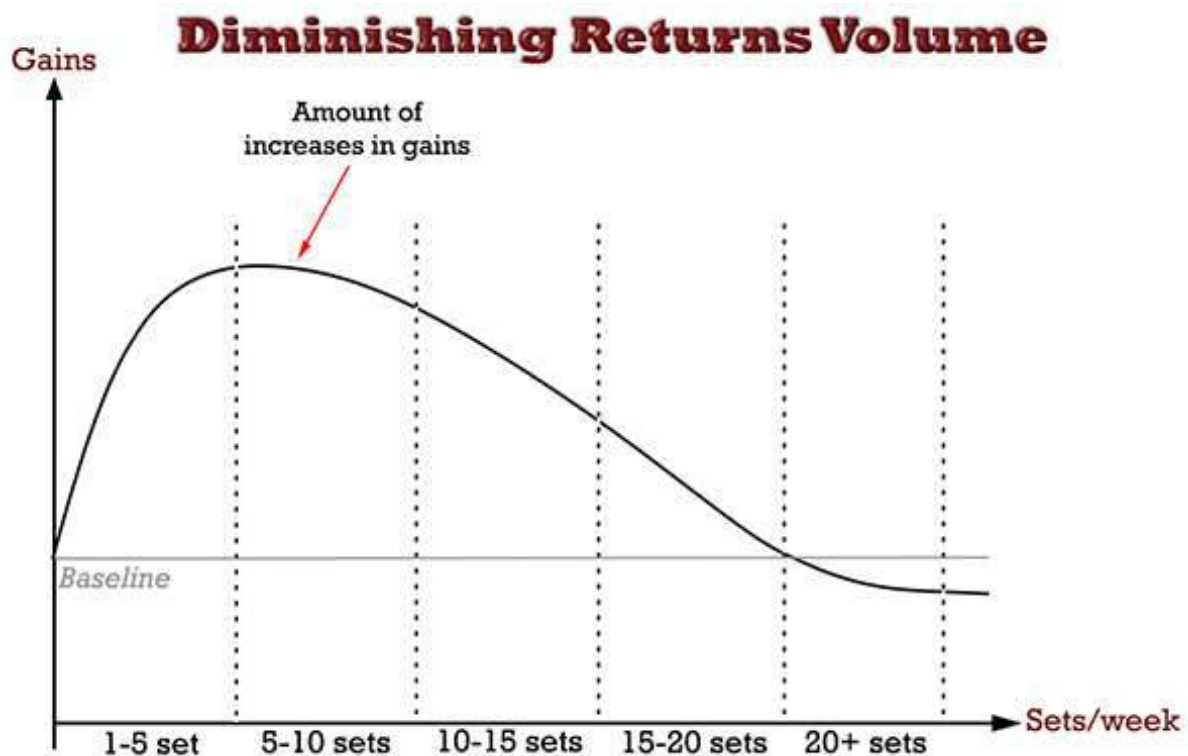


*This picture shows during which type of training that I usually like to work with the different volume measuring tools the most. However, don't view this as something black or white. There can of course be times during hypertrophy training where volume load can work well and vice versa. It's just to illustrate where I've found it to work best.*

### Make sure volume increases during the training career

Both strength and hypertrophy have a linear relationship with volume. So, it absolutely makes sense to increase volume. However, you can't just keep increasing volume indefinitely. Volume only drives adaptation up to a certain point, if you go past that point your progress will stall, going past it for too long and you'll even start to decline.





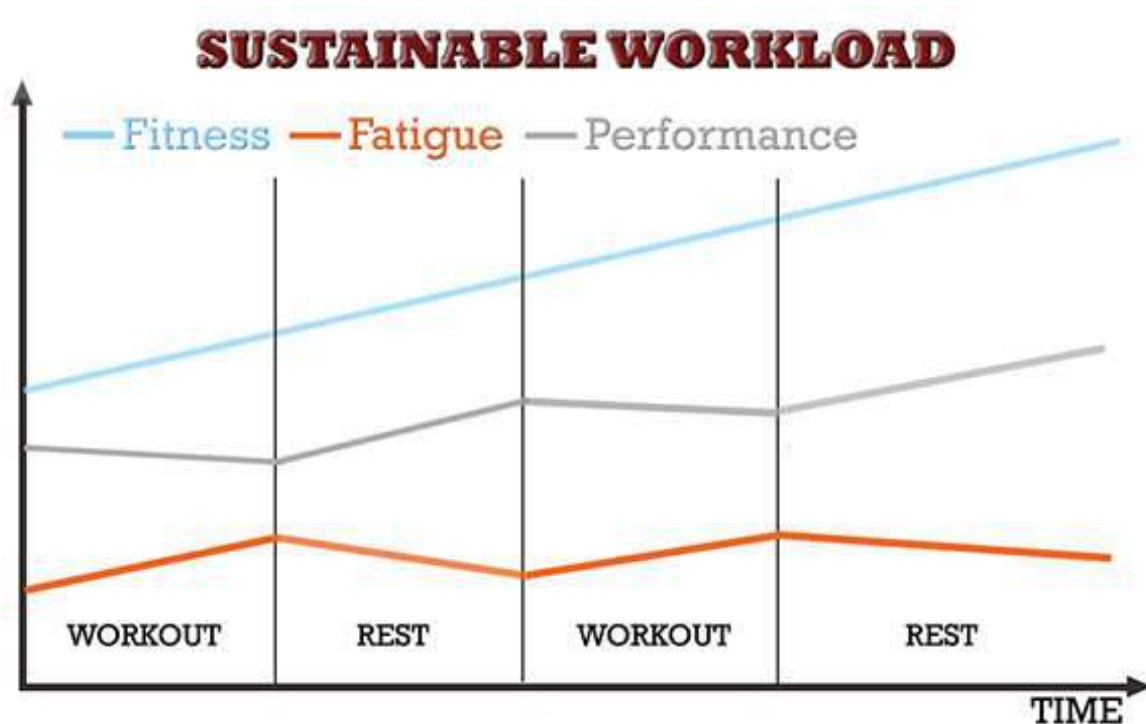
*(I've based the amount of sets on part science and what I have noticed works well on average)*

In this bell-graph you can see that for each amount of added volume, you get more gains, but the magnitude of gains becomes lesser and lesser. And as you get above 20 sets you start to plateau and decline, because too high workload.

### Fitness-Fatigue model

To better help understand why you can't keep going indefinitely. Let's discuss what is known as the fitness-fatigue model. This is a two-factored model looking at both fitness and fatigue. Both are generated from training, fatigue masks fitness and therefor affects performance. Let's quickly define those terms:

- **Fitness** is your physical capability achieved as a result of training. As you continue to train effectively it will gradually increase over time.
- **Fatigue** is also a result of training. It's generated in proportion to volume and the intensity of the volume performed. It's also generated based on how fatigue resistant you are. Fatigue resistance, or work capacity, increases over time as you adapt to greater and greater training stresses.
- **Performance** is defined here as **fitness minus fatigue**. When fatigue is high, performance is temporary reduced and when fatigue declines, performance increases.



This **model** shows how fitness slowly increases linearly over time. While fatigue goes up and performance goes down during workouts, with the opposite happening at rest. This is a sustainable amount of volume to train with, where gains will continue for a good amount of time.

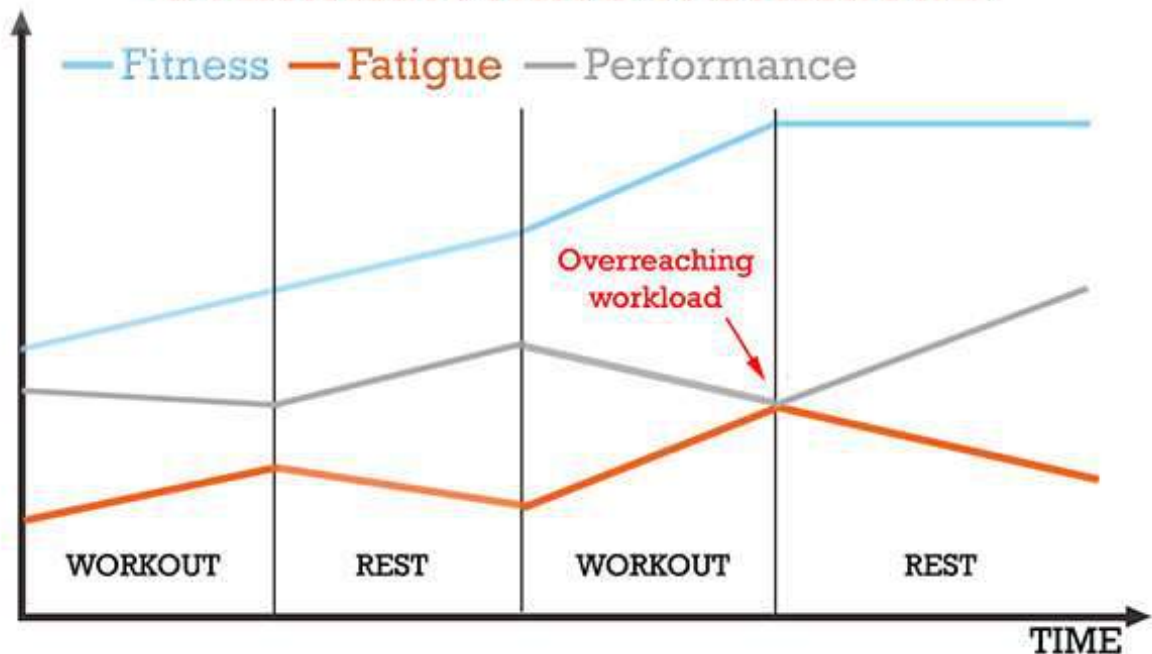
### Overreaching & overtraining

As you continue your journey and get more advanced you will be forced to push harder in order to keep progressively overloading your body. What will end up happen eventually, with increased workloads is that fatigue will surpass fitness. When that happens, performance will be negatively affected – and training won't be able to continue as hard or heavy anymore.

There are two outcomes that can occur at this point.

1. The first outcome is that you enter a state of overreaching. In this case if you let the fatigue dissipate with planned lower stress days, or a week that are incorporated into a periodized plan (called deloads), performance comes back, and hopefully returns to a level where it perhaps couldn't have achieved if overreaching had not been done in the first place (5).

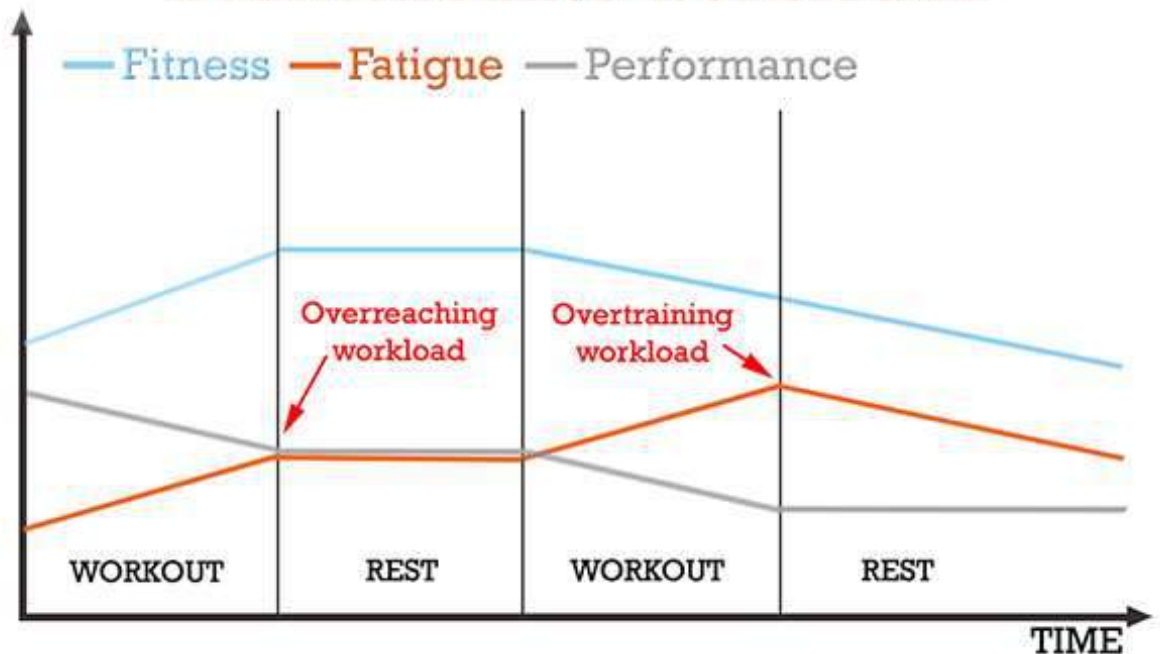
## OVERREACHING WORKLOAD



As you can see in this model. Training volume is increased where I pointed out “overreached workload” – the trainee tries to push the training hard to increase their rate of progress which causes fitness and fatigue to go up drastically. When that happens, performance starts to drop because the increase in fatigue is outpacing the increases in fitness. A smart trainee would know that this is the time to implement a period of reduced volume, a deload, this would not only reduce fatigue, so they can go back to productive training again. It might even help bring them to new levels of fitness.

2. The second outcome is one of overtraining. That’s when the trainee notices the decrease in performance and instead of being smart they decide to keep going. By following the “go hard or go home” quote that the gym has written with a cool font all over the wall instead of backing off, they decide to push volume even more.

## OVERTRAINING WORKLOAD



As you can see in this model, the “overreaching workload” is the first point where the trainee overreached as in the previous graph. The second point of “overtraining workload” – is where they decided to keep pushing the volumes harder.

The increase in fatigue causes a faster drop in performance. It’s no longer possible to train in a manner that is sufficient to sustain training adaptations, so fitness goes down.

Either the trainee realizes their mistake and reduces the volume. Or they end up sick with some infection or flue, or even an injury which forces them to reduce volume.

After they decide or are forced to drop fatigue, it takes a considerable amount of time before fatigue dissipates, performance comes back, and training can be resumed to a level that will start to improve fitness again. This is the all too common “spinning the wheels”-symptom that hinders so many people from making continuous progress.

Though it’s uncommon that true overtraining will happen. People tend to stop out of psychological and/or physical discomfort beforehand. However, stubbornness and overzealous attitudes often causes some people to come close to, or even do over train. Requiring months of recovery to start progressing again.

## Volume recommendations

For Hypertrophy

Looking at the body of research. Gains in hypertrophy doesn’t seem to plateau within 10 sets per muscle group per week(6). Unfortunately, there have not been any research done looking at the long-term effects of even *higher* volumes than 10 sets per week at this point.

It's important to consider anecdotal and practical research when the evidence can't support us all the way. I've seen volumes as high as 20, even 30 sets per muscle group per week work well for some individuals.

So, to make an educated guess I would say that, somewhere between 10-15 sets per week is a good volume target to ***start with for most people, most of the time.*** There will of course be individual differences, where some people might not even break a sweat at the higher end, while others might be crippled for a week, feeling like they've been hit by a train.

So, it's important to try different volumes when programing to see where you end up on the volume scale.

#### For Strength

When it comes to strength on the other hand, you must take both your goals and the place you're at right now into consideration when setting up volume. During general strength training, you should use the same volume recommendations as for hypertrophy. However, when looking to peak for a powerlifting meet for example, volume should be lower to give room for more intensity, which I'll go deeper into later.

## Volume recommendations

10-15 sets/muscle group/week

Include exercise overlap  
and heavy warm up sets



## Intensity

Training intensity is just as volume a driver of long term progress. However, intensity is more important for strength development than what it is for hypertrophy. I'll tell you why in a moment.

But first we need to understand what the definition of intensity is. Which can be one of two things when it comes to weight training.

### 1. Intensity of training effort

This type of intensity is defined as – how hard the training effort is for the body. A couple of examples are:

- Low intensity steady state training or LISS  
During this type of training, i.e. incline walking or cruising on a bike you are primarily working with your aerobic and oxidative energy system, which is very easy for your body to do. And as the name states itself, this is defined as low intensity effort of training.
- High intensity training or HIT

Contrarily to LISS, this type of training is done with such high effort that your body can no longer rely on the aerobic energy system, it must include your anaerobic energy system as well. And as the name states, this is defined as high intensity effort of training, and on the high end of this intensity range is where lifting heavy weights belong, as it is a very intense endeavor

## 2. How many reps we're doing per set

This definition of intensity describes how heavy the *load* should be based on how strong you are.

- Low intensity = light weights and many reps
- Medium intensity = moderate weights and medium reps
- High intensity = heavy weights and few reps

Obvious, right? It is! And this is what you as a strength and/or hypertrophy trainee or coach will use for the most part to describe how much weight to use in any repetition range when programming.

## Measuring intensity

There are three tools to use when figuring out how much weight you should use for a specific rep range.

### 1. Percentages of 1RM

*RM = repetition max*

## ESTIMATED REPETITION MAX PERCENTAGES

1 RM	2 RM	3 RM	4 RM	5 RM	6 RM	7 RM	8 RM	9 RM	10-15 RM
100 %	93-95 %	90-93 %	87-90 %	85-87 %	82-85 %	80-82 %	77-80 %	75-77 %	72-60%



*Note: These percentages above are estimations only. This is from a huge collection of data made on elite powerlifters where the average percent of 1rm that all the lifters could do was taken. And because it's an average there will be a lot of differences between individuals to take into consideration. This is however a great estimation to base a training program after. Also as a final note, women seem to be more intensity resistant compared to men, meaning they can, almost always use the high end of the percentages. Where a male can do 3 reps with 90 % a female could get 4 possibly even 5 reps.*

This is in my opinion the best and most accurate way of describing how much weight that should be used for a specific rep-range. You can test anything from a 1-repetition max (RM) to a 10-repetition max or higher and by doing so get a percentage of 1 RM to work with.

### Example:

Let's say a trainee comes into the gym for a strength session. Previously they've just been doing some light training, playing around with easier weights and tried the movements out. But now they're looking to take their training to the next level. Perfectly! It's now time to see how strong they currently are so that you can set up a good solid progressively overloading strength or hypertrophy program.

The trainee goes through a warmup, loads the bar up with 80 kg and goes for a max attempt, getting 5 repetitions. Maybe it was possible to get a 6:th but out of safety the

trainee stops. Ok, you now have 80 kg as a 5 RM on that exercise to program with, which according to the chart is 85-87 % of

1 RM. With simple math that would mean that their 1 rep max would be somewhere between 90-92 kg.

There are some drawbacks to this method of measuring intensity however.

One it's not practical to do on all exercises. It works very well on large compound exercises such as squats, deadlifts, bench – and overhead presses. But when it comes to smaller isolation exercises like curls, lateral raises, triceps and leg extensions etc. it doesn't work so well. What these exercises do is forcing you to use too light weights for the percentages to apply correctly. Meaning that you probably could do 10 reps with 85 % of 1 RM on a bicep curl, but according to the chart you should only be able to do 5 reps.

Another drawback, especially for beginners and early intermediates. Is that they're not able to demonstrate a true repetition max. Often time they don't know their bodies good enough when things start to get heavy, so technique starts to break down and the lift gets harder. Or they bale out thinking that it was a max but in fact, they might have 1 or 2 reps left in the tank.

Lastly, people are different, or put more specifically one individual might have a larger degree of slow twitch muscle fibers compared to fast twitch, which will result in him or her being stronger on higher repetitions, because slow twitch muscles are more endurable. Meaning that this individual might be able to get 8 reps with 80 % of 1 RM, while another trainee with more fast twitch fibers might only get 6 reps with 80 % of 1 RM.

## 2. A rep max

This is a useful way of measuring intensity especially for a bodybuilder. For example, if you know your 5RM, you can do sets of 4 with your five-rep max which will keep you one repetition from failure, at least on your initial sets. This way, even people with different abilities to perform repetitions at the same percentage of 1RM can be prescribed a similar intensity of effort.

## 3. Rate of perceived exhaustion (RPE)

This is also a way of figuring out how much weight to use. It's a harder way, because it requires quite a bit of experience with lifting. But it might be better in some situations than RM and % of 1 RM because it creates the opportunity to autoregulate the intensity and volume of the training within the session, to match for recovery. Rate of perceived exhaustion is simply defined as how many reps the lifter think they had left to perform based of how the set felt. This method was popularized by the great powerlifting athlete and coach Mike Tuchscherer. The system is based on a scale from 1-10 and it looks like this:



## Rate of perceived exhaustion (RPE) - Scale

<b>RPE 10</b>	True max - 0 reps left in the tank
<b>RPE 9</b>	1 rep left in the tank
<b>RPE 8</b>	2 reps left in the tank
<b>RPE 7</b>	3 reps left in the tank
<b>RPE 6</b>	4 reps left in the tank
<b>RPE 5</b>	5 reps left in the tank
<b>RPE 4</b>	6 reps left in the tank
<b>RPE 3</b>	7 reps left in the tank
<b>RPE 2</b>	8 reps left in the tank
<b>RPE 1</b>	9 reps left in the tank



The good thing about RPE is that the trainee can just do their set and choose how close to failure the set should be. Making it very useful for managing within session fatigue. Allowing the trainee to avoid failure and get the most amount of effective sets out of their workout. (More on failure later)

RPE can be used in combination with a rep range or a rep target to describe load, or it can be used in combination with RM or % of 1 RM.

Here are some examples:

### Autoregulation with reps

The program calls for 3 sets of 8-10 reps with an **RPE of 8**.

The workout:

Set 1 – 100 kg x 10 reps @ 8 RPE

Set 2 – 100 kg x 9 reps @ 8 RPE

Set 3 – 100 kg x 8 reps @ 8 RPE

In this example, you kept the weight and RPE constant and changed the reps to manage fatigue.

### Autoregulation with load

The program calls for 4 sets of 10 reps with an **RPE of 8**.

The workout:

Set 1 – 100 kg x 10 reps @ 8 RPE

Set 2 – 100 kg x 10 reps @ 9 RPE

Set 3 – 95 kg x 10 reps @ 7 RPE

Set 4 – 97,5 kg x 10 reps @ 8 RPE

In this example, you kept the reps constant and changed the load to allow RPE to stay on point to manage fatigue.

## **Autoregulation with RPE**

The program calls for as many sets that you can do of 10 reps within a ***RPE range of 7-8***.

The workout:

Set 1 – 100 kg x 10 reps @ 7 RPE

Set 2 – 100 kg x 10 reps @ 8 RPE

Set 3 – 100 kg x 10 reps @ 9 RPE

Set 4 – You stop.

In this example, you kept the weight and the reps constant working within a RPE range of 7-9 to manage fatigue.

The power of RPE is that it both allows you to objectively measure how strong you are on any given day, as well as allowing you to autoregulate your training within the session to manage fatigue, giving you the opportunity to do as much quality work as possible.

## Training to failure

*\*Failure is defined as absolute failure for smaller, isolation exercises where injury risk is low and as technical failure on larger compound exercises where injury risk is high.*

A lot of studies show that reaching concentric muscular failure or even technical failure isn't required for optimizing gains in either strength or hypertrophy (7). It seems to be enough going to an RPE of 6-8, leaving 2-4 reps in the tank. At least for sets done with heavier weights.

Light weight, high rep training however, seem to require going to the point of failure to recruit all muscle fibers to create a good training stimulus for growth.

Why training to failure isn't most often required and can even be suboptimal

When you train to failure the amount of overall volume that you can perform goes down because fatigue gets acutely high, and as I went through earlier, volume is the main driver of long term gains.

Just think about it. If you do 3 sets of 10 reps with 100 kg starting the first set at an RPE 8 which you know by now is 2 reps shy of failure. By doing so you should be able to get all repetitions through all sets, perhaps ending the third set at an RPE 9 or 10 depending on your daily fatigue levels. This gives you a volume load of 3000 kg.

Now let's say you're greedy and choose to put 102,5 kg on the bar trying to get the same 3 sets of 10 reps. But, because you've increased the weight, you end up training to the point of failure already at the first set, making the subsequent sets harder because you accumulated too much fatigue. This allows you to get 10 reps on the first set, 8 reps on the second set and only 7 reps on the third set. What this does is give you a volume load of only 2562 kg which over the long term would result in lesser gains just because you put another 2,5 kg on the bar causing you to reach failure too early.

Another thing to point out is that the comparison above is just with one exercise. Imagine how much the total volume would suffer during the whole workout when failure is reached too soon.

Lastly, a very good reason for leaving a few reps in the tank is that it becomes very easy to set up progression between workout to workout. If you program in such a way that you have 2-3 reps left in the tank, even on your later sets in the workout. You leave some room for making increases in either reps, sets or load in upcoming workouts. But I'll go through this much more in depth later, in the progression part.

## Intensity Recommendations

### For hypertrophy

There are no specific rep range for hypertrophy. There are however a rep range where volume seem to be most efficiently accumulated for most individuals. Which seem to be between 6-15 repetitions.

If you try to accumulate volume using lower repetitions you must do a lot of sets to produce hypertrophy. This takes a lot of time and puts unnecessary stress on joints, ligaments and nervous system, causing higher risk of injury and overtraining.

Contrarily, if you try to accumulate volume using only high repetitions, such as 20-30+ reps. You would have to go to the point of failure to recruit enough muscle fibers to cause enough stimulus for growth, and for you who don't know. Repeatedly going to the point of failure on high repetitions is extremely painful. There have actually been a few studies where the participants threw up in the gym from all the lactate and other metabolites caused by high rep training.

However, describing an intensity range for hypertrophy can and should be based upon the individual themselves. The conclusion of the scientific literature is always done by the means of all individuals that participate in the studies. Meaning that all the outliers are not accurately accounted for.

So, the answer for which repetition range to use for hypertrophy, should be. ***Do most your training in the rep range that allows you to get the most amount of effective sets done within each session and each week.***

Some individuals might feel great training with 3-5 repetitions, while 12-15 repetitions totally crush them metabolically, reducing the effectiveness of the following sets for the rest of the workout.

While others literally thrive on higher rep ranges, but ends up with painful joints or a high feelings of central nervous system fatigue from using lower rep ranges.

On a further note. Training in a rep range that is enjoyable to the trainee is also a huge key factor for long term progress. Allowing for adherence is very important for any trainee, because it will make them stick to the program. So, if you feel that heavy sets of 5's are a lot more fun than heavy sets of 10, that should be a deciding factor as well.

For the reasons mentioned above I recommend starting out doing 2/3 of total volume in the "hypertrophy range" of 6-15 reps to see if it applies well for you. And play around with the remaining 1/3 in either the lower or higher rep ranges to figure out how you respond to either one of those, while also getting some variety with your lifting and for making sure you don't miss out on any possible gains from those rep ranges as well.

For strength

## Components of strength

### Neural adaptations:

- The nervous system get more efficient at recruiting motor units for the prime movers, causing those muscles to contract harder.

### Skill adaptations:

- The lifter get better and more comfortable with the exercises and weights used to demonstrate strength.

### Muscular adaptation:

- Increases in myofibrillar muscle mass gives the nervous system more contractile tissue to recruit resulting in more strength.



When programming for strength you must think of specificity. True strength adaptations occur best within the 1-6 rep range because the weights are heavy enough to stimulate neuromuscular adaptations and increasing the skill of lifting heavy weights, which are the two biggest contributors for displaying strength.

However, there will be times, most of the time I would say, when including higher repetitions than 1-6 are very beneficial for strength gains at least in the long term.

Let me explain.

If you want to be the strongest that you can be right now, within a week up to a couple of months. Training in the 1-6 repetition range will get you there the quickest, because of neural and skill adaptations. But, you can't forget about the third component that is muscular adaptations.

Here's the thing. Muscular adaptations are by far the one that takes the longest time to develop out of these three. Building neural adaptations and skill with the lifts occur on a much faster time scale.

So, to get **really strong** in the long run. Growing as much muscle as possible should be the primarily goal.

And remember what the biggest contributor to hypertrophy was?

You've got it. It's volume!

But, as mentioned earlier in the hypertrophy section, accumulating the amount of volume required to effectively build new muscle tissue with heavy loads might not be the best idea.

I think a better idea would be focusing on building the muscle mass first by splitting up the volume evenly between strength work in the 1-6 rep range and hypertrophy

work in the 6-15 rep range. By doing so you take specificity into consideration by getting some practice with heavy weights, while also more safely accumulating high volumes that stimulate hypertrophy using lighter weights.

When it's finally time to put the strength on display, you can take periods where the volume goes down and intensity goes up to make the new muscle stronger and finally you peak for the competition or what have you (more about this later in the periodization part). This seems for me at least, to be a much more efficient way of approaching strength training.

So, for long-term strength development I recommend doing 1/2 of the volume in the 1-6 rep range, and the other 1/2 in the 6-15 rep range.

## **Intensity recommendations**

For strength:

1/2 of total volume in the 1-6 rep range

For Hypertrophy:

2/3 of total volume in the 6-15 rep range



## Frequency

Training frequency is not a driver of adaptations in the same sense as volume and intensity is. Frequency is more of a way to organize those two. It's about how to spread the training stress across the training week. Making sure that you're not doing too much (or even too little) in any single session.

Both the scientific literature and pure common sense indicates that splitting up the same amount of work over a few sessions are better than doing it all in one session (8), (9), (10) for the following reasons:

1. Learning
2. Recovery

### 1. Learning while practicing

When you train any exercise you're hopefully not going through the motion mindlessly, you should be thinking about the lifting as well. One of the reasons you train is to learn and become better at the movements, so that you can get bigger and stronger by safely building up the volume and intensity over time.

However, if you were to do all your training within only one session per week, you would hinder your ability to learn the movements effectively because there would be too much stimuli at once for your brain and nervous system to handle.

Also, by doing more work within one session you will accumulate more fatigue. When fatigue gets high the form on your exercises will start to break down, this often happens subconsciously without you thinking about it. What that does is ingraining bad movement patterns, and if continued repeatedly for too long it causes bad lifting habits, which can require months of relearning the lift with lighter loads, to do them correctly again.

### 2. Recovery

Setting up a good frequency allows you to balance the stress-recovery equation very well.

Here's what I mean.

Let's say that there's this guy, who has followed everything in this guide perfectly to this point. He snapped up that between 10-15 sets of volumes per week is a good place to start, he is smart and chose 10 sets, just to make sure he got some room for progression, being on the safe side and for making this example easier.

But at this point he decides to be a true "bro" and put all his 10 sets on a single day. By doing so he will still get results, but they will most probably be suboptimal.

Here's why.

Muscle protein synthesis (MPS) is the system within our bodies that synthesizes new protein after it's been broken down, through daily life, training etc. A positive MPS balance is what in the end will net us our gains. MPS kickstarts after training and is shown by studies to return to baseline after 36 hours (11).

By having a once per week frequency, the same muscle won't be stimulated until 7 days later. That's 4 days without elevation in MPS. Meaning that, at least by

interpreting the MPS research the guy in this example has missed 4 days of gains because he chose to put all the 10 sets on the same day.

A better thing to do would be to spread these 10 sets out on at least 2 days during the week, such as Monday and Thursday or Tuesday and Friday for example. That way MPS is elevated most of the time.

### Further evidence

Another couple of studies showed superior results in strength by splitting the volumes up during the week (12) (13).

Furthermore, a study by Schoenfeld et al. (14) on well trained subjects showed that using a 3 day a week full body routine produced greater increases in forearm muscle thickness compared to a 1 day a week split routine.

These are all great reasons not to limit yourselves on the amount of volume that you can do in a week by trying to split the work across too few sessions. Especially as you advance in your training career and require more total volume to make progress, splitting up that volume into smaller chunks over the week, not only seems to net you more gains but it also makes the training a lot more manageable.

### Different frequencies for different muscle groups

There's a lot of individuality when it comes to how frequently a muscle can be trained, as it is with everything. For example, I can train my biceps with 3-4 overloading sessions per week but my chest can barely handle 2 sessions, some people can properly overload their chest 4 times per week and make great progress.

So, as you can see frequency is mostly about balancing overload with recovery so that we can get adaptation. (More about this in the last chapter)

### Frequency recommendations

The only frequency recommendation that I have is to try and hit each muscle group a minimum of twice per week. Other than that, it's about how to most effectively and efficiently spread the total volume that's being done over the week.

It's important to take daily schedule and preferences into consideration when deciding how to set up frequency. Some might have all their days free, where they can take 4 hours of their day and spend it in the gym if they needed. While others might only have 1 hour per day, but are able to hit the gym 6 times a week instead.

Furthermore, some people might find it more enjoyable to train with split routines such as a 4 day: upper, lower, upper, lower. While some might enjoy a 3-day full body routine more.

But for most people, between 3-6 total sessions per week will work well.



Do this:

1. Determine your volume (amount of sets) you need for the week to make progress towards your goals. Then take your daily schedule and preferences into consideration, then use this information to form a program.
2. Try it out for a while and see if the amount of volume per day feels ok. If it feels like too much on a single day try shuffle some of it on to another day. If that doesn't do the trick, try adding a day. Also, ask yourself if you feel that you can adhere to that specific set up of frequency over the next few months? If yes, stick to it. If no, try another set up if your schedule allows.

Remember, depending on where you are in your training journey you will require different amount of volumes to make progress. As time goes by and you get bigger and stronger through your career, volume requirements will be increased, which means that your amount of training days probably has to increase as well to accommodate for that.

## Frequency recommendations

2-3 times/week per muscle group

Be aware of overlap between exercises



## Volume, intensity and frequency summary recommendations

By now you have the biggest pillars in place for setting up a solid strength or hypertrophy program. It's a lot of information to take in for sure. So, here are all recommendations gathered in one place:

### Volume, intensity, frequency summary

**Volume**  
10-15 sets/muscle group/week. Include exercise overlap and heavy warm up sets.

**Intensity**  
For strength: 1/2 of total volume in the 1-6 RM. The remaining 1/2 in in 6-15 RM.  
For hypertrophy: 2/3 of total volume in the 6-15 RM.  
The remaining volume in either higher or lower RMs.

**Frequency**  
2-3 times/week per muscle group. Be aware of overlap between exercises.

## Final note on volume, intensity and frequency

The manipulation of these three pillars are what lays the foundation to any good training program. However, there's one more thing we haven't yet mentioned about them. And that is, that they are not exclusively separated from each other, they interfere with and affect each other in a few ways.

Here is how:

- If intensity goes up and everything else stays the same, volume also goes up.
- If frequency goes up and everything else stays the same, volume also goes up.

The interesting part is that if volume goes up and everything else stays the same, well only volume increases. Intensity (at least by lifting definition) won't increase, neither will frequency. What this does is ties it all together and concludes that volume is in fact the key driver for long term gains in both hypertrophy and strength.

## Example routines

To break this down and get some perspective I think it's an appropriate time to make some good examples of routines where we manipulate these three pillars.

### Example strength routine

The purpose of a strength routine is to increase the strength of the prime movers. You won't focus on minor details such as the medial delts, calves and the long head of the triceps for example.

### Sample strength routine

Day	Exercise, Sets x Reps	Total sets
Monday	Squat 6x5, RDL 4x10	4-6 per muscle group
Tuesday	Bench 5x3, Overhead press 3x6-8, Row 5x8-12	4-6 per muscle group
Thursday	Deadlift 6x3, Front squat 4x10	4-6 per muscle group
Friday	Bench 5x5, Incline DB press 3x10, Pull-ups 5x6-10	4-6 per muscle group



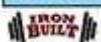
If you take a closer look at this routine, you can see that you have a total weekly volume of **10-15 sets** on all important muscle groups that is specific to strength. You also have **1/2 of total volume in the 1-6 RM and the other 1/2 in the 6-15 RM** so that you can work on improving your strength while safely accumulate volume to build muscle. With a frequency of hitting each muscle group **twice a week**.

## Example hypertrophy routine

Contrarily to strength the focus of hypertrophy training is to develop all the muscles on the body as much as possible. Performance is not as much of importance here. So, you can afford to spend more volume on improving medial delts, arms, calves and other muscles that strength training misses.

### Sample hypertrophy routine

Day	Exercise, Sets x Reps	Total sets
Monday	Squat 3x4-6, RDL 3x8-10, Leg extension 3x10-15, Leg curl 3x10-15, Calf raises 5x15-20	5-6 per muscle group
Tuesday	Bench press 3x4-6, Row 3x6-8, DB OHP 3x10-12, Pull-up 3x8-12, Fly 3x12-15, Lateral raises 3x12-15, Biceps 3x12-15, Triceps 3x12-15	5-6 per muscle group
Thursday	Deadlift 3x3-5, Front squat 4x8-10, Leg curls 3x10-15, Leg extension 3x10-15, Calf raises 5x15-20	5-6 per muscle group
Friday	Overhead press 3x4-6, Pull-up 3x6-8, Flat DB press 4x10-12, Row 3x10-12, Lateral raises 3x12-15, Biceps 3x12-15, Triceps 3x12-15	5-6 per muscle group



If you take a closer look at this routine, you can see that you have a total weekly volume of **10-15 sets** on all muscle groups, including the “bodybuilding muscles”. You also have **2/3 of total volume in the 6-15 RM and the other 1/3 in the 1-6 RM** making sure that volume cause as little joint wear and tear and CNS fatigue while keeping the workouts time efficient. With a frequency of hitting each muscle group **twice a week**.

## Exercise selection

In this part, I'll go through which exercises to pick and why you would choose to pick them.

### Caveats regarding exercise selection

1. Exercise selection is a minor detail compared to volume, intensity and frequency. Meaning that you could do everything right when it comes to those three while picking all the bad exercise and you will still see great progress. However, picking all the “right exercises” but not doing volume, intensity and frequency correctly will most probably leave you with subpar results.
2. There's not that much research done on exercise selection, so I'll have to take a shot at it from a more practical view.

### Specificity is king

Whether the exercise you chose is for strength or hypertrophy you must adhere to specificity. Ask yourself, what's the purpose of this exercise, will it improve my ability to perform better according to my goals and will it target the correct muscles that I'm looking to train?

### Exercise selection for hypertrophy

When it comes to slapping on as much muscle as possible there are some exercises that seems to be better than others in producing muscle growth. Not better in a sense that they magically cause more hypertrophy. Rather, these exercises are more

effective and efficient meaning that they cause a greater amount of volume and overload in less time and they also stress the whole body better as one.

You might already guess which exercises I'm referring to.

Yes, the compound basics of course!

### Compound vs isolation exercises when it comes to hypertrophy

Exercises like squats, deadlifts, bench presses, overhead presses, rows and pull-ups are all great to keep in your hypertrophy training routine.

But are these better than isolation exercises like leg extensions, chest flies, front raises, machine rows, and machine pulldowns?

Sure, the compound basics are more effective and time efficient. But what if that's not a problem for me. What if I got all the time in the world to work out?

There's this hypothesis that exercises which load the whole body more, like a squat compared to a leg extension, stimulate more hypertrophy because it's a greater overall overload to the body. Homeostasis get more disrupted which would result in a greater hypertrophic response. This is however only a theory at this point, but it makes a lot of sense because it reflects the essence of the overload principle.

### Exercise selection and training experience

Beginners that just start to train should do the compound basics. When you are new to training, your body is open to so much quick growth because there are not that much muscle on your frame to start with. By doing compound exercises you make sure that you grow your whole body as one.

Just think about this for a minute, have you ever seen someone with huge 45 cm arms that also has a small upper body? I don't think so.

The thing is this, by doing compound basics you make sure that the whole body gets developed not only your arms, your lats or your medial delts. When you've dedicated years of chipping away with the big compound lifts and starts to get close to your late intermediate stages, you will start to notice weaknesses which you then can target with special isolation exercises to bring those muscle groups up to the same standards as the rest of your body.

### Variation of compound exercises

What I'll describe now will relate to intermediate and advanced trainees only, beginners as just recently describe simply doesn't have the amount of muscle mass to make the following assumptions.

Here it is, people responds differently to different exercises. This is because we as humans are different. People have different muscle insertions, muscle lengths and muscle bellies. All these factors contribute to the fact that one exercise can be different from one individual to another.

How do I know if the exercise works well for me?

There are two things that I think is an assuring sign that an exercise works.

1. When you can really feel the muscle work and you also get a good pump.

2. When you get sore the day or couple of days after your workout. Not crazy sore that you can't move, but at least a feeling that the muscle you trained got hit hard.

I think these two are very good signs that you've effectively overloaded your muscles.

Some people seem to believe that muscle pump and soreness has nothing to do with muscle growth. I partially agree, I don't think they have everything to do with growth, but I do believe they are somewhat of a receipt that the training was stimulative enough. At least when you pick up an old exercise again, that you have not been using in a while.

That's why compound exercise variation has a role to play in building muscle. You see, when you've trained with an exercise for a few months, your body will gradually get more used to that movement. When that happens, you will start to see diminishing returns in muscle growth, eventually even a plateau, even though volume might continue to go up in the long term.

The solution here is to change the exercise to another one that's of similar effectiveness. This can be changing from free weight squats to smith machine squats for a couple of months. What will happen is that the stimulus will feel very new and you will effectively overload your legs again, probably feeling sore and beat up for a couple of days.

Then when you've gotten used to smith machine squats, you can just go back to regular squats again and they will also beat the living hell out of you.

[When isolation exercises are valuable](#)

Compound exercises should be the bread and butter of your training program especially for beginners and intermediates. But, they should not be put on such a pedestal that they become the end all be all exercises. Because they're not.

There are in fact times when isolation exercises are better:

- 1. To increase volume more safely**

As you get more advanced in your training journey you will require more and more volume to continue making progress. Adding in assistance exercises in the form of isolation work is a very effective way of increasing volume for that specific muscle group without fatiguing the body too much by doing additional sets of heavy compound exercises.

- 2. Build weak points**

As I described earlier, when you become more advanced and gains start to really slow down, this is the time to look for weak points. Do you have lagging biceps or triceps, are your rear delts not coming along as well as everything else, even though you do heavy rows and overhead presses. Time has come to really focus on those muscles by adding more volume for those muscle groups with the help of isolation exercises.

- 3. When injured**

If you have an injury which doesn't allow you to do certain compound exercises, maybe it's an injured shoulder that you feel when doing bench presses. To continue creating growth in your chest maybe you find that flys of different

variations or lighter dumbbell presses works well and doesn't cause shoulder pain. Then these exercises become very valuable because they're the only ones you can do. However, growth won't be as quick and efficient as it would with heavy bench pressing. But, hopefully with good rehab of the shoulder, and with good technique practicing on the bench press you could come back to do it again eventually.

#### Exercise selection for strength

For basic strength training the exercise selection recommendations should be pretty much the same as for hypertrophy. The difference should be a more specific repetition range for strength (as described in the intensity chapter).

However, if the goal is to express strength through a sport, suddenly exercise selection becomes very important.

For example, a powerlifter that's looking to compete in a meet needs a lot of strength in the big three, squat, bench press and deadlift.

A weightlifter that looks to compete needs strength in the snatch and clean & jerk.

A strongman that looks to compete needs to be very strong over all. Because they will do all kinds of stuff, such as deadlifting for 1RMs, carrying atlas stones, doing farmer walks and much more.

And to get strong with any of these movements you must train them, because the neuromuscular adaptations and skill adaptations that is taking place when you train any movement, as was previously discussed in the intensity part.

PS. If you like or receive value from this book I would really appreciate an honest review on Amazon. You do so by using this link: [Review Here!](#)

## Rest intervals

How long one should rest between sets when it comes to hypertrophy and strength in the long term, is something that's been a hot topic in the fitness industry for a long time now. And that probably has a lot to do with the hormone hypothesis.

### Hormones hypothesis and rest intervals

A lot of studies have shown that shorter rest times between sets leads to acute spikes in hormones such as cortisol, testosterone and human growth hormone (HGH) during, and for a while after the training session (15). Because of that, there has been this thought that, because these anabolic hormones get acutely released, shorter rest periods must produce more hypertrophy.

However, that is not the case. For a few reasons:

1. The body is smart and will always strive for balance. When any of these hormones is increased in the body, the body senses this through something that is called a feedback loop. What this feedback loop does is signaling the glands that produces these hormones to stop producing them because there's enough in the body already.
2. The anabolic hormones that are acutely released by shorter rest intervals (or any type of training) will still be within the natural physiological range. We all know that anabolic steroids such as testosterone and growth hormone works very well for increasing muscle mass. But for these drugs to work they need to be taken in supra-physiological doses, meaning intakes that are far above what the body could ever produce naturally, even with the most optimal rest interval ever created.
3. It's not only anabolic hormones that's increased acutely after training. Cortisol increases which is a catabolic hormone. Heart rate, cardiac output and sympathetic activity increases, all things that are known to be *acutely* counterproductive to hypertrophy. Protein degradation is something that occurs as well, because training causes damage to the muscle cells, meaning that we must build those cells up before we can build any new muscle. These are all natural things that happen in the body after a workout, they just are. Same as the increases of the anabolic hormones just happens if the rest intervals are shorter. It's important to understand that it's a relation to training and not the causation for hypertrophy.

For these reasons, I see no point in trying to program shorter rest periods just to try and increase hypertrophy.

The only way to increase hypertrophy is to slowly increase volume over the long term.

When you understand that long term increases in volume is the driver of hypertrophy and strength, rest intervals become a great tool to have in your tool box that you can use when you want or need to.

### Advanced training techniques

By correctly manipulating rest intervals you can get the same amount of volume in a half hour session that you could in perhaps a one or even a two-hour session.

## Rest pause

This is a technique that was popularized by hypertrophy guru Dante Trudel. Rest pause is a very effective way of adding all most the exact same amount of quality volume in your workout as you would with straight sets (5x5 etc.), in only 1/3 of the time or even less, by taking advantage of shorter rest periods.

How to use rest pause example:

- First you do an “activation set” to 1-2 reps shy of failure within a given repetition range.
- Then you take a very short rest about 5-30 sec depending on repetition range.
- After the rest, you do another set also 1-2 reps shy of failure.
- Then you take a very short rest about 5-30 sec.
- Repeat for as many sets as you’ve decided to do.

## Drop sets/giant sets

This is a similar technique to rest pause. The difference here is that you don’t have any rest between the sets, so in a way, many sets becomes one giant set instead. You do this the following way:

- First you do an “activation set” to 1-2 reps shy of failure within a given repetition range.
- Immediately decrease the weight by around 10-15 % and do another set to 1-2 reps shy of failure.
- Immediately decrease the weight again by around 10-15 % and do another set to 1-2 reps shy of failure.
- Repeat for as many “sets” as you’ve decided to do.

What these two techniques does is taking advantage of short rest intervals meaning that you can get done with your prescribed workload in a much faster fashion. I think it’s a highly effective way of getting the volume in while not spending too much time in the gym.

However, I find two drawbacks with these training techniques. One it’s much harder to keep track of progress with these compared to “standard training” of 3 x 10 for example.

And two, these techniques are not as good at building motor patterns and skill with heavy compound lifts, because you’re in a very fatigued state during an RP set, which easily can cause you to use bad form.

## Make sure to do the correct amount of volume

Feel free to use these or any other rest interval techniques your creativity can think of. But, remember that in the end it comes down to volume being the factor that contributes to your gains and that rest interval techniques are just another tool in your toolbox.



## Tempo

Just as with rest intervals, there are so many misconceptions out there regarding lifting tempo. For example, it's very commonly thought that longer time under tension (TUT) are the magical trick for increasing muscle mass and strength. But it's the same story here. All it does is increasing volume with the exercise you're training, given that everything else stays the same.

### Lifting tempo for strength

Try to think logically about strength training, and ask yourself what are you trying to do? When you train to increase strength, your goal is to move the weight from point *a* to point *b* as efficiently as possible. If the lift is done in a controlled fashion, meaning that as long as you don't bounce the bar of the chest when bench pressing or crashing the weights on the floor during each rep while deadlifting, the way you get the weight from point *a* to *b* is by letting the weight on the bar determine the lifting tempo. However, you should always think about lifting the weights as fast as possible on the concentric part of the lift, because that's how you train your nervous system to be activated as much as possible.

### Lifting tempo for hypertrophy

This is where tempo or time under tension (TUT) is believed to be very important, and I really get why. It actually makes a lot of logical sense that a slower eccentric (lowering part) of a rep will cause more hypertrophy because of higher degrees of damage and tension on the muscles, two of our mechanical key factors for muscle growth.

But, here's the thing. If you intentionally slow down your lifting you will end up with lesser total volume in that workout than what you would if you didn't slow down the reps as much. Let me give you an example:

Let's say you're supposed to do 3 x 10 with 100 kg (225 lbs.). This is something that you know you can get with an RPE of around 8 on the last set, meaning you will have 2 reps left in the tank.

However, you now decide to slow down the eccentrics because the muscle tech magazine told you that slow eccentrics is the key for hypertrophy.

By doing your reps for the double amount of time compared to normally, you now get 10 reps in the first set, 8 reps in the second set and only 6 reps in the third set.

Volume just went down significantly.

But, isn't the reps "worth more" when they were done slower. Yes, in a sense they are, but not more than what the reps you lost were.

There are actually a few studies where they did just this and found that volume dropped off too much when exchanging reps for TUT.

### When to use a slower lifting tempo

I think time under tension is another great tool to use as a way of making progress and cause volume to slowly go up over time. The way you should use lifting tempo is by implementing a slower TUT only when you know that you can, without the risk of losing reps or weights. When you implement it for a short period of time, you'll

probably be able to increase reps or weight when you go back to normal time under tension again. I will go through progression more thoroughly in the next step under the principle of stimuli, recovery and adaptation.

# Step 3 – The Principle of Stimuli, Recovery & Adaptation

This far we've gone through the principle of specificity where we've made sure that training is set up accordingly to our goals. I've also gone through the principle of overload where we learned how to disrupt homeostasis through the manipulation of volume, intensity and frequency for kickstarting our progress to reach our goals. Now it's time to look at the last principle which is the one of stimuli, recovery & adaptation.

Key points:

- Progression: How to make sure training get successively harder through our training career.
- Implementation of periodization: Why having periods within the micro, meso and macrocycles of different volumes, intensities or frequencies are an effective way of recovering and adapting, and why these periods are sometimes even required. We also look at deloads and why they are necessary for recovery and adaptation.
- Why training and recovery must be balanced over time for adaptations to occur.

## Progression

Progression is really the pure essence of programming. It's about taking volume, intensity and frequency and making sure that we do more of these over time, i.e. progressively overloading.

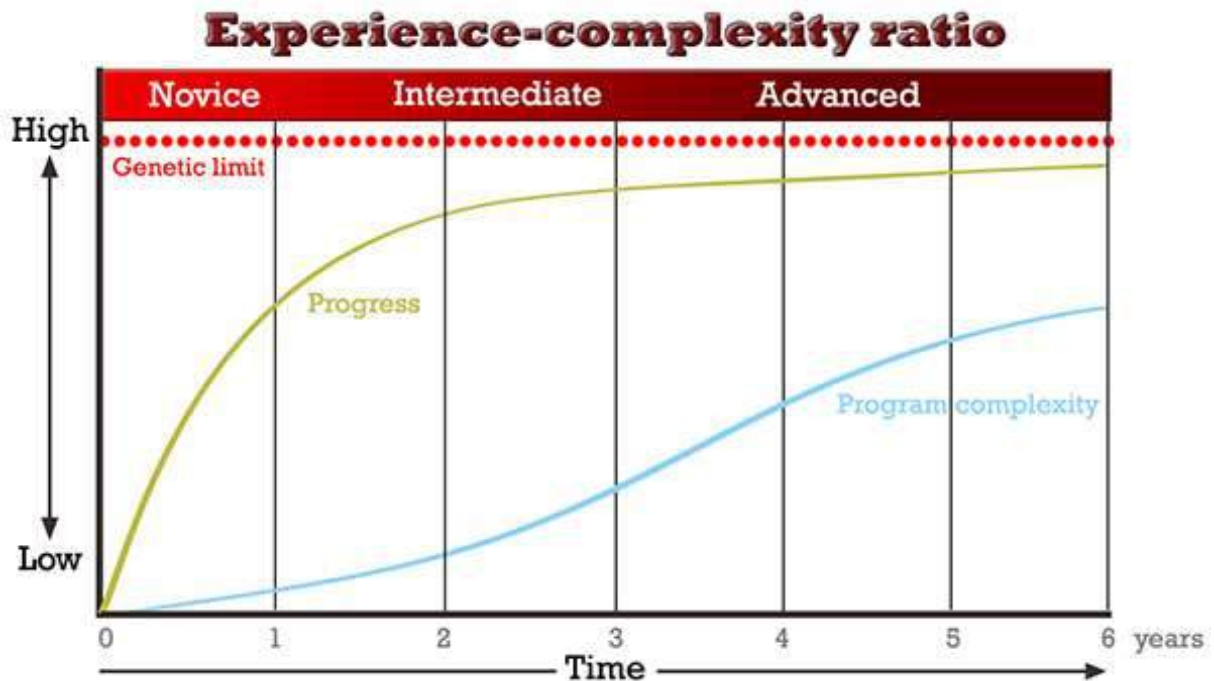
### Progressing over the training career – beginner to advanced

Beginners, intermediates and advanced can make progress on different time scales, it's the nature of physiological adaptations. When we are younger at any endeavor, we have the chance of growing more quickly and as we proceed we start seeing diminishing returns and progress slows down as we get older and more advanced.

### Approximate time of progression over a training career

- A true beginner (*0-6 months of training*) can make significant increases every workout session, like 3 times a week.
- A novice beginner (*6 months up to 2 years of training*) might be able to make significant increases every other session - to every week.
- An intermediate (*2-5 years of training*) can probably make significant increases on a session every week - to every month.
- An advanced trainee (*5+ years*) could make small increases on a session perhaps every month and significant increases every 2-6 months or longer if they are very old in the game.

As you know by reading the previous chapters, each time the body adapts to a higher workload, more volume and or intensity must be added in the training to cause further adaptations. So, in other words, training must get harder and more complex over time to reach your genetic potential. There's no way around that.



There are 5 fundamental parameters that you can use to increase volume and intensity making training harder over time.

### The 5 training parameters that increases volume and/or intensity

1. Increase in load
2. Increase in reps
3. Increase in sets
4. Reduced rest time
5. Increased time under tension

The most common and easily used parameters to progress with is number 1 and 2, increased load and reps. To put these parameters into perspective I've decided to draw out a few common progression models that you can use to make realistic progress according to your current training experience.

#### The true beginner – Single progression (of load)

This is the most basic progression model out there. When using this progression model volume and intensity goes up simultaneously by increasing only one of the 5 training parameters at a time. For a beginner, this should be the load on the bar, because that's the fastest way of increasing volume and intensity.

This way of progressing is very effective and fast. Because weight gets increased from session to session fitness and performance go up rapidly. But, it also drops of and plateaus very early, because fatigue rises quickly as well.

If you are a beginner, take advantage of this progression model for as long as you can, because it is the fastest way to make progress.

However, don't use it for too long. By the time you start missing reps, technique starts to break down and when you reach your first plateau, you've progressed passed your current ability to recover and it is time to advance to another progression model.

### **How to implement single progression with load:**

- The first time you do an exercise, after a brief warm up climb up in weight until the weight starts to feel challenging but not too challenging for you to complete the prescribed repetitions. Make use of the RPE system and try to feel that you have 2-4 reps left in the tank on all sets. If you feel like you don't have the ability to gauge how many reps you have left in the tank. That's fine, just use a challenging weight. You will learn by progressing!
- The next session you increase the weight on the bar by 5-10 kg (10-15 lbs.) on larger exercises like squats and deadlifts. And by 2,5-5 kg (5-10 lbs.) on smaller exercises like bench press, overhead press, rows and pull-ups.
- Repeat this process until you no longer can increase weight from session to session anymore. This often happens within a couple of months

### **The novice beginner – Double progression (reps then load)**

This progression model first increases volume then increases intensity. This model works well for a brief time between the true beginner single progression and the intermediate wave loading progression. The reason for that is that it slows down the rate of progression which enables your body to recover better between sessions.

With single progression by load, you increased the weight every session but with this model you start with increasing repetitions first, before you increase the load.

### **How to implement double progression with reps then load:**

- Start with a weight that is challenging but not too challenging. By now you should have a good hum about how strong you are on the given exercises by previously doing single progression. The difference now is that instead of having a fixed repetition range of say 5 repetitions over 5 sets you instead have a target rep range. Let's say is 4-6 repetitions over 5 sets.
- Use the same weight on the bar every session until you reach the high end of the rep range on all your sets.
- The session after you manage to do 5 sets of 6 repetitions and reaching the upper range with a specific weight. Increase the weight on the bar by 5-10 kg (10-15 lbs.) on larger exercises like squats and deadlifts. And by 2,5-5 kg (5-10 lbs.) on smaller exercises like bench press, overhead press, rows and pull-ups.
- Repeat this process until you no longer can increase weight from session to session anymore. This often happens within a couple of months

Same story here, when you've reached a point where you start to plateau, it's time to move on to more advanced ways of manipulating volume and intensity.

By now the honeymoon phase of fast gains from session to session is over. The reason for that is you now require much higher amounts of workload (volume and intensity) to continue making progress. Which means that every overloading

session causes so much stress that your fatigue levels rises to quickly and more rest is required between sessions.

And therefore, periodization exists as a tool to help bring fatigue down to make sure that progress can keep continue over the years.

So, before jumping into the progression model of the intermediate I'll quickly cover what periodization are and why you need to implement it.

## Periodization

As you can hear on the name, periodization stands for planned periods where you intentionally do something differently with the main purpose of balancing fitness and fatigue.

### Introducing the macro, meso and micro-cycles

These three cycles are terms describing specific periods towards peaking for an end goal such as a competition. It is also used a lot in the fitness community to better communicate how to set up periodization and progress through different periods of the process.

- A macro-cycle is the longest time-period which is often defined as a few months up to a year or even multiple years depending on how long time it is between competitive occurrences.
- A meso-cycle is a shorter time-period than macro-cycle, but longer than a micro-cycle and is often defined as a month or a few months depending on how long time it is between competitive occurrences.
- A micro-cycle is the shortest time-period and is often defines as a day, a week or a month depending on how long time it is between competitive occurrences.

### Deloads

I've already mentioned deloads shortly in the chapter of volume. Where I wrote that, an effective way to reduce fatigue accumulated by to high workloads is through strategical periods of lighter training. But let's look at what reducing fatigue really means.

Remember that when you train and continually making progress, fitness is rising and your gains are increasing. But at the same time fatigue also rises. Eventually fatigue surpass your fitness and you start to overreach resulting in plateaus. This is what happens in the end for both the beginner single progression and the double progression examples that I went through above.

By taking a period of a couple of days or a week, where you still train to keep your adaptations but with lower workloads, you can effectively reduce your fatigue while keeping all your fitness. This allows you to drop fatigue which set you up for another period of good overloading to come before fatigue once again surpasses fitness and another deload is necessary.

I know that deloads can be very frightening psychologically. I've thought so myself for a long time.

-What will happen to my gains?

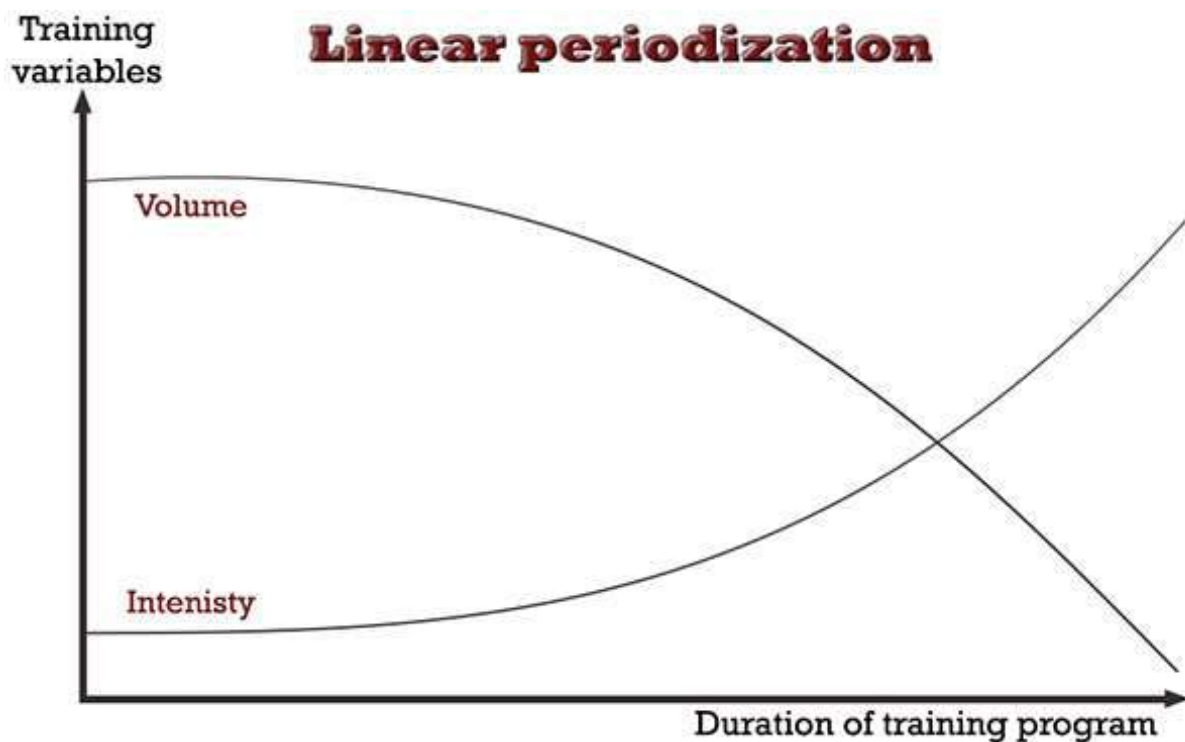
-Will I lose my hard-earned muscle and strength?

These were all questions and fears that went through my mind. But the reality is that you won't lose any of your gains. There are a few studies published showing that people that stop working out for *2 whole weeks* does not lose any muscular adaptations at all (16).

However, some size will be lost in two weeks because the depletion of intramuscular glycogen and fluid volumes (pump) caused by the training, but this is not actual muscle mass.

In fact, after just a couple of days in the gym after your deload, feeling replenished, strong and that you can conquer the world. You will be bigger than you ever would if you didn't let the fatigue drop by taking a period of deload.

Another way of reducing fatigue is by slowly dropping volume while intensity increases. This is the essence of periodization. What I'll show you next is the most common periodization models that we can use to effectively drop fatigue within the program itself.



With linear periodization, you linearly increase your intensity while dropping your volume over time. This is the most basic concept of periodization which all other models build upon, I'll go through what I mean by that later.

What linearly increasing intensity while lowering volume does is allowing for recovery to take place over the training cycle, this is because volume is more fatiguing than intensity. What also happens simultaneously is that when you reduce fatigue by

dropping volume, you also realize your new performance created by the earlier volume work that you did.

This is basically the most effective way of setting up a long-term training program for any sport specific goal. Where you start with building a base, doing a lot of volume. Then you build up on that base with more specific methods. Finally, you build the top with peaking methods coming into the competition.



The intermediate – wave loading progression through linear periodization

This progression model increases intensity and volume over a *longer time span* by first increasing intensity and reducing volume through the linear periodization just described.

For the intermediate the time span I like to use for progression is 2-4 weeks on average. The way volume is reduced while intensity is increased is by dropping the repetitions. I think that dropping the repetitions by 2 every week is a fantastic way of slowly reducing volume while increasing intensity.

So, if you were to set up a progression time of 4 weeks for hypertrophy, it could look like this:

- Week 1:** 3x12 @ RPE 6-8
- Week 2:** 3x10 @ RPE 6-8
- Week 3:** 3x8 @ RPE 6-8
- Week 4:** Deload.

This is the progression model I find working well for most intermediate trainees, myself included, whether it's for hypertrophy or strength. If you were to do it for strength just change the repetition range to maybe 6, 4, 2 over the weeks and it will work in the same way, just more specific to strength instead. This progression model is only for your main compound exercises however.



For isolation exercises use the same double progression as outlined above for the novice beginner. The one where you first increase reps and after that weight

## The advanced – Progression through block or undulating periodization

As an advanced trainee, you've gotten 80-90 % of all the gains you can get, now it's a matter of consistently putting in good quality training for a long time to come, to net those last 10-20 %.

For an advanced trainee, the rate of progress is very slow, and it will take months before you see any new gains or improvements. So, for you I think the introduction of slowly progressing volume over time through either block periodization or undulating periodization is an effective way to go at it.

### Block periodization

With this periodization model, you work on different qualities within different blocks. Where one block can be a high-volume block, the next block can be a high intensity block and the last block can be a deload block or peaking block if there's a competition coming up.

This way of periodising your training is based on the model of linear periodization. Just that it happens on a much larger scale, 1 week in the linear model might be 1 month up to as much as 5 or 6 months in this model.

That's why it is a very good model for advanced trainees to use because they need that amount of time to work on a single quality before they start to see results.

### Undulating periodization

With this periodization model, you undulate your volume and intensity within a given time-period within a meso, macro or micro cycle. Daily undulating periodization is a concept that have gained a lot of traction lately in the fitness industry. By using daily undulating periodization, you change the reps and intensity, working on different qualities every day within the week.

For example, Monday can be your hypertrophy day where you do high volume, high rep training. Wednesday can be your power day where you do low volume, medium intensity, but instead focus on the speed on your exercises. Finally, Friday can be your strength day where you do high intensity and medium volume, focusing on strength and force adaptations.

By doing this you train all your qualities within the same week. The benefit of this is that you never lose adaptations in any of the qualities because you make sure to always train them.

### Violation of the principle of specificity

One could argue that both block periodization and undulating periodization violates the principle of specificity, because it won't allow for all recovery capabilities to go to a single quality.

But, here's the thing. You're not training these other qualities such as hypertrophy, power or strength to necessarily be good at them, you train them because they are a part of making you good at your specific goal in the long term, by focusing on different components leading to that goal, such as hypertrophy will for strength. You also train them because you must in order to drop fatigue, by doing periods of strength training for hypertrophy for example.

## Peaking

Peaking or tapering as it's also called is when you take a brief period realizing all your performance and fitness by drastically reducing volume and increase intensity for your specific sport.

Peaking condition is something that will increase your performance by an extra approximately 5-10 % and is something that will only last for a couple of days to a week. The reason for that is because volume is the key driver for long term fitness. If volume is dropped for too long, performance will eventually start to drop, even if intensity is kept high. This happens because the body adapted to the total amount of work (volume) that you've just done. If you take that away, eventually you will lose the adaptation.

## Summery – Overload + Recovery = Adaptation

The goal of any training program is rather obvious. It's to increase our performance and/or look.

So, to summarize. The fundamentals of programming are the following:



## Complete training program examples

I will now lay out a few program examples. Feel free to use these examples, but know that they might not be a perfect fit for your own body. As time passes try to experiment by changing some of the variables after your needs.

Eventually you will find what volume, intensity and frequency that works well for you. And the earlier that happens the faster you'll be able to make gains and the better you will feel.

### Warm up example

Before starting any heavy lifting of any sort, doing a brief warm up is crucial.

The warm up should not be fatiguing as it is just a way of getting the body ready for heavy lifting. You only need to warm up once for every muscle group or movement you'll train. Meaning that you don't have to warm up for leg press or leg extensions if you've just been squatting.

Here is an example warm up for squats:

- 10-15 body weight walking lunges to open up the hip musculature.
- 10 repetitions with only the bar while focusing on technique priming you for heavier weights.
- Put on around 40-50 % of prescribed weight and do 5 repetitions.
- Put on another 10-20 % of prescribed weight and do 3 repetitions.
- Finally, put on just below the prescribed weight and do 1 controlled explosive repetition.
- Done with warm up.

### Beginner program example

Day 1	FULL BODY	Set	Reps	% of 1RM	RPE	Day 2	FULL BODY	Set	Reps	% of 1RM	RPE
	Squat	5	5	80 %	8		Squat	5	5	80 %	8
	Bench press	5	5	80 %	8		Military press	5	5	80 %	8
	Barbell row	5	5	80 %	8		Deadlift	5	5	80 %	8
	Planks	3	amap	N/A	8		Planks	3	amap	N/A	8

Day 3	FULL BODY	Set	Reps	% of 1RM	RPE
	Squat	5	5	80 %	8
	Bench press	5	5	80 %	8
	Barbell row	5	5	80 %	8
	Planks	3	amap	N/A	8

If you want to be more specific for hypertrophy just use another repetition range.

## Beginner single progression of load

Training session	Load	Reps (total)	Decision for next session	Volume
1	70 kg / 155 lbs	3x5x5 (15)	Increase load	1050 kg / 2325 lbs
2	75 kg / 165 lbs	3x5x5 (15)	Increase load	1125 kg / 2475 lbs
3	80 kg / 175 lbs	3x5x5 (15)	Increase load	1200 kg / 2625 lbs
4	85 kg / 185 lbs	3x5x4 (14)	Same load	1190 kg / 2590 lbs
5	85 kg / 185 lbs	3x5x5 (15)	Increase load	1275 kg / 2775 lbs
6	90 kg / 195 lbs	3x5x5 (15)	Increase load	1350 kg / 2925 lbs

## Novice program example

Day 1	FULL BODY	Set	Reps	% of 1RM	RPE	Day 2	FULL BODY	Set	Reps	% of 1RM	RPE
	Squat	5	4-6	80 %	8		Squat	5	4-6	80 %	8
	Bench press	5	4-6	80 %	8		Military press	5	4-6	80 %	8
	Barbell row	5	4-6	80 %	8		Deadlift	5	4-6	80 %	8
	Planks	3	amap	N/A	8		Planks	3	amap	N/A	8

Day 3	FULL BODY	Set	Reps	% of 1RM	RPE
	Squat	5	4-6	80 %	8
	Bench press	5	4-6	80 %	8
	Barbell row	5	4-6	80 %	8
	Planks	3	amap	N/A	8

If you want to be more specific for hypertrophy just use another repetition range.

## Novice double progression of reps then load

Training session	Load	Reps (total)	Decision for next session	Volume
1	70 kg / 155 lbs	4, 4, 4 (12)	<b>Same load</b>	840 kg / 1851 lbs
2	70 kg / 155 lbs	5, 5, 4 (14)	<b>Same load</b>	980 kg / 2160 lbs
3	70 kg / 155 lbs	6, 5, 5 (16)	<b>Same load</b>	1120 kg / 2469 lbs
4	70 kg / 155 lbs	6, 6, 6 (18)	<b>Increase load</b>	1260 kg / 2778 lbs
5	75 kg / 165 lbs	4, 4, 4 (12)	<b>Same load</b>	900 kg / 1984 lbs
6	75 kg / 165 lbs	5, 5, 4 (14)	<b>Same load</b>	1050 kg / 2314 lbs

## Intermediate & advanced program example

Day 1	LOWER BODY	Set	Reps	% of 1RM	RPE	Day 2	UPPER BODY	Set	Reps	% of 1RM	RPE
	Squat	3	8 to 10	70 %	8		Bench press	3	8 to 10	75 %	8
	Stiff leg deadlift	3	8 to 10	70 %	8		Barbell row	3	8 to 10	75 %	8
	Calf raises	3	8 to 10	70 %	8		Overhead press	3	8 to 10	75 %	8
	Leg extension	3	10 to15	N/A	8		Biceps curl	3	10 to15	N/A	8
	Leg curl	3	10 to15	N/A	8		Triceps extension	3	10 to15	N/A	8

Day 4	LOWER BODY	Set	Reps	% of 1RM	RPE	Day 5	UPPER BODY	Set	Reps	% of 1RM	RPE
	Squat	3	8 to 10	80 %	8		Pull-up/Pulldown	3	8 to 10	80 %	8
	Deadlift	3	8 to 10	80 %	8		Bench press	3	8 to 10	80 %	8
	Calf raises	3	8 to 10	80 %	8		Overhead press	3	8 to 10	80 %	8
	Leg extension	3	10 to15	N/A	8		Biceps curl	3	10 to15	N/A	8
	Leg curl	3	10 to15	N/A	8		Triceps extension	3	10 to15	N/A	8

If you want to be more specific for strength just use another repetition range.

## Intermediate wave loading progression and periodization

Training week	Load	Reps (total)	Decision for next week	Volume
1	70 kg / 155 lbs	8, 8, 8 (24)	Increase load Reduce reps	1680 kg / 3700 lbs
2	75 kg / 165 lbs	6, 6, 6 (18)	Increase load Reduce reps	1350 kg / 2976 lbs
3	80 kg / 175 lbs	4, 4, 4 (12)	Same load Reduce set	960 kg / 2100 lbs
4	80 kg / 175 lbs	Deload: 4, 4 (8)	Repeat	640 kg / 1400 lbs
1	75 kg / 165 lbs	8, 8, 8 (24)	Increase load Reduce reps	1800 kg / 3968 lbs

If you want to be more specific for strength or hypertrophy just use another repetition range.

## Advanced block progression and periodization

Block 1	Load	Reps (total)	Decision for next week/block	Volume
Week 1	70 kg / 155 lbs	12, 12, 12 (36)	Same load	2520 kg / 5550 lbs
Week 2	70 kg / 165 lbs	12, 12, 12 (36)	Same load	2520 kg / 5550 lbs
Week 3	70 kg / 165 lbs	12, 12, 12 (36)	Same load Reduce set	2520 kg / 5550 lbs
Week 4	70 kg / 165 lbs	Deload: 10, 10 (20)	Increase load Reduce reps	1400 kg / 3000 lbs
Block 2	Load	Reps (total)	Decision for next week/block	Volume
Week 1	80 kg / 175 lbs	8, 8, 8 (24)	Same load	1920 kg / 4232 lbs
Week 2	80 kg / 175 lbs	8, 8, 8 (24)	Same load	1920 kg / 4232 lbs
Week 3	80 kg / 175 lbs	8, 8, 8 (24)	Same load Reduce set	1920 kg / 4232 lbs
Week 4	80 kg / 175 lbs	Deload: 6, 6 (12)	Increase load Reduce reps	960 kg / 2100 lbs
Block 3	Load	Reps (total)	Decision for next week/block	Volume
Week 1	90 kg / 185 lbs	4, 4, 4 (12)	Same load	960 kg / 2100 lbs
Week 2	90 kg / 185 lbs	4, 4, 4 (12)	Same load	960 kg / 2100 lbs
Week 3	90 kg / 185 lbs	4, 4, 4 (12)	Same load Reduce set	960 kg / 2100 lbs
Week 4	90 kg / 185 lbs	Deload: 4, 4 (8)	Repeat	640 kg / 1400 lbs

If you want to be more specific for strength or hypertrophy just use another repetition range.

## Undulating progression and periodization

If you want to do undulating periodization just train with different repetition ranges within each macro, meso or micro-cycle. It can be by doing 12 reps on week 1, 4 reps on week 2 and 8 reps on week 3 for example.

Or it can be doing 5 reps on Monday, 3 reps on Wednesday and 10 reps on Friday. The key is to keep track on the volume, making sure that it increases linearly over time.



## Final words

I am very glad that you have read through this guide. It gives me a great feeling of accomplishment and fulfillment. However, the goal with this guide was always to give you the most amount of value by providing you with the true knowledge of training programming. The information put together in this book was gathered through 5 years of constant interpretation of science and knowledge provided by some of the top names in the industry, as well as my own experience from hours in the gym experimenting on myself.

I hope that you take the information provided in this guide and use it in your own training. By doing so, I ensure that you will start making progress faster, and that you realize that training is a long-term process, and that it's the important things like slowly progressing volume, intensity and frequency over time that will cause you 90 % of your gains.

So, thank you very much for taking your time reading this guide.

Finally, I also want to thank everyone in the fitness industry that has helped me tremendously to learn and constantly evolve into where I am right now. There are still much to learn however, and I realize that learning is an un going practice and that there will always be new findings whether it be through science or practical knowledge.

Once again, good luck and thank you so much!

Sincerely,

Niklas

PS. If you like or receive value from this book I would really appreciate an honest review on Amazon. You do so by using this link: [Review Here!](#)

PPS. Are you looking for a way to set up your diet as well, to faster reach your goals with your training? If so then I've included a preview of another book that I've written. The book is on the method that I've been using with great success during my last 3 years in the fitness game, which is Intermittent fasting combined with flexible dieting and IIFYM. [Check it out](#) after the free Bonus! 😊

# Bonus! Free in-depth Training Program



When you subscribe to Iron Built fitness, my up and coming fitness brand via email, you will get free access to three downloadable training programs!

These three training programs is created through 3 years of my own experience and practice with lifting. The programs are set up with Daily Undulating Periodization and autoregulation through the RPE system and they can be used through all stages of your training career, from beginner to advanced.

All you have to do is enter your email address in this link and I'll send the programs to you for free 😊

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# Preview Of “Intermittent Fasting: How to Burn Fat, Build Muscle and Stay Fit While also Enjoying the Foods you Like

## How we build muscle

Muscle is active tissue that the body only will create and keep for one reason, to defend the body against the stress that we put on it through training. Muscles is in fact a byproduct of us working out and getting better at doing so.

When you train hard you'll break down you muscles which is perceived as a stress to the body. When you're done working out and provide your muscles with nutrients and allow them to rest, your body will do everything it can to recover and repair your muscles and nervous system from that stress. First your body repairs your muscle with the building blocks from the protein we eat, after the reparation is done and during the right circumstances the body builds up the muscles a bit extra to be able to handle that stress better in the future.

The only way to build muscle is to give your body a *reason* to do so. Many people make the mistake by thinking they must eat copious amounts of food to build muscle, but food's only there to provide building blocks and energy to allow the muscle to be repaired and to grow.

To progressively do more in the gym over time, is the only reason your body needs to build more muscle. Only then will your body send signals that it needs to adapt and get bigger.

So, don't make the mistake and think that you must eat enormous amount of food to grow, it's impossible to force feed muscle and all that extra food you'll eat will only result in unnecessary body fat.

## Do I have to be in a caloric surplus to build muscle?

No, you don't have to be in a caloric surplus to build muscle. Studies has shown that beginners and overweight people are fully capable of building muscle and losing fat simultaneously. This is because the nutrient partitioning for a beginner or an overweight person is very favorable for muscle growth. Their bodies can effectively build muscle while using stored body fat as energy. [\(12\)](#)

Even more experienced resistance trained individuals seems to be able to build some muscle at a caloric deficit while they're burning fat. However, it will be a lot slower and inefficient to build muscle in such a way.

With more training experience and lower fat percentages it gets a lot harder for the body to be able to build muscle and lose fat at the same time. Because now our rate of progress in the gym has really slowed down and the leaner we are, the lesser energy we have stored on the body for the body to sense and allowing us to build muscle without energy coming in from outside.

To continue build muscle after the beginning stages it's important that there's a lot of energy and materials available for doing so. If you're in a caloric deficit where you force your body to use stored body fat as energy, you're not providing enough energy and materials for the body that it needs to be in a net positive protein synthesis over the days and weeks to build muscle. (13)

If you still want to see fast results as a more experienced trainee you should take periods where you focus on muscle building and fat burning solely instead, because it's no longer effective to combine these goals.

But as I wrote earlier, there's still a lot of people who does the mistake of eating way too much in hope of building muscles fast.

There's actually a limit to how fast and how much muscle that you can build naturally, without performance enhancing drugs. This limit is strongly related to your training experience.

If you manage your training and diet perfectly, the amount of muscle that you can build naturally without hormonal help, is what you see in the chart below. Women can use half of these numbers outlined because of hormonal differences

<b>Years of Training</b>	<b>Maximal Potential Muscle Growth</b>
Year 1	9–11 kg (0.9 kg per month)
Year 2	4.5–5.5 kg (0.45 kg per month)
Year 3	2–2.7 kg (0.22 kg per month)
Year 4	0.9–1.3 kg
Year 5+	0.9–1.3 kg

compared to men.

*Lyle McDonald's model for maximal potential muscle growth per year.*

As you can see in this chart, there's an enormous difference between a beginner and a person who has been working out for many years. If it hadn't been like that then everyone that consistently trains would look like the hulk after 5 years, and that's just unrealistic.

If you're interested here's a link for this book: ["Intermittent Fasting"](#)