

HOW TO GET THE MOST OUT OF YOUR

HOME WORKOUTS

No Nonsense Step By Step Guide On How To Get The Best Possible Results With Home Workouts



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About the Author

Gayana Perera is the Founder and Head Coach at Team New Start. Years of dedication and commitment has allowed Gayana to guide his clients towards achieving their most desired fitness goals and in turn has led him into becoming one of the most demanding trainers in Australia.

Gayana is a Strength Coach, Sports Nutrition Specialist. With his extensive knowledge in fat loss and muscle development, he is known for his no – nonsense evidence based approach to help his clients achieve their health, fitness and body composition goals.

Gayana is specialised in training fitness competitors to win Elite level fitness competitions and day-to-day individuals to achieve significantly lower body fat levels, build lean muscle and shape, improve health and performance. He also believes in practising what he preaches. He is no stranger to fitness competitions.



Competitions

Natural Universe Fitness Model Champion

2 x Natural Fitness Model Australian National Champion

3rd Place Men's Physique – Victorian Titles

What Gayan's Clients say about his coaching methods



He is a genius of what he is doing and there was not a single day I had issues with my diet and my workout schedule. I have tried many diets and exercise regimens before for many years but Gayan's guidance worked out like magic.

-Himam Hamsa (Doctor of Medicine)-



I'm really really happy with my progress. I've lost 15Kg within first 6months. Amazing work though the program. This program changed my whole lifestyle.

-Suranji Denipitiya Chef)-



I have over 10 years of experience in the health and fitness industry and was quite impressed by Gayan's programming methods and precision in developing my meal plans.

-Andrew Bolis (Personal Trainer)-



After starting with Gayan, not only did I start accumulating more muscle mass but also started to lose fat, particularly around my belly area. One month in to the program I knew Gayan was the man to work with and I met one of the best trainers (Both nutrition and training) in the market.

-Malith Perera (Singer/Accountant)-



Professional, knowledgeable and understanding. Gayan is a walking encyclopaedia when it comes to everything fitness and nutrition.

-Gemma Sergeant (Personal Trainer)-



Gayan gave me an all-around program where he monitored many aspects such as my sleeping quality, weight and step count on daily basis. There were bunch of other factors he continued to monitor weekly and all I did was simply follow his program and change the nutrition plan which tweaked on weekly basis along with the workout routine.

-Ramindu Randeni (Life & Business Coach)

Disclaimer

All recommendations are made GENERALLY for people who are looking to improve their physiques while living a healthy lifestyle and increasing performance. This information does not intend to or attempt to, cure, prevent or treat any disease or illness. We assume that you are healthy and free of disease as you peruse the information presented.

For any specific dietary requirements, please see a qualified specialist.

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Get everything you need under \$100

1. A complete set of resistant bands. Shouldn't cost more than 25-30\$



2. Empty 2L&3L milk bottles/water bottles/cordial/Juice/oil bottles with a handle. You need a pair from each.



3. A durable backpack with sturdy straps. You don't need to purchase an expensive one. Most of you will already own some sort of backpack. I use my laptop bag.



4. 6 feet long elastic bands (1-1.5 inch in width) split into 2 equal pieces, each 3 feet long.



If you already have a backpack that you can use you will be able to purchase everything else well under \$50.

If you have some regular gym equipment at home like Dumbbells, Barbells, Bench, Kettlebells etc. you can incorporate them into your home workout regime like how you would use them at the gym.

But in this book, we will mainly focus on how to train effectively with limited equipment (primarily with the four pieces of equipment mentioned above).

The biggest limitation of Home Workouts compared to training in a gym setting and how to overcome it.

Over my years of coaching, I have developed a mindset of critical thinking and problem-solving. Usually, I work with my clients for a specific time frame to achieve a particular goal.

When you are trying to achieve significant results, within a short time frame, and you identify something that isn't working or isn't working towards giving you optimal results, you need to identify the source of the problem and solve it promptly.

You have no time to waste when you are trying to prepare someone for a professional photoshoot or a fitness competition within 12-16 weeks. This skill has been the most crucial factor in my success with clients and athletes.

Most people have the misconception that the biggest disadvantage of home workouts is limited exercise variations you can do at home compared to a gym setting. This is not true. You can do as many different exercises at home if you get creative. Even if it was true, it would not negatively impact muscle growth. Why, because exercise variety is not the primary driver of muscle growth, nor does it play a significant role in muscle growth.

I am sure you have heard people (including personal trainers & bodybuilders) say you have to do different exercises every time you go to

the gym in order to keep the body guessing, you have to shock the muscles to grow or apply muscle confusion. This is probably the biggest bro myth out there.

Let's get this clear before we move forward;

YOU CANNOT CONFUSE CONTRACTILE TISSUE [1]¹.

If People are telling you that you need to confuse muscles, they are the ones who are confused.

How muscles grow and what is the primary driver of muscle growth?

“muscle growth occurs when the muscle fibres create enough biomechanical tension that their structural integrity is compromised. As an adaptive response to this stress, the muscle fibres change their structure, including the growth of the muscle fibres to be able to produce more tension in the future.”

The primary driver of muscle growth is Mechanical Tension (Progressive overload).

1. Felipe Damas, Vitor Angleri, Stuart M. Phillips, Oliver C. Witard, Carlos Ugrinowitsch, Natalia Santanielo, Samuel D. Soligon, Luiz A. R. Costa, Manoel E. Lixandrão, Miguel S. Conceição, and Cleiton A. Libardi 2019. Myofibrillar protein synthesis and muscle hypertrophy individualized responses to systematically changing resistance training variables in trained young men.

What is progressive overload?

Progressive overload is exposing muscle tissues to a stressor sufficient enough to disrupt homeostasis (ability to maintain a stable environment), adapt to it, then apply progressively higher stressor and continue to adapt to them. The above is straightforward when you train in a gym setting. Perform the given rep range with more weight each time you train. But it's challenging to apply this principle with home workouts due to limited "weight" availability. (this isn't the only method; other methods will be discussed later in this book in the progression methods section).

The real problem or disadvantage of home training compared to a gym setting is the difficulty in applying no 1 muscle growth or progression principal progressive overload. If we can solve this problem and figure out a way to keep applying progressive overload, we can keep progressing. Here is where you need to have a good understanding of fundamental strength training principals.

The Science of muscle growth

Muscle tissue is relatively a simple tissue.

It responds to biomechanical tension.

General Adaptation Syndrome

Researcher Hans Selye proposed general Adaptation Syndrome in 1950.

To understand muscle growth and adaptation to training we need to understand GAS principal.

Summary of GAS Principal and what it means to us (Strength Trainees)

- When you are exposed to a specific stressor for a particular period of time, you develop specific adaptations to it and become resistant to it. Consequently, your symptoms of stress reduce, and you develop the ability to tolerate a greater dose of it.
- Adaptations to stressors are specific, so exposure to one type of stressor does not confer resistance to another stressor.

GAS Practical Application

If we can expose muscle tissue to a greater stressor every time we train, muscle tissues will grow as an adaptation mechanism [2].²

2. HANS SELYE, M.D., Ph.D., D.Sc., F.R.S.C. 1950. Stress and the general adaptation syndrome, British Medical Journal.

What you can & cannot achieve with home workouts

Before we go ahead and dive into the world of “how to work out optimally at home”, we need to establish what you are trying to achieve and if it’s realistically possible with home workouts.

Powerlifter

If your primary goal is strength, Home training isn’t the best option for you. You have to lift heavy to get strong. There is no way around it. Lifting heavy is the biggest challenge with home workouts.

However, if you are able to maintain lean mass during a time that you don’t have access to heavy weights, you will be able to maintain your strength (at least most of it). There is strong correlation (0.86-0.95) between fat free mass and strength in powerlifters [3]³. In this book, I will explain how you can maintain lean mass during a time you don’t have access to heavy weights.

Competitive Bodybuilder

Sorry you can’t achieve this with home workouts.

Muscle Building & Fat Loss

Working at a gym setting will still be your best option. However, if you are a beginner to an intermediate trainee who is training with home workouts, you will still be able to make good progress at least for few months.

3. William F. Brechue, Takashi Abe 2014. The role of FFM accumulation and skeletal muscle architecture in powerlifting performance.

Maintain muscle mass when you don't have access to a regular gym for a short period or when travelling

You can achieve this with home workouts and probably be able to build some muscles too if you plan the training programs properly.

General Fitness/Improve Health/Fat Loss/Weight loss

Home workouts will serve this purpose just fine when appropriately programmed.

What if my goal is weight loss and don't care about muscle growth?

You will still get the best results in the long run by focusing on muscle growth and improving strength with training. Your energy expenditure will increase when you add more lean mass. Meaning you'll burn more calories/fat even while sitting down doing nothing.

What if I am a female just want to tone, doesn't want to look like a bodybuilder?

Body Toning is another term used to describe improving body composition (lose fat & build muscles). Usually most women get scared when they hear the words "build muscles". That's probably why the fitness industry use the word "tone" instead muscle building or body recomposition. You are not going to end up looking like a body builder by lifting weights. It doesn't work like that.

Repetitions

How many repetitions should you do for muscle growth?

The number of repetitions (reps) you can perform is determined by “training Intensity”. Most of the time, people measure training intensity by how difficult the session was to complete.

However, in exercises science Training Intensity has a different definition.

In exercise science “training intensity” is defined as the percentage of your one-repetition maximum. (If the maximum weight you can lift for 01 repetition is 100kgs, that’s your one-rep max.)

Training Intensity has a direct correlation with Repetitions. If you perform an exercise at 100% intensity, by definition you can only perform 01 repetition.

Estimated Reps at Percent of 1 Repetition Maximum

Reps:		1	2	3	4	5	6	7	8	9	10	11	12	15
%1RM	Brzycki	100	95	90	88	86	83	80	78	76	75	72	70	
	Baechle	100	95	93	90	87	85	83	80	77	75		67	65
	dos Remedios	100	92	90	87	85	82		75		70		65	60

This brings us to the most crucial question of how many repetitions you should do in one set?

You may have come across concepts like “hypertrophy zone’ or the famous “muscle-building rep range is 6-12 reps.” These concepts are not based on

any scientific research, but rather popular because most bodybuilders train in that rep range.

Hypertrophy zone does exist however it ranges between 3-30 reps [4,5,6]⁴⁵⁶

(You can read more about this here

https://www.instagram.com/p/B5B_DGRh3xR/?igshid=1bggbzimdx6h)

If you are doing low reps (3-5), those reps have to be heavy enough to be effective (refer to the above intensity table). This in fact the biggest limitation with home workouts. But the good news is we can get a similar level of hypertrophy up to 30 Reps. Therefore, if we can design workouts which fall in-between 3-30 reps you can still progress.

Ideally, it's best to train in a variety of different rep ranges. Literature suggests there's more significant muscle growth when trained in a variety of different rep ranges [7]⁷.

-
4. Brad J Schoenfeld, Jozo Grgic, Dan Ogborn, James W Krieger 2017. Strength and Hypertrophy Adaptations Between Low- Vs. High-Load Resistance Training: A Systematic Review and Meta-analysis.
 5. Cameron J Mitchell Tyler, A Churchward-Venne, Daniel W D West, Nicholas A Burd, Leigh Breen, Steven K Baker, Stuart M Phillips 2012. Resistance Exercise Load Does Not Determine Training-Mediated Hypertrophic Gains in Young Men.
 6. Nicholas A Burd, Daniel W D West, Aaron W Staples, Philip J Atherton, Jeff M Baker, Daniel R Moore, Andrew M Holwerda, Gianni Parise, Michael J Rennie, Steven K Baker, Stuart M Phillips 2010. Low-load High Volume Resistance Exercise Stimulates Muscle Protein Synthesis More Than High-Load Low Volume Resistance Exercise in Young Men.
 7. B J Schoenfeld, B Contreras, D Ogborn, A Galpin, J Krieger, G T Sonmez 2016. Effects of Varied Versus Constant Loading Zones on Muscular Adaptations in Trained Men.

There are several ways to incorporate a different variety of rep ranges. You don't have to necessarily train in a variety of rep ranges in one training session to get this benefit. As long as you incorporate a variety of rep ranges over time you will reap the benefits.

Sets & Training Volume

Training intensity and the number of sets you should do has an inverse relationship. When you are training at a high intensity (low reps), you may not be able to accumulate enough volume for optimal muscle growth unless you do many sets [8]⁸. Higher the intensity the more sets you should perform.

As we discussed previously when it comes to home workouts, training in High Intensities is problematic.

When we design a home workout plan we need to look towards training at moderate to low intensities (moderate to high reps).

Let me remind you of the good news once again.

You can still achieve a similar level of hypertrophy (muscle growth) when you perform up to 30 reps.

Training Volume:

In scientific literature, Training Volume/Total Tonnage = Sets x Reps x Weight

8. L W Weiss, H D Coney, F C Clark 2000. Gross Measures of Exercise-Induced Muscular Hypertrophy.

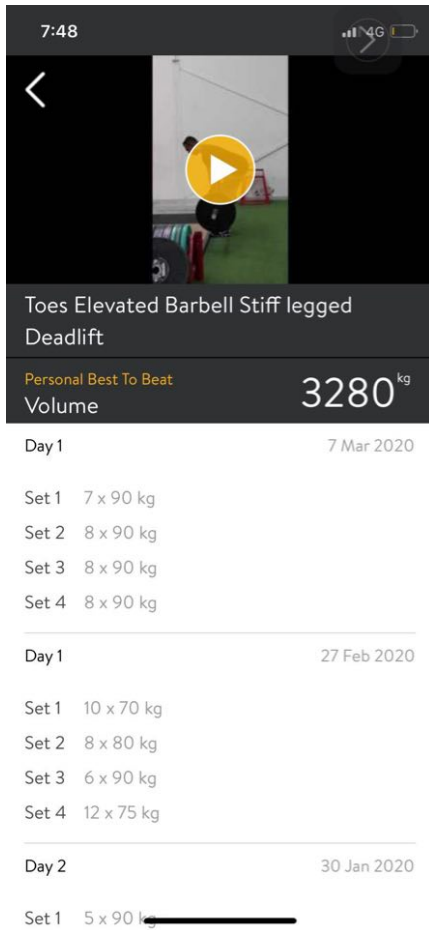
Examples:

1 Set of 1 Rep with 100kgs; Total Training Volume = 100kgs (1x1x100)

1 Set of 10 Reps with 75kgs; Total Training Volume = 750kgs (1x10x75)

1 Set of 30 Reps with 30kgs; Total Training Volume = 900kgs (1x30x30)

Looking at the above example, you can understand why High Intensity (low reps) need more sets and high rep work need less sets. You need to perform 9 Sets of 1 Rep with 100kgs to accumulate total tonnage of 900 kgs and 1 set of 30 reps with 30kgs will accumulate the same tonnage. That doesn't mean 1 set of 30 reps equal to 9 sets of 1 rep though. There's a concept called stimulating reps. These are the reps that stimulate muscle growth. With high intensities (1 rep max in the above example) all 9 reps done in 9 sets are stimulating reps, Motor unit recruitment and muscle activation is very high in each rep. In 30 rep set you only get 4-5 stimulating reps (these are the last few reps of the set). So you will need to perform 2-3 sets of 30 rep max sets to get the same number of stimulating reps.



All my clients have access to our Team New Start Mobile App and the app does the math and keep records of training volume and other important progress measurement markers, so we can track progress effectively.

Repetition Tempo

Repetition Tempo is the speed we choose to move in one repetition.

Tempo describes how long it takes to complete one repetition and how long one set lasts.

Repetition tempo consists of four parts

1. Concentric phase – Lifting phase (moving weight against gravity)
2. The pause at the end of the concentric phase - Isometric Contraction
3. Eccentric phase – The Lowering phase
4. The pause at the end of lowering phase – Isometric Contraction

Here is a video I explain tempo in more detail <https://youtu.be/IBjtYiH8Dx0>

How does Repetition Tempo impact muscle growth?

- Concentric Phase

Effort and motor recruitment should be increased when muscle fibres are shortening during the concentric phase of the movement

- i. To lift heavier weights [9],⁹
- ii. To move lightweight faster [10]¹⁰ or
- iii. To lift lightweight more times when fatigued [11]¹¹

9. C G Kukulka, H P Clamann 1981. Comparison of the Recruitment and Discharge Properties of Motor Units in Human Brachial Biceps and Adductor Pollicis During Isometric Contractions.

10. J E Desmedt, E Godaux 1977. Ballistic contractions in man: characteristic recruitment pattern of single motor units of the tibialis anterior muscle.

11. Alexander Adam, and Carlo J. De Luca 2003. Recruitment Order of Motor Units in Human Vastus Lateralis Muscle Is Maintained During Fatiguing Contractions.

Why is this important when training at home? As we discussed before, lifting heavy enough is the biggest limiting factor with home workouts. However, we can still get a similar level of muscle growth if we do explosive concentric movements with lighter weights and perform sets close to muscular failure.

- Eccentric Phase – Slow lowering tempos increase in fascicle (bundle of muscle fibres) length [12]¹². Therefore, controlling the lowering phase is beneficial for muscle growth.

Side note:

Hypertrophy (muscle growth) can occur in 2 different ways. Increase in fibre diameter or increase in fibre length. When increase in muscle fibre length occurs the fibre bulge in the middle since the fibre origin and end points don't change. The eccentric phase of the movement contributes to muscle growth by increasing in muscle fibre length.

(we will discuss this more in detail in eccentric training chapter in the book)

- Isometric Contractions (pauses at the end of both concentric and eccentric movements) - During an isometric, the muscle shortens a bit because the tendon elongates, while the joint angle remains constant, which is broadly the same thing as during a heavy partial [13]¹³.

12. A Shaifnezhad, R M Marzilger, A Arapatzis 2014. Effects of load magnitude, muscle length and velocity during eccentric chronic loading on the longitudinal growth of the vastus lateralis muscle.

13. A R Pucci, L Griffin, E Cafarelli 2006. Maximal Motor Unit Firing Rates During Isometric Resistance Training in Men.

(we will discuss this more in detail in isometric training chapter in the book)
If we can create home workouts using above mentioned principals, we will be able to get maximum possible results with home workouts.

Training Frequency

Training frequency seems to have different definitions according to different people. Some define as the number of days you train. If you train 04 days a week, your training frequency is 4. But for us strength trainees the most relevant definition is how many times you train a specific muscle group.

According to the current evidence available, training frequency doesn't seem to make much of a difference when training volume equated. So if you do 15 sets for chest in one day or if you break that 15 sets into 2-3 days the effect is same? Not quite.

The maximum effective sets per muscle group per workout tends to be around 08 working sets.

This means when you train one muscle group one day a week with a large number of sets, most of your workout is junk volume.

- As an example, if you do 20 sets for chest on Monday (as most gym bros do, on every Monday the international chest day) your last 12 sets will be junk volume. Meaning more than half of your workout is a complete waste of time.

How many times Per week should you train a muscle group?

Untrained – If you are entirely new to weight training, you can train a muscle group one time a week and still make good progress.

Novice - Muscle group every 05 days

Intermediate – Every 3-4 days

Advanced – Every 2nd day.

Note: individual variability is hugely influence training frequency. Some can train more often, some can't.

The more advanced you get, the less muscle damage you will experience after each training session, and the time required to recover will be significantly less compared to a beginner. Therefore, you can train more frequently.

Of course, this is largely affected by your nutrition, sleep, and mental/physical stress.

If your diet is garbage, sleep is crap and stress level is high, your training frequency should be lower even if you are an advanced trainee.

Training frequency also changes with each muscle group's susceptibility to muscle damage. For an example, quads have a very low level of voluntary activation, make it more difficult for muscle damage to occur; they recover faster. Therefore, you can train quads more often. Hamstrings on the other hand display an extremely high level of voluntary activation and slow

recovery after a training session. Therefore, they should be trained less frequently.

Training Splits Examples

There are infinite ways in which you could design your training splits.

I mainly design training splits around client's priority and what they mostly want to improve on.

Here are a few very basic and simple examples of training splits (There are more advanced and fancy ways to design program splits. But let's keep things simple for now).

Training Days per week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
3 Days	Full Body	-	Full Body	-	Full Body	-	-
4 Days	Lower	Upper	-	Lower	-	Upper	
5 Days (Lower Body Focus)	Lower	Upper	Lower/Glute Circuit (female trainees)	Upper	Lower	-	-
5 Days (Upper Body Focus)	Upper	Lower	Upper	Lower	Upper	-	-
6 days	Lower	Upper	Lower	Upper	Lower	Upper	-

Sample Lower Body Workout

A: Heels Elevated Front Squats

3 x 18-20 Reps, Tempo 4010



A



B

B: Heels Elevated BackPack 1 1/2 Squats

3 x 8-10 Reps, Tempo 3010



A



B



C



D

E

C: Sissy Squats

2 x AMRAP (As Maximum Reps as Possible); Tempo 3010



A



B

D1: Resistant band Hamstring Curls

3 x 12-15 Reps, Tempo 3010



A



B



C

D2: Backpack Romanian Deadlift

3 x 8-12 Reps; Tempo 5010



A



B

E: Reverse Hamstring Curls
2 x 10-12 Reps; Tempo 3010



A



B

F: Backpack Standing Calf Raises
3 x AMRAP; Tempo 3010



A



B

Sample Upper Body Workout

A1: Banded PushUps

3 x 6-15 Reps, Tempo 3011



A



B

A2: Band Flies

3 x 8-10 Reps, Tempo 3010



A



B

A3: Isometric Holds: Squeeze the book as hard as you can while tensing chest. 3 x 15 Seconds Hold



B1: Lying Lat Pull Ins
25-30 Reps, Tempo 3010



A



B

B2: One Arm Rows

12-15 Reps per side, Tempo 3010

Option 1



A



B

Option 2



A



B

C: Seated Lateral to Front Raises (using heavy books as weight):
4 x 10-12 Reps, Tempo 3010



A



B



C

D1: Bicep Curls with Filled Water bottle; Blood Flow Restriction (discussed later in the book. 3 x 12-15 Reps, Tempo 3010



A



B

D2: Bent Over Triceps Extensions

3 x 12-15 Reps, Tempo 3010



A



B

Glute Circuit for Female Trainees

A1: Banded CHA CHA

25 Reps per side (Total 50), Tempo XXXX (controlled movement)



A



B



C

A2: Single Leg Hip Thrust with a Pause
12-15 Reps Per Side, Tempo 2012



A3: B Stance Romanian Dead Lifts
12-15 Reps Per Side; Tempo 4110



A



B

A4: Hip Banded Kneeling Hip Thrust

20-25 Reps, Tempo 2012



A



B

A5: Frog Pumps

30 Reps, Tempo 2011



A



B

- 30-60 Seconds Rest between exercises and 2-3 mins Rest after completing one round. Repeat 5 times.

- You can find sample full-body workout in German Body Composition Training section.

KAATSU Training (Blood Flow Restriction Training)

Kaatsu Training was first developed by a Japanese Sports Scientist by the name Sato in 1966 as a technique to increase muscle mass without having to use heavy weights. Elite athletes have been using it since 80s and it then became more popular in the west in 90s.

How does it work?

Arteries pump blood into muscles. When you occlude a muscle with an occlusion device (Elastic Bands or BFR Bands) it prevents your veins from taking the blood out. This results in accumulation of oxygen-deprived blood and metabolic waste products like lactate. To compensate motor unit recruitment has to increase and fast-twitch muscle fibre that can function in the anaerobic environment.

How effective is it?

With KAATSU/Occlusion/Blood Flow Restriction training can achieve a similar level of muscle growth compared to traditional strength training with much lighter weight [14¹⁴,15¹⁵]. This is why blood flow restriction training is very

14. Robert S. Thiebaud, Jeremy P. Loenneke, Christopher A. Fahs, Lindy M. Rossow, Daeyeol Kim, Takashi Abe, Mark A. Anderson, Kaelin C. Young, Debra A. Bemben, Michael G. Bemben 2013. The effects of elastic band resistance training combined with blood flow restriction on strength, total bone-free lean body mass and muscle thickness in postmenopausal women.

15. Ryan P. Lowery, Jordan M. Joy, Jeremy P. Loenneke, Eduardo O. de Souza, Marco Machado, Joshua E. Dudeck, Jacob M. Wilson 2013. Practical blood flow restriction training increases muscle hypertrophy during a periodized resistance training programme.

useful with home workouts. It solves the number one limitation of home workouts limited availability of progressive resistance. You can get a similar level of muscle growth with much lighter weight when blood flow restriction applied.

Is it safe?

Yes, it is safer than traditional strength training. I usually limit to 4 sets per exercise. Some unpublished research shown cardiovascular risks at higher volumes than that.



You can either use a purchased BFR band like shown in the picture or regular elastic bands or even knee wraps. BFR bands with locks (shown in the image) easy to use, can adjust the tightness easily, putting on and removing quick and easy. But they can cost you anywhere from 20-50\$. Regular elastic bands are bit tricky but they are very cheap and get the job done.

How tight it should be?

On a pressure scale of 10, 10 being extremely tight and limbs feel numb,

6 – for arms

7 – for legs

You want to restrict blood flow from veins, not from arteries.

Eccentric Training

Usually, when you perform an exercise, it contains both concentric and eccentric movements (discussed earlier).

Both concentric and eccentric movements have important roles in muscle growth. But there's an important question. Are they equally important or does one movement produce more muscle growth than the other?

Both concentric and eccentric movements produce a similar level of muscle growth (actually eccentric movement produces slightly more but the difference is insignificant) [16¹⁶].

How can we incorporate these findings to our advantage?

Slow eccentric training is an excellent method of progression and increasing time under tension when limited weight is available.

Eccentric Loading Arms Workout

Exercise	Sets	Reps	Tempo	Rest
A1. Eccentric Only Milk Bottle Bicep curl	4	1	10 sec	60
A2: Resistant Band Curls	4	12	3010	120
B1: Eccentric Only Bench Dip	4	1	10 Sec	60
B2: Resistant Band Triceps Extensions	4	10	3010	120

16. Brad J Schoenfeld, Dan I Ogborn, Andrew D Vigotsky, Martino V Franchi, James W Krieger 2017.
Hypertrophic Effects of Concentric vs. Eccentric Muscle Actions: A Systematic Review and Meta-analysis

Even though, eccentric training has a similar effect on muscle growth (possibly slightly more), I don't recommend it as a method to be used predominantly or a method you should use all the time. This is because muscle damage is very high in eccentric training. However, you can effectively use this method to your advantage in 2-4 weeks blocks at a time. You should pay close attention to your recovery.

Isometric Training

We have now identified three types of contractions when we discussed “Tempo”. Concentric, eccentric and isometric. There’s a change in joint angle with both concentric and eccentric movements. In other words, you will notice a visible movement. In isometric contractions the muscle is tensed without a change in joint angle. In other words, there is no visible movement. In the book “Functional Isometric Contraction” by Bob Hoffman published in 1962 Isometric Training is defined as an exercise without movement. Bob Hoffman is known as the father of weightlifting in the USA. He is one of the pioneers of Isometric Training.

During an isometric, the muscle shortens a bit without a change in joint angle. From the point of view of the muscle, isometric training is basically the same thing as a heavy, dynamic, partial range of motion.

How effective is it?

Overall, isometric training produce similar results to regular dynamic strength training when applied right [17¹⁷].

There are 02 ways you can perform isometric contractions. One with equipment (barbell, power rack, bench etc.) where you pull or push against pins as hard as you can for 8-10 seconds. This method is widely used by powerlifters to overcome the ‘sticking point’. We will focus on the second

17. Dustin J Oranchuk, Adam G Storey, André R Nelson, John B Cronin 2018. Isometric Training and Long-Term Adaptations: Effects of Muscle Length, Intensity, and Intent: A Systematic Review.

method in this book, which with body weight is performed as static contractions in a single position. For an example lower your body half way through a push up and hold the position for 10 seconds while tensing your chest. There are a few ways you can program isometric contraction into a training program.

Personally, I prefer to combine them with other training methods rather than have a complete session of isometric holds or designing isometric training blocks.

Ex: perform ten repetitions of bicep curls with a resistance band and hold elbows at 90 degrees for 10 seconds. Even though the weight isn't moving, you are trying to hold the weight at its hardest position.

German Body Composition Program

The German Body Composition Training program is based upon pioneering research by Hala Rambie, a Romanian exercise scientist who defected to West Germany. Later, popularized by Charles Poliquin (RIP).

Like with most training methods, there are few different ways of structuring German Body Composition Training. In this book, we will discuss the most basic version of GBC.

The basic structure of the German Body Composition Program is alternating a lower body exercise with an upper-body exercise with short rest periods. Since GBC mainly based on compound movements with high volume, the energy expenditure and lactate build-up is more significant compared to traditional strength training. Greater lactate build-up leads to greater secretion of the body's growth hormone. Growth hormone is known to increase nutrient partitioning (efficiency). In other words, it increases the use of fat as fuel.

Sample GBC Full Body Workout

A1: Heels Elevated Back Pack Squats 3 x 18-20 Reps

Tempo 3010, Rest 45 Seconds



A



B

A2: Band Bent Over Rows 3 x 15-18 Reps

Tempo 3011, Rest 90 Seconds



A



B

B1: Nordic Hamstring Curls 3 x 4-6 Reps
Tempo 5010, Rest 45 Seconds



A



B



C

B2: Back Pack Push Ups 3 x 6-15 Reps
Tempo 3011, Rest 90 Seconds



A



B

C1: Resistant Band Lateral Raises 3 x AMRAP

Tempo 3010, Rest 45 Seconds



A



B

C2: Donkey Calf Raises 3 x AMRAP

Tempo 2211, Rest 90 Seconds



A



B

D1: Bag Bicep Curls 3 x 20-25 Reps

Tempo 3010, Rest 45 Seconds



A



B

D2: Triceps Dips 3 x 6-15 Reps

Tempo 3110, Rest 90 Seconds



A



B

Progression Methods

Progression = Progressive Overload

As we discussed earlier in this book, you need to continue to apply progressive overload to keep making progress. There are various methods used in fitness circles to implement progressive overload. But not all of them achieve progressive overload.

Density Training is a good example. Density training is where you aim to perform the same workout with the same training volume in a shorter time period every time you train. This means your rest periods are getting shorter and shorter with each training session. This will definitely make the workout difficult. No doubt you will feel smashed after the workout. But that doesn't necessarily mean you had an effective workout or you applied progressive overload appropriately.

Most people make the mistake of interpreting difficulty to effectiveness.

Let's put the unproven methods aside and look at some of the useful methods and techniques we can use with our training. Ultimately all progression methods should increase the total tonnage (discussed earlier) it to be an effective progressive overload method.

1. Increase Resistance

This is easier to do in a gym setting. All you have to do is keep adding weight to the bar. Let's discuss how we can apply this to home workouts.

I. With resistance bands



Each band has a specific level of resistance like different weight dumbbells. The thinnest band has the least resistance and thickest band has the highest resistance. The cool thing about resistance bands is that you can attach more than one band on to the handles. You can even add all the bands.

If you add yellow and green 35LBS (about 16kgs)

If you add all bands 125LBS (about 57kgs)

You can make up many different levels of resistance (weight) with these resistance bands. You can even buy 02 sets of bands and double up the resistance to 114kgs. The handles are pretty strong; they will hold up.

II. With the backpack

You can fill it up with heavy books or even rocks/bricks to add weight.

You can add heavier books or more rocks in to the bag just like you would add plates on to the bar in the gym.

III. With Milk bottles

You can fill them with water. If you want it to be heavier you can add sand, small rocks for even a heavier weight. If you want to make them super heavy, add small rocks first, then pour smooth sand over it and then pour water. You can add and remove to create different level of resistance just like you add and remove plates from the bar.

2. Perform more reps.

For example, let's say you perform 15 reps of bicep curls with 55LB Resistance bands (blue & green) that's total tonnage of 525LBs. Next time if you do 17 reps with the same weight your total tonnage will go up to 595LBs. Progressive Overload.

You can do this up to about 30 reps effectively. Then you need increase the resistance.

3. Perform more sets

This is an obvious one. Let's take an example

Week 1 - 2 sets of 10 reps with 30LBs = Total tonnage 600LBs (2x10x30)

Week 2 - 3 sets of 10 reps with 30LBs = Total tonnage 900LBs (3x10x30)

Week 3 - 4 sets of 10 reps with 30LBs = Total tonnage 1200LBs (4x10x30)

The only variable is the number of sets. Increase in tonnage = Progressive Overload

Note: There's optimal, and there's too much. You should aim to do the optimal number of sets. You can't keep adding more and more because after a certain point, it becomes too much.

4. Train More frequently

This is also obvious. The More often you train the more tonnage you will do for that specific exercise. Just like the number of sets this need to be executed within reason. More is not always better. After a certain point there's going to be diminishing returns.

Final notes from the Author

“Knowledge isn’t power. Applied Knowledge is power”

You are not going to achieve any results by simply just reading this book unless you apply what you have learnt. I Sincerely hope that you gained value from this book.

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Until next time.....

Gayan Perera